**TOPIC:** Abnormal Placentation

**ABSTRACT ID:** 18

**TITLE:** Infectious complications in Morbidly Adherent Placenta Treated with Leaving Placenta in situ: A cohort series and suggested approach

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**INTRODUCTION**

We assessed the potential signs and markers of clinical infections, microbiological properties and antibiotic susceptibility of clinical specimen taken from patients treated with leaving placenta in situ. Additionally, based on the aforementioned data, we tried to present clues for the follow-up and treatment of these patients.

**MATERIALS AND METHODS**

Retrospective analysis of MAP cases who were treated by LPIS between May 2, 2010, and March 15, 2017. The inclusion criteria’s were: gestational age at or above 24 weeks, prenatal diagnosis, elective operation, and complete data.

**CLINICAL CASES AND SUMMARY RESULTS**

Nineteen MAP cases were treated by LPIS during the study period. The mean ± SD duration for total placental resorption was 145±47 days. Three patients were readmitted to the hospital because of fever (3/19). A total of 65 culture samples were taken from the patients during their follow-up periods. In four cases (4/12) cervical cultures showed positive growth [Escherichia coli (2), Klebsiella pneumonia (1), mixed culture with Enterococcus spp. and E. coli (1)]. Fifteen (15/26) urine samples were sterile, 3 were polymicrobial. In eight cases, urine culture revealed E. coli growth (one E. coli and Enterococcus spp.). Three out of 16 (3/16) surgical incision samples revealed growth of E. coli. No bacterial growth was detected in blood cultures. Susceptibility results of gram negatives indicate that the resistance rates of beta-lactam antibiotics are high (14/20, 70%). No secondary surgical intervention occurred during the study period due to infection.

**CONCLUSIONS**

Leaving placenta in situ is an effective and safe option to cesarean hysterectomy in MAP. Majority of signs and symptoms of infections in these cases are amenable to medical treatment without secondary surgical interventions. With strict adherence to surgical principles and judicious use of antibiotics, it is possible to increase the number of cases treated conservatively and reduce the rate of serious complications.
INTRODUCTION

Placenta accreta is associated with high morbidity and the risk of maternal death, even despite advances in ultrasonographic diagnostics, well-established surgical treatment, and multidisciplinary medical care. A dramatic rise in the rates of Cesarean section and intrauterine surgical procedure is considered to be the main factor responsible for the growing incidence of placenta accreta.

MATERIALS AND METHODS

Herewith we presented a case of placenta accreta, 36 years old, gravida 4 and para 3. Her previous deliveries with cesarean section. The patient is booked and admitted at 36 weeks with regular antenatal follow up and an uneventful pregnancy. Obstetric ultrasound showed a single viable fetus cephalic presentation and the placental vessels passes through the layers of the uterus as well as the bladder. She counseled by multidisciplinary team (including anesthetist, urologist and neonatologist) for classical elective cesarean section and hysterectomy after the autolysis of the placenta but she refused hysterectomy.

CLINICAL CASES AND SUMMARY RESULTS

Classical cesarean section was performed .The cord was cut as close to the placenta .The uterus was stitched back and the abdomen closed .Two units of blood were used. The outcome was female weight 2.9 kg. Postoperative course was passed smoothly. The patient had daily ultrasound assessment and quantitative β- hCG every three days to check the progress of the placenta autolysis. The remarkable observation that since the day of the operation, there was resolution of the placenta along with decreasing level of β- hCG. Patient was followed for six months with satisfactory outcome and no reported complications.

CONCLUSIONS

A Cesarean section combined with hysterectomy and application of various techniques to limit massive bleeding. The option of autolysis of the placenta especially in the absent of intraoperative bleeding can be best option if there is a good ultrasonographic and clinical follow up.
INTRODUCTION

Morbidly adherent placenta (MAP) may cause massive postpartum hemorrhage. The purpose of this present study was to clarify the characteristics and treatment outcomes of MAP managed at a tertiary care center with high volume of MAPs.

MATERIALS AND METHODS

We reviewed electronic medical record of all patients with diagnosis of MAP at our center from June 2010 to October 2016. Details of obstetric backgrounds, prenatal diagnosis, peripartum management, and outcomes were analyzed.

CLINICAL CASES AND SUMMARY RESULTS

One hundred and thirteen women with MAP were identified, of whom 41.6%, 30.1%, and 28.3% delivered by vaginal route, emergency, and elective Cesarean section, respectively. Peripartum hysterectomy was performed in 41.6%. Predelivery diagnosis of MAP (25.7%) is associated with increased intraoperative blood loss compared to those diagnosed postdelivery (74.3%) (p<0.001). There is a moderate inverse association between gestational age at delivery and intraoperative blood loss. (r=-0.311; p=0.001) Anterior MAP (51.3%) is associated with attachment to previous uterine scar, antepartum bleeding, and intraoperative blood loss compared with posterior MAP (38.9%) (p<0.05). Women with MAP with previous uterine surgery had a higher chance of peripartum hysterectomy (p<0.01).

CONCLUSIONS

Predelivery detection of MAP, although rather low in our cohort, was associated with increased intraoperative blood loss. Anterior MAP in association with previous uterine surgery resulted in a higher chance of peripartum hysterectomy.
INTRODUCTION

Pregnant patients commonly present with abdominal pain. Diagnosis can be challenging as the differential for both obstetric and non-obstetric causes can be extensive, and the physical examination can be altered when a gravid uterus is present. Two rare obstetric causes of acute abdominal pain include uterine rupture, and intra-abdominal hemorrhage due to a morbidly adherent placenta. As the rate of cesarean sections increases, these severe complications may become more frequent, and should be included in the differential diagnosis for abdominal pain in pregnancy. This case report aims to contribute to the small body of published literature describing these rare complications of pregnancy.

CLINICAL CASES AND SUMMARY RESULTS

A 32 year old GST2P1A1L2 at 21 weeks and 3 days of gestation, was brought to Labour and Delivery Triage at a tertiary care center by ambulance with abdominal pain and presyncope. In her current pregnancy, she had been referred to the Maternal Fetal Medicine service for investigation of a suspected abnormally adherent placenta, possibly placenta increta or placenta percreta. On examination, the abdomen was soft and tender throughout, with rebound tenderness and voluntary guarding. Ultrasound showed a large volume of complex intra-abdominal free fluid, concerning for intra-abdominal hematoma and a heterogenous placenta with irregular lacunae. Increased vascularity extended to the posterior bladder wall. Exploratory laparotomy identified a uterine defect on the anterior wall with placenta extending through the serosa. Thus a hysterectomy was performed with fetus in situ due to significant bleeding.

CONCLUSIONS

Early recognition and management of uterine rupture due to a morbidly adherent placenta is essential to prevent catastrophic hemorrhage. This is the first report to describe a hysterectomy performed with fetus in situ for hemorrhage due to uterine rupture. It is important to consider this rare but morbid and severe diagnosis when seeing an obstetrical patient with acute abdominal pain.
ABSTRACT ID: 101

TITLE: CONSERVATIVE SURGICAL TREATMENT PLACENTA ACCRETA

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INTRODUCTION

The incidence of placenta accreta has increased more than tenfold over the past 20 years (Gielchinsky Y., 2002; Kanal E., 2004; Oyelese Y. 2006). According to the world statistics, to date, placenta accreta is the leading cause of obstetric hysterectomies (Dandolu V., 2012; Daskalakis G., 2007; Wu S., 2005). Massive blood loss (more than 3000 ml) occurred in 33.0% of patients with placenta accreta and only 2.0% of patients in the comparison group. The findings confirm the obvious fact that the risk of intraoperative blood loss increases when the placenta accreta into the scar area of the uterus after CS versus placenta previa in the scar area without ingrowth (Wright J., 2011).

MATERIALS AND METHODS

From 2015 to 2018, 6 patients with histologically verified placenta accreta were included in the scar area on the uterus after cesarean section. The organ-preserving surgical treatment was carried out. All operations were performed under combined anesthesia: combined endotracheal anesthesia + combined spinal epidural anesthesia; with central venous access. The apparatus reinfusion of blood on the apparatus, intraoperative transfusion of fresh frozen plasma, the introduction of factor VIII, inhibitors of fibrinolysis were carried out.

CLINICAL CASES AND SUMMARY RESULTS

All patients were operated in a planned manner. Preoperative diagnosis of placenta accreta was carried out by the method of echography, on an apparatus of an expert class, by a specialist in the perinatal center. In 6 cases, the volume of the operation was: Median laparotomy. Fundal Caesarian section. The ligation of internal iliac arteries on both sides. Metroplasty. The average volume of intraoperative blood loss was 1550 ml. The average duration of the operation is 110 minutes. All patients were operated at the gestational age of 36-37 weeks. There were no intra- and postoperative complications. Transfusion of donor erythrocytes was not required in any case.

CONCLUSIONS

The defining moment in the success of surgical treatment of placenta accreta is qualitative preoperative ultrasound diagnosis. In the case of scheduling operative delivery with placenta accreta, the level of blood loss is significantly lower than in the case of an emergency operation. Organ-preserving surgical treatment with placenta accreta is possible if the patient has reproductive plans.
INTRODUCTION

Nearly all pregnancies include some hemorrhage of fetal blood into the maternal circulation. In some cases, the fetomaternal hemorrhage (FMH) is massive, resulting in stillbirth or delivery of a severely anemic infant. Unfortunately, the symptoms are difficult to identify at the time of the event. Most common antepartum presentation is decreased or absent fetal movement (FM) with pathologic fetal heart rate (FHR) pattern. After delivery, massive FMH can be presented as circulatory collapse or neonatal anemia. Incidence of more than 150 ml fetal blood loss is estimated to occur in 1 in 2800 deliveries. We noticed a major increase in incidence of massive FMH in our regional hospital in the last two years, resulting in incidence of 1 in 900. We present four cases of massive FMH.

CLINICAL CASES AND SUMMARY RESULTS

Case 1: A woman at 36th week of pregnancy presented at hospital with reduced FM and unreactive FHR pattern. An urgent CS was performed. The newborn was in shock, hemoglobin (Hb) value was 38 mg/L. He received an urgent transfusion. Laboratory (Lab.) findings confirmed a FMH of 196 ml.

Case 2: A woman at 39th week of pregnancy presented with absent FM. At admittance intrauterine death was diagnosed. Autopsy showed only postmortem changes, but Lab. findings confirmed a FMH of 295-300ml.

Case 3: A woman at 36th week of pregnancy was admitted to hospital with reduced FM. FHR showed sinusoidal pattern. An urgent CS was performed. The newborn was pale, Hb was 50 mg/L. He received an urgent transfusion. Lab. findings confirmed a FMH of 190 ml.

Case 4: A woman at 39th week of pregnancy presented at hospital with reduced FM. FHR showed sinusoidal pattern. Labour was induced, the baby was pale, Hb was 51 mg/L. He received an urgent transfusion. Lab. findings confirmed a FMH of 290 ml.

CONCLUSIONS

We detected a higher incidence of massive HMF in our regional hospital in the last two years. This could be a result of a better detection of massive HMF by increased observation of pregnancies with reduced FM and FHR monitoring, which resulted in urgent deliveries and lifesaving blood transfusions. It could be advisable to test all pregnancies complicated by reduced fetal movements with sinusoidal or unreactive fetal heart rate for FMH, to decrease morbidity and mortality of HMF.
INTRODUCTION

Object of the study. To identify the features of pregnancy management and methods of delivery of pregnant women with vasa praevia (VP).

MATERIALS AND METHODS

A retrospective analysis was made of pregnancy outcomes of 21 patients with VP, delivered in Maternity Hospital №17 in 2010-2017. All patients were observed every 2 weeks with cervical length assessment to exclude the risk of premature birth. The delivery by CS was planned after 32 weeks of gestation and with finished course of antenatal prevention of respiratory distress syndrome of the newborn. The access to the uterine cavity during the cesarean section was performed with intraoperative ultrasound study to prevent damage of the vessels of fetus origin and to reduce the blood loss of the fetus. A corporal cesarean section was performed in case of absence of technical conditions for safe section of uterine cavity in the lower segment.

CLINICAL CASES AND SUMMARY RESULTS

The study included 21 patients. The average term of delivery was 35 weeks 5 days. The delivery was planned in 9 (57%) cases, 8 cases (38%) were emergency. Indications for cesarean section were development of labour in 62.5% of cases, and in 37.5% of cases - preterm ruptured membranes. Intraoperative ultrasound study was made intraoperative in 7 (33%) cases. The corporal cesarean section was made in 3 (15%) cases, and in 17 (85%) cases was made cesarean section in lower segment of the uterus. The average intraoperative blood loss was 488 ml. All newborns were delivered with Apgar score of more than 7/8; no child required blood transfusion in the postpartum period. The average weight of newborns was 2526.7 grams. 10 children (35.7%) were required to transfer to Children’s hospital, all of whom were delivered by emergency indications and showed low weight at birth (the second stage of foster). 18 (64.3%) of newborns did not require being in the intensive care unit.

CONCLUSIONS

The choice of the optimal time of delivery after biological maturity of the fetus and at the same time in the period of low probability of development of labor activity allows to reduce the lethality of VP. The use of intraoperative ultrasound study and the determination of uterine section method allows to minimize the likelihood of fetal blood loss, which significantly reduces the long-term need to remain newborn in the intensive care unit and blood transfusions after birth.
TOPIC: Abnormal Placenta

ABSTRACT ID: 272

TITLE: THE ROLE OF MATRIX METALLOPROTEINASES (MMP-2, MMP-9), THEIR INHIBITORS (TIMP-1, TIMP-2) AND KISSPEPTIN AS SERUM MARKERS OF PLACENTA ACCRETA

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INTRODUCTION

Obstetric bleeding is one of the most frequent cause of maternal mortality worldwide. We can mention the increasing role of severe hemorrhage caused by placenta accreta in mother's death for the last years. The main factors of proteolysis, that play their role in placentation, are the enzymes of group gelatinase – matrix metalloproteinases (MMPs) and their special (TIMP-1, TIMP-2) and nonspecial inhibitors (kisspeptin). So there are so many difficulties with diagnostic of placenta accreta our aim is to find some serum predictors of this pathology. The purpose is to investigate is it possible to use MMP-2, MMP-9, TIMP-1, TIMP-2, kisspeptin as serum predictors of placenta accreta.

MATERIALS AND METHODS

We divided women in three groups (from 30 to 38 week of gestation). In main group (n=50) there were women with verified by ultrasound/MRI diagnosis of placenta previa/accreta; second group are the women with placenta previa (n=50) and control group of women with selected cesarean section without pathologic placentation. The material for investigation was serum blood. We investigate the concentrations of MMP-2, MMP-9, TIMP-1, TIMP-2, kisspeptin by ELISA kit (Cloud Clone corp., USA) in three groups and results were examined and compared. Also we compare the MMP-9/TIMP-1 concentrations in main and second groups. Statistics analyses were made in “Statistica 10.0” with criteria for parametric and non-parametric analyses.

CLINICAL CASES AND SUMMARY RESULTS

There were statistically significant differences of average value of MMP-2, MMP-9, TIMP-1, TIMP-2, kisspeptin concentrations (p<0.05) in main group (placenta accreta) and control group. There are statistically significant (p=0.045) meaning of concentrations of MMP-2, MMP-9, TIMP-1, TIMP-2, kisspeptin in serum blood elevation of which can predict placenta accreta. There are 380.8 pcg/ml for MMP-2; 240 ng/ml for MMP-9; 8.5 ng/ml for TIMP-1; 6.1 ng/ml for TIMP-2 and 145.2 pcg/ml for kisspeptin. MMP-9/TIMP-1 concentrations are also statistically significant for main group and second group (placenta previa); decreasing of this meaning less than 49.9 predicts placenta accreta. There is sensitivity 78.8%, specificity 84.0% of this method

CONCLUSIONS

The concentrations of MMP-2, MMP-9, TIMP-1, TIMP-2, kisspeptin can be used together as serum predictors of placenta accreta in 30-38 weeks of pregnancy with sensitivity 78.8%, specificity 84.0% in described meanings. Our investigation can lead to major investigation of serum markers to find more exactly the effectiveness of them
INTRODUCTION

Placental acretism is a rare but potentially dangerous condition produced when the trophoblast attaches abnormally to the myometrium. Its prevalence has increased in the last years due to the notable rise of its risk factors, especially caesarean sections. Due to its rising prevalence and its potential complications, in 2014 we created in our hospital a specialized multidisciplinary unit in order to offer the best management to these patients. The aim of this study is to analyse the main risk factors that presented the patients affected of placenta accreta and managed in Vall d’Hebron University Hospital in the period 2007-2018.

MATERIALS AND METHODS

This is a retrospective observational study including 37 cases of confirmed placenta accreta identified in the hospital’s database records and ultrasound program View Point between 2007 and 2018. Categorical variables were described as absolute and relative frequencies. Continuous variables were described as median and range.

CLINICAL CASES AND SUMMARY RESULTS

All women had identifiable risk factors for placenta accreta. Previous caesarean section was performed in 81% of the patients, of whom 67% had two or more of them, and 21% had preterm c-sections at average gestational age 34 weeks. Placenta previa was diagnosed by ultrasound in 78% of them. At least one uterine curettage was reported in 41% of the cases. One patient underwent a hysteroscopic miomectomy and liberation of Asherman syndrome. Time from last surgery to the present gestation had a wide range from 1 to 14 years, being the median 6.4 years. Only 7% underwent IVF. Age range went from 27 to 42 years old, being 32.6 the median; 25% were originally from Latin-America; 21% were smokers. Obesity was another remarkable item, having 26% of them >30 BMI. Placenta accreta was diagnosed during delivery in 24% of the patients, all of them before 2014, and 35% were diagnosed after 34w, which is the usually scheduled time of surgery.

CONCLUSIONS

These results are consistent with previously published reports for risk factors for accretism. Placenta previa and former cesarean section are the main risk factors for placenta accreta, the combination of which has to raise all the red flags. A proper and complete anamnesis is the first step that will permit a correct management of patients affected of placenta accreta. A good clinical suspicion is the key towards progress, with the ultimate aim of improving maternal and neonatal outcomes.
INTRODUCTION

Endocan is a recently introduced proteoglycan secreted from endothelial cells and can be used as an indicator of endothelial dysfunction (1). Abnormal placentation features in the pathophysiology of hypertensive disorders and intrauterine growth restriction. Uterine artery waveforms are suggested to mirror the uteroplacental vasculature (2). The aim of this study is to ascertain whether endocan levels of low risk pregnant women are related to uterine artery doppler findings.

MATERIALS AND METHODS

This cross-sectional study included 15 second trimester pregnant women (16 to 25 weeks of gestation). Maternal levels of serum endocan were measured with an enzyme-linked immunosorbent assay kit. Uterine artery doppler parameters such as Pulsatility Index (PI) and Resistive Index (RI) were measured by ultrasonography on the day of blood sampling.

CLINICAL CASES AND SUMMARY RESULTS

Fifteen pregnant women without any clinical risk factors (non-smoking, no history of preeclampsia, appropriate for gestational age, no systemic diseases) were recruited. Mean age of the patients was 29.73±5.4 and they were between 16-25th gestational weeks. Mean uterine artery PI values were 1.05±0.5 and mean serum endocan levels were 287.43±95.31 pg/mL. Neither uterine artery PI values nor RI values were statistically significantly correlated with maternal serum endocan levels (p>0.05). Serum endocan levels were negatively correlated with body mass indexes (p=0.017) while there was not a significant correlation with age and gestational week.

CONCLUSIONS

Although a small number of patients were included, the absence of a relation between serum endocan levels and uterine artery doppler parameters, are consistent with previous studies (3). Further investigations on larger populations are needed to reveal whether endocan has a role on placental vasculature ending up with clinically significant pathologies.
**INTRODUCTION**

First report of cesarean scar ectopic pregnancy (CPS) was done in 1978. The incidence of CSP is unknown, however, estimates are that it follows 1 in 1800 to 1 in 2,216. Different strategies for management have been reported for this condition which is life threatening if not diagnosed early.

**CLINICAL CASES AND SUMMARY RESULTS**

We present two cases with cesarean scar ectopic pregnancy with live embryo in 9th and 8th week respectively. Both of the cases were treated with injection of methotrexate in the gestational sac after fetocide using KCL under ultrasound guidance. In both cases only one dose of methotrexate 25mg was needed. Levels of βhCG was monitored in maternal blood. Both cases were followed up with ultrasound. In one of our cases complete abortion of pregnancy was reported 65 days later with no complications. In the second D&C was preformed due to heavy vaginal bleeding with no post operative complications.

**CONCLUSIONS**

Local Infusion of methotrexate in the sac of scar pregnancy under ultrasound guidance can be a safe and effective treatment for this life threatening ectopic pregnancy
TOPI: Abnormal Placentation

ABSTRACT ID: 372


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INTRODUCTION

Postpartum haemorrhage remains a major cause of maternal mortality and morbidity. Abnormal placentation including placenta praevia and accreta are the major causes. Major risk factors include emergency caesarean sections and previous caesarean sections. In the management of postpartum haemorrhage the use of pharmacological measures include intravenous oxytocin, intramuscular ergometrine, and intra-myometrial prostaglandins. Mechanical methods to reduce severe postpartum bleeding includes balloon tamponade, B-Lynch, uterine and internal iliac artery ligation. When the haemorrhage is uncontrolled despite these above measures, then it is needed to resort to peri-partum hysterectomy.

MATERIALS AND METHODS

A Ten year review of more than 44 thousand deliveries at our University Hospital in Malta revealed that there were 14 deliveries who had a postpartum hysterectomy. The indications for the peri-partum hysterectomy and the placental location and any previous operative delivery were recorded. The amount of blood products transfused were also noted.

CLINICAL CASES AND SUMMARY RESULTS

The rate of peri-partum hysterectomy is 0.316 per one thousand deliveries. Eight of these hysterectomies followed emergency caesarean deliveries, and five after elective caesarean section. One patient had an elective postpartum hysterectomy in view of large multiple fibroids. These patients need an excessive amounts of blood transfusion, including packed blood cells, plasma, platelets and cryoprecipitate. There was minimal intrapartum complications including haematoma and sepsis.

CONCLUSIONS

Abnormal placentation was a major cause of severe postpartum haemorrhage, with subsequent peri-partum hysterectomy.

Deeply adherent placenta at the site of previous caesarean scar, provides an increased risk of severe haemorrhage. A Multi-disciplinary team including haematologist, anaesthesiologist, obstetrician and surgeon are needed to help in these major emergencies has to be emphasised.
INTRODUCTION

Placenta previa, placenta accreta, and vasa previa are all associated with abnormal placentation that are important causes of serious fetal and maternal morbidity and mortality. However, there is very limited data about the neonatal outcomes of mothers born to abnormal placentation. The aim of this study was to establish the neonatal outcomes of infants born to mothers with abnormal placentation and compare those with age and sex matched infants born to mothers with no placental anomaly.

MATERIALS AND METHODS

All pregnant women that were followed up by Perinatology Department were identified. A retrospective chart review was performed between January 2013 and June 2017 for women with abnormal placentation and no placental anomaly. A similar chart review was performed for their infants. Maternal and neonatal demographics and morbidities for were all recorded. Infants that were inborn between 22-42 gestational weeks, hospitalized in the neonatal intensive care unit (NICU) were included. Infants born to mothers with no follow-up, outborn and with congenital/chromosomal abnormalities were excluded.

CLINICAL CASES AND SUMMARY RESULTS

Although a total of 45 mothers were identified, the infants that were hospitalized in NICU were included. Therefore, 102 infants were identified, 51 born to mothers with abnormal placentation and 51 born to mothers with no placental abnormality and included to the final analysis. The mean gestational age and birth weight of infants born to mothers with abnormal placentation were 35.2 ± 3.1 weeks and 2675 ± 727 g, respectively. All these infants were delivered by C/S and their Apgar scores at minutes 1 and 5 were significantly lower than those born to no placental anomaly. No other significant differences were detected between two groups in terms of morbidities and mortality.

CONCLUSIONS

Although the presence of abnormal placentation may lead to lower Apgar scores at birth, the neonatal outcomes seem to be similar. Larger number of infants are required to evaluate the effects of abnormal placentation on neonatal outcomes.
INTRODUCTION

Disturbance of placental attachment is associated with an increased risk of premature detachment, post-partum bleeding, intrapartum fetal death [1]. Placenta accreta occurs in 9% of patients with placenta previa and 0.004% of women without previa [2]. It is noted that the frequency of placenta increment increasing with the age of the pregnant women and among patients with a scar on the uterus. For example, after caesarean section (CS), a conservative myomectomy (ME), it rise up to 39% [2].

MATERIALS AND METHODS

A retrospective controlled study included 51 patient with a complete placenta previa. The diagnosis of placenta previa was set initially by ultrasound. The degree of invasion into the myometrium placenta was evaluated by Doppler blood flow studies in the placenta. If placenta accreta was suspected the MRI of the uterus in the timing from 32 - 36 weeks of pregnancy was performed.

The main group (Gr UAE) consisted of 16 pregnant women with abnormal placentation who was operated in Almazov Federal Heart, Blood and Endocrinology Centre. In all cases surgical approach combined a temporary endovascular uterine artery embolization and cesarean section was used. 9 patients had placenta accreta (the subgroup UAEa.), 7 women had placenta previa without evidence of accreta (the subgroup UAEna.).

CLINICAL CASES AND SUMMARY RESULTS

Comparing the results of conventional surgical treatment and combined operations with the use of UAE in patients with placenta accreta (sub CONTa and UAEa) there was revealed a statistically significant difference in the absolute and relative volumes of blood loss (Table 2, Figure 1, 2). In addition, as can be seen from the data presented in Table 2 and Figure 3, the women from the main group needed significantly lower volumes transfusion. It should be noted that in the control group donor was used to compensate the blood loss, and in the main group were used only erythrocytes which were recived by Cell Saver.

The combined use of UAE allowed to avoid complitely cases of hysterectomy in patients of the main group. In the control group all interventions in cases of placenta accreta lead to hysterectomy (Table 2).

CONCLUSIONS

1. The use of temporary UAE in operative abdominal delivery in women with placenta accreta significantly reduces blood loss, need for blood transfusion and women disability.
2. This study did not reveal any benefits of combined technique over the conventional abdominal operative delivery in patients with placenta praevia with no signs placenta accreta.
INTRODUCTION
Abnormally invasive placenta (AIP) encompasses a spectrum of conditions with abnormal adherence of the placenta to the implantation site. The incidence of AIP accounts for 4.1% in women with 1 and for 13.3% in women with ≥2 previous cesarean deliveries. AIP increases the risk of morbidity and mortality for mother and neonate, especially when the diagnosis is made at the time of delivery. Antenatal diagnosis of AIP is associated with significantly decreased maternal hemorrhagic morbidity. Ultrasound second-trimester findings suspected to AIP, including placenta previa, anechoic placental areas, and an abnormal myometrial interface, may be found as early as the first trimester. First trimester detection of AIP is essential to the decision-making process for families and obstetricians.

MATERIALS AND METHODS
A 38 y.o woman (G4P2A2) with two cesarean deliveries and two terminations of pregnancy due to fetal abnormalities. At the first scan at 6 weeks, gestational sac implanted eccentrically in the isthmic region in proximity to the previous cesarean scar with anterior chorion, and myometrial thickness reduced to 1.7 mm. Patient was consult about high-risk for AIP and family decided to continue pregnancy. From 13 weeks ultrasounds revealed low-lying anterior placenta with classic signs of AIP, such as intraplacental lacunae, absence of retroplacental «clear space» with increased subplacental vascularity. Myometrium was not entirely visible in low right area. MRI at 28 weeks showed two zones of uterine bulging with no myometrium at the low part of anterior wall.

CLINICAL CASES AND SUMMARY RESULTS
The patient underwent a planned cesarean delivery at 34 weeks by fundal incision to deliver the baby. Newborn girl weighed 2270 g with 7/8 Apgar scores. Placenta increta was confirmed with two zones of invasion 6*7 and 5*4 cm on the low part of uterus. Resection of the AIP zones, evacuation of placenta, and closure of the uterine wall defects with a double suture was perform with overall blood loss 600 ml. Postnatal course was uneventful for mother and neonate.

CONCLUSIONS
Ultrasound has highly sensitivity in the prenatal diagnosis of AIP from the very beginning of the first trimester of pregnancy. Since most of the routine first sonographic examinations in pregnancy are performed by gynecologists, it is important them to become familiar with markers for AIP to make timely referrals to a tertiary center. In the event of a miscarriage or pregnancy termination and in planning management for delivery correct diagnosis helps significantly improve patient safety.
INTRODUCTION
More women between the ages of 50 and 55 are giving birth today, than ever before, largely thanks to in vitro fertilization, or IVF. Getting pregnant at 55 is rare, but conceivable. Our case suggests, that for women with uterine fibroids, or otherwise unexplained infertility, assisted reproduction might lead to pregnancy and live birth, even if previous myomectomy didn’t exhibit beneficial effects on fibroids. We also would like to mention about Placenta increta, which happens when the placenta attaches itself so deeply into the uterine wall that it attaches to the uterine muscle. Hysterectomy is a common surgical intervention.

MATERIALS AND METHODS
A 55 years old woman with a 3 years history of primary infertility was presented at our department in March, 2017. At 35 5/7 weeks’ gestation, the patient experienced regular abdominal pain. In 2015, she underwent the hysteroscopy and abdominal myomectomy, in which more than 15 fibroids were removed. However, multiple uterine fibroids were diagnosed again by ultrasound. She was referred to In Vitro fertilization office. Ovulation induction was done. The IVF procedure for the woman resulted in a pregnancy. She regularly attended prenatal check-ups, continued her healthy lifestyle during pregnancy. During last 2 weeks developed pregnancy-induced hypertension, maximum seizures of blood pressure were 150/100mm/Hg.

CLINICAL CASES AND SUMMARY RESULTS
The midline incision was performed along the white line. There was seen severe adhesions between the posterior wall of bladder and anterior wall of the uterus, also the posterior wall of the uterus and bowels. Multiple uterine fibroids were discovered again. The patient successfully delivered a healthy male baby weighing 2700 g, height 48 cm, Apgar scores were 7/7. During birth, it was difficult the placenta to separate from the uterine wall easily, a diagnosis of placenta increta was made. There was a great risk of hemorrhage during manual attempts to remove the placenta. The surgical team considered the hemorrhage to be life threatening and promptly initiated blood transfusion. The surgeons controlled the hemorrhage via a hysterectomy and a bilateral salpingo-oophorectomy. Total blood lost was 1700 ml, total urine output 300 ml. Intraoperatively, blood transfusion included the same group blood’s er. mass – 290 ml and 330 ml, and plasma 260 ml.

CONCLUSIONS
The effect of fibroids on reproduction remains in question. Intramural fibroids might have an impact, but randomized studies with adequate evaluation of intracavitary involvement are necessary to adequately evaluate whether the benefits of treatment will outweigh the serious surgical and obstetrical risks that follow myomectomy. Teamwork is essential to the effective management of an obstetric emergency.
INTRODUCTION

Placenta Previa Centralis (PPC) is implanted in the lower segment of the uterus and entirely covers the internal os of the uterus. Consequently, fetus is imperiled by a preterm delivery, acute asphyxia due to a sudden hemorrhage, chronic asphyxia due to an anemia, and placental insufficiency resulting from placenta’s detachment, reduction of the insertion area, and compromised fetoplacental circulation.

MATERIALS AND METHODS

Perinatal Asphyxia (PA) was diagnosed through measurement of venous blood pH level at birth and Apgar Score (AS) at the end of the first and fifth minute. The study group consisted of 73 newborns-33 from the pregnancies with PPC. Control group (CG) consisted of 40 newborns from pregnancies with normally implanted placenta and delivered by cesarean section due to other indications. Newborns from both groups were of the same or comparable gestational age and chosen randomly. Gender, participation of twin pregnancies, extremely premature newborns, gestational age, body weight, mother’s age, and frequency of emergency and elective cesarean sections were also analyzed. In conclusion, there was no statistically significant difference within two groups, i.e. both groups were homogeneous groups.

CLINICAL CASES AND SUMMARY RESULTS

Analysis of AS distribution at the end of first (U=556.5; Z=1.323; p=0.186) and fifth minute (x²=1.159; p=0.282), and average AS at the end of first (t=1.655; p=0.102) and fifth minute (t=1.197; p=0.235) showed no statistically significant difference between two groups. Central venous blood pH value at birth in PPC group ranged from 6.90 to 7.37, averaging 7.22. In the CG, the value ranged from 7.02 to 7.35, averaging 7.21. Analysis showed no statistically significant difference between average pH values of two examined groups (t=0.315, p=0.755).

CONCLUSIONS

Analyzing frequency of occurrence of PA in two homogeneous groups of newborns with the same mode of delivery and different only in the placenta implantation site, we concluded that PPC is not an isolated risk factor for PA when compared to the normally implanted placenta. This can be attributed to advancement in obstetric diagnostics, perinatal care and well-monitored pregnancy and delivery.
TOPIC: Abnormal Placentation

ABSTRACT ID: 566

TITLE: CASE REPORT: ULTRASOUND SIGNS OF PLACENTAL INVASION IN SCAR AFTER CESAREAN SECTION

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AFFILIATIONS: Ultrasound Dept., The Research Institute of Obstetrics, Gynecology and Reproductology named by D.O.Ott

INTRODUCTION

The placental invasion into the myometrium is a serious complication of pregnancy, in most cases appearing with placental localization in the scar area after the previous cesarean section. The frequency of this pathology occurrence has increased almost 4 times over the past 10 years and is found in 1 case out of 2500 deliveries. This is due to an increased frequency of operative delivery which inevitably leads to an increased risk of pregnancy complications among patients with uterus scars, and placental invasion is one of them.

CLINICAL CASES AND SUMMARY RESULTS

Patient A, 34 years old, two planned cesarean section in the anamnesis. Placenta prevalence, located on the front wall of the uterus, is diagnosed in current pregnancy. During ultrasound examinations, a special attention was given to the scar area. At a period of 32 weeks the ultrasonic signs of the myometrium thinning in the scar zone were found. Myometrium was not determined in the 3 cm area. At the same area the arterial vessel which spread to a urinary bladder wall was noticed. During 3d reconstruction this vessel could be traced from the side of the bladder. MRT results completely coincided with ultrasound data. In addition, there are chains of vessels between the myometrium and the placenta. From 32 to 36 weeks the patient was in hospital and at 36 weeks the delivery was performed by cesarean section with metroplastic and ascending branches of the uterine arteries ligation. Before the surgery a cystoscopy with drainage of the ureters and coagulation of vessels was performed.

CONCLUSIONS

Analyzing this clinical case, it should be noted that the timely diagnosis of the placenta invasion into the scar with the germination of the vessels into the bladder allowed to put the patient in time to the perinatal center and perform an organ-preserving surgery with controlled blood loss.
INTRODUCTION

Morbidly adherent placenta (MAP) is an infrequent yet emergent condition that has increased along with the prevalence of caesarean delivery. Its own nature makes it a life threatening obstetric condition, especially on account of the greater risk of heavy bleeding.

Experience in the management of MAP has progressively improved in our centre during the last few years. It requires a multidisciplinary approach to minimize potential maternal and neonatal morbidity and mortality.

The aim of this study is to analyse the intended treatment, main complications and neonatal outcomes of the patients diagnosed of MAP and attended in Vall d’Hebron University Hospital in the period 2007-2018.

MATERIALS AND METHODS

This is a retrospective observational study including 37 cases of confirmed MAP identified in the hospital’s database records and ultrasound program View Point between 2007 and 2018. Multiple variables were studied, standing out severe haemorrhage (defined as administration of ≥4 concentrates of hematies or administration of plasma, platelets or fibrinogen), need of reintervention, surgical lesion of other organs, admission of the patient at Intensive Care Unit (ICU), maternal death, proportion of prematurity and neonatal adverse outcomes.

Categorical variables were described as absolute and relative frequencies. Continuous variables were described as median and range.

CLINICAL CASES AND SUMMARY RESULTS

Hysterectomy was usually the primary treatment and was performed as a primary or secondary treatment in 86% of the patients.

Surgery was scheduled for 34 weeks albeit 16% required an urgent cesarean section due to metrorrhagia or fetal distress.

Haemoglobin decreased average 2.32 points; 32% were affected of severe hemorrhage; 25% needed ICU cares with medium stay of 2.3 days; 14% needed reintervention due to important bleeding; 11% had accidental bladder injury. One patient died due to a massive pulmonary embolism.

Short term complications included severe metrorrhage and arterial tromboembolism whereas long term complications included eventration, urine incontinence and vesicovaginal fistula.

Prematurity (mostly iatrogenic) affected 63% of the babies. Apgar <7 at 1st minute was 41% and at 5th minute 24%. Adverse neonatal outcomes affected 24% of babies including 2 terminations of pregnancy, 4 cardiopathies, 2 retinopathy of prematurity and 1 necrotizing enterocolitis.

CONCLUSIONS

These results enlighten the potential maternal morbidity associated with MAP, especially regarding severe hemorrhage, which is the most frequent complication in our serie and is related to massive blood transfusion, need of reintervention and maternal death. Other important items that stand out are accidental bladder injury or adverse neonatal outcomes.

MAP is a new reality every obstetrician has to be aware of and its management improves as well as the experience of the medical team does.
INTRODUCTION

Modern diagnosis of recurrent pregnancy loss (RPL) and IVF (in vitro fertilisation) failures should include two parts: chronic endometritis and pathological hypercoagulation. The main cause of the uterine form of infertility and miscarriage is chronic endometritis. This is the hypotrophy of the endometrium with the outcome in fibrosis with the weakening of angiogenesis processes. The appointment of biphasic therapy and/or stimulation of ovulation in IVF protocols, without taking into account the initial state of the endometrium and prothrombotic status, increases the number of failures. The aim of the study is to develop a scheme of integrated approach to the examination and treatment of chronic endometritis, in patients with implantation disorders in combination with hypercoagulation.

MATERIALS AND METHODS

Included are 70 women with RPL and IVF failures. All patients on the 19th-21st day of the menstrual cycle (DMC) underwent an endometrial pipelle biopsy with the investigation of morphology, histochemistry of receptors, pinopodes, fibrosis, virus contamination. Evaluation of the hemostas by the routine tests and thrombodynamics (TD). The first stage of therapy: antiviral therapy, endometrial aspiration at 26 DMC, intraoperative intrauterine injection of the antiadherent barrier (Antiadhesin Gel). On day 2-4 after aspiration, granulocyte-colony stimulating growth factor (G-CSF) intrauterine and paracervical injections of platelet autoplasm were performed. During of biphasic therapy (estradiol hemihydrate + dydrogesterone) enoxaparin sodium was administered under the control of TD.

CLINICAL CASES AND SUMMARY RESULTS

As a result of the complex therapy of chronic endometritis the M-echo increased to 9 mm in 19-21 DMC in 56 patients (80%), according to the results of the final pipeule biopsy "delicate fibrosis" was preserved only in 21 (30%), 49 (70%) developed spiral arteries, the number of endometrial pinopodes increased, virus contamination and bacterial infection were absent. Pathological hypercoagulation was revealed in 70 (100%) patients, which required the administration of LMWH in an individually selected dose (enoxaparin sodium from 0.2 ml to 0.6 ml per day). In 44 (64%) patients, spontaneous or induced IVF pregnancy occurred in the next cycle. Chromosomal pathology was detected in 3 pregnancies which were interrupted until 12 weeks, 11 resulted in deliveries, the rest are prolonged under the supervision of an obstetrician - gynecologist and hematologist. Dydrogesterone continued till 32 weeks. Control of hemostasis for LMWH is carried out using routine tests and TD.

CONCLUSIONS

The proposed scheme of therapy: aspiration - removal of the scar, fibrosis, exposure of the basal plate; intrauterine use of an antiadherent gel and G-CSF in combination with platelet autoplasm allows stimulating the growth of the endometrium, especially if LMWH is used in individually selected doses under the control of TD. The administration of transdermal estradiol hemihydrate in combination with dydrogesterone is preferably.
INTRODUCTION

The incidence of placental insertion abnormalities (PIA) varies considerably in the literature due to variations in diagnostic criteria. It is constantly increasing in all populations. Its management is complex and requires a rigorous and well codified strategy involving obstetricians, radiologists and anesthetists resuscitators working in perfect collaboration. Due to the relative rarity of this anomaly, the description of the anesthetic and resuscitative management of this complex situation is limited to small retrospective series. Therefore, the modalities for optimal care are not clearly defined.

MATERIALS AND METHODS

It is a retrospective, descriptive and analytic study. It was conducted at the Farhat Hached’s University Hospital Center of Sousse, Tunisia, in the two departments of anesthesia surgical resuscitation and gynecology obstetrics. The study period was six (06) years from January 1, 2012 to December 31, 2017. Main outcome measures were hysterectomy rate, median estimated blood loss and transfusion requirements.

CLINICAL CASES AND SUMMARY RESULTS

37 women were included. Overall incidence of PIA was estimated at 0.061%. Average age was 34.6 ± 3.8 years old. Caesarean section was exclusive delivery route; 17 programmed and 20 in an emergency context. Average term was 35.4 ± 2.6 amenorrhea weeks (AW) with extremes of 25 AW and 39 AW + 4 days. Hysterectomy was performed in 36 patients; from the outset in 21 patients and after failure of an artificial delivery attempt in 15 patients. Only one patient had benefited from conservative treatment that later necessitated secondary hysterectomy due to failure of methotrexate treatment and recurrent bleeding. General anesthesia (GA) remains the preferred technique in our unit. In fact, 27 (73%) caesarean sections were performed under GA and 10 (27%) caesarean sections under spinal anesthesia, 9 of which were converted into GA. No cases of preventive or curative arterial embolization. Average calculated blood loss was 1905.9 ± 1150.98 ml. Intraoperative blood transfusion was noted in 35 cases.

CONCLUSIONS

Placenta accreta, increta ou percreta has become a very common condition. However, limited data exist to guide the optimal management of this condition. The existing literature is very heterogeneous. It has a number of limitations, including limited generalisability and a lack of statistical power.
TOPIC: Abnormal Placentation

ABSTRACT ID: 626

TITLE: Evaluation of maternal and perinatal morbidity resulting from abnormally invasive placentation: a series of 37 cases from a Tunisian tertiary teaching hospital

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INTRODUCTION

Ab normally invasive placentation (AIP) is a life-threatening condition to the mother as well as the child. It is associated with major pregnancy complications, haemorrhage, large-volume blood transfusion, and high rate of hysterectomy. The objective of this study is to describe the outcomes of placenta accreta, increta, and percreta in a Tunisian teaching hospital.

MATERIALS AND METHODS

A retrospective observational cohort study of all cases diagnosed with placenta accreta from 2012 to 2017 in Farhat Hached University Hospitals in Sousse, Tunisia. Maternal and fetal morbidity were recorded. Main outcome measures were hysterectomy rate, post partum hemorrhage, median estimated blood loss, renal failure, perinatal mortality and prematurity. 37 patients were enrolled in the study.

CLINICAL CASES AND SUMMARY RESULTS

Maternal morbidity was represented by:
- radical surgery performed in 36 parturients
- 13 patients were transferred intubated, ventilated and sedated in resuscitation unit; Average duration of hospitalization was 2.5 days with a maximum of 15 days.
- 4 cases of massive haemorrhages with disseminated intravascular coagulation.
- The average calculated blood loss was 1905.9 ± 1150.98 ml with extremes ranging from 192 to 4725ml.
- Renal failure was recorded in 7 parturients with good evolution in 5 of them. One patient required two sessions of extra-renal purification because of fluid overload and one parturient had kept high level of creatinemia for which she was secondarily transferred to nephrology.
- No maternal deaths have been observed.

For fetal version:
- Perinatal mortality was estimated at 5.4% (2 deaths),
- 10 newborns were hospitalized in the neonatal ward because of prematurity. The average length of stay was 15.2 days with extremes ranging from 5 to 27 days.

CONCLUSIONS

Placenta accreta, increta ou percreta has become a very common condition. It is still a life-threatening situation for the mother as well as the child despite the advances in prenatal diagnosis.
INTRODUCTION

Chorioangioma is the most common placental benign tumor, occurring in 0.9% of pregnancies. However, the incidence of larger or multiple chorioangiomas (4 cm) often associated with complications is rare. Large or multiple tumors are associated with maternal-fetal complications such as polyhydramnios (14-28%), premature rupture of membranes and/or preterm delivery, fetal anemia, intraterine growth restriction, fetal cardiomegaly, congestive heart failure and inuterine fetal death.

Routine ultrasound examinations, including Doppler play an important role in prenatal diagnosis and monitoring of placental chorioangiomas. Due to the potential complications early diagnosis, close prenatal surveillance, and intrauterine treatment can be implemented to prevent fetal demise.

CLINICAL CASES AND SUMMARY RESULTS

A 25 year old woman, with a 28 weeks pregnancy was admitted to our hospital. On examination an abundant clear amniotic fluid came out. An abdominal ultrasound showed a fetal woman with an estimated fetal weight of 1.628 g. On the placenta well defined, rounded, homogeneous formations were observed. Amniotic fluid index was 14 cm. Doppler ultrasound was normal. The patient was admitted with a diagnosis of PROM, suspicion of polyhydramnios, fetal macrosomia, and placental findings. Pulmonary maturation regimen was administered. Protocol of antibiotic prophylaxis was initiated.

Monitoring (maternal serology, glycemic curve, Coombs test, blood test, cardiotocographic records and fetal Doppler) was normal until week 33 of gestation where subcutaneous edema, cardiomegaly with hypercontractility, and a reverse wave of venous ductus were observed. Because these findings, we decided to finish the pregnancy. A woman was born. The pathologic diagnosis was chorioangiomas.

CONCLUSIONS

Chorioangioma is a benign vascular malformation of the placenta and may cause poor outcome. The main diagnostic tool is ultrasound with color Doppler. Proper prenatal control is crucial for the timely detection of conditions that could complicate the pregnancy and indicate when intervention may be necessary. Early diagnosis and close monitoring may reduce fetal morbidity and mortality.
TOPIC: Abnormal Placentation

ABSTRACT ID: 670

TITLE: Experience of a specialized unit in the management of Placenta Acreta in Spain. PAMU (Placenta Acreta Multidisciplinary Unit) in Hospital Vall Hebrón (Barcelona).

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INTRODUCTION
Placenta Accreta (PA) is an infrequent (1/530) and severe, complication due to a defective placental uterine invasion.
There is increasing evidence that the management of women with PA disorders by multidisciplinary teams in centers of excellence decrease maternal morbidity and mortality when compared with standard obstetric care.

In 2014, the first PA Multidisciplinary Unit in Spain was created in Vall Hebrón Hospital in Barcelona.

In our unit the primary therapeutic management for them consists in a scheduled nonemergent CS followed by an immediate hysterectomy. During the early preoperative period, balloon catheters are placed in both internal iliac arteries as well as catheters in both ureters.

The aim of this study is to evaluate maternal morbimortality in our unit.

MATERIALS AND METHODS
This prospective study compares 23 patients with a confirmed diagnosis of PA treated in the PAMU (2014-2018) with a historical group of 15 patients with the PA diagnosis seen in the same hospital between 2007 - 2013.

The variables analyzed were: 1 Number of transfused patients 2 Need of a large-volume blood transfusions (≥4PRBC) 3 median number of PRBC transfused, 4 plasma transfusion 5 Need of surgical reintervention or embolization by bleeding at the first week, 6 bladder and/or ureteral injury 7 maternal admission in ICU 8 Others (venous or arterial thrombosis, infection or abdominal wall dehiscence) 9 maternal death.

We also compare the percentage of patients diagnosed antepartum, and those with prenatal diagnosis and scheduled elective surgery.

CLINICAL CASES AND SUMMARY RESULTS

PAMU vs Historical Group:
1. 10/15 (73%) vs 7/23 (30.4%)  p=0.062
2. 8/14 (57%) vs 3/23 (13.04%)  p=0.013
3. 4.21 vs 1.17
4. 8/14 (57%) vs 3/23 (13.04%) p=0.013
5. 5/15 (33%) vs 3/23 (13.04%) p=0.134
6. 2/15 (13%) vs 1/23 (4.3%) p=0.697
7. 5/15 (35%) vs 5/23 (21%) p=0.677
8. 2/15 (13%) vs 2/23 (8.6%) p=1.00

Historical group: sepsis associated to bone marrow toxicity with severe leukopenia due to methotrexate. Abdominal wall dehiscence. PAMU group: Popliteal arterial thrombosis. Guteal ischemia after embolization (another patient).
9. 1 vs 0. Maternal death due to massive embolism

Antenatal diagnosis was possible in (7/15) 46% of patients in the historical group and (22/23) 95.6% in the PAMU group.

The percentage of prenatal diagnosis and scheduled surgery was 33% (5/15) in the historical group and 21/22 (95.45%) in the PAMU group.

CONCLUSIONS
The creation of the PAMU has demonstrated an improvement in maternal care, mainly due to a decrease in hemorrhagic complications. A better antepartum diagnosis, which facilitates the performance of scheduled surgery help in these results.
INTRODUCTION

Abnormal placental structure such as a placenta succenturiate, where one or more of the lobes are present outside the placental body, has an estimated incidence worldwide of 1.04%, and up to 50% of cases associated with vasa previa. This is a result of a velamentous cord insertion where the umbilical vessels lie over the internal cervical os. Vasa previa is a rare condition, with an incidence of 1 per 2000 to 5000 deliveries. Despite advances in medical therapy and ultrasonography, vasa previa is often unsuspected. With artificial rupture of membranes, minimal blood loss can cause fetal death.

CLINICAL CASES AND SUMMARY RESULTS

A 33-year-old woman, at full term, came to the obstetric emergency department for vaginal bleeding. Due to fetal tachycardia, a cesarean section was decided. The baby required extensive resuscitation with umbilical cord blood pH 6.97 and a base excess of 35. The first hemoglobin value was 8.6g/dL, without hemolysis. Five blood and plasma transfusions were administered during the first day. Inotropic medication and hydrocortisone were required due to refractory hypotension. He developed seizures on day 2. He was treated with intravenous phenobarbital and midazolam. He developed renal failure (serum creatinine 3.3 mg/dL, urea levels 140 mg/dL) and needed peritoneal dialysis. Magnetic resonance of the brain on day 6 showed signs of hypoxic-ischemic injury. He started recovering with a better urine output so dialysis could be discontinued until stopped on day 20. He was extubated on day 14. A Kleihauer test showed no sign of feto-maternal hemorrhage, while the placental evaluation showed a succenturiate structure.

CONCLUSIONS

The risk of mortality in case of abnormal placental structure and vasa previa with ruptured membranes in the general population is very high if it is not diagnosed before delivery. If a cesarean section is performed before spontaneous rupture of membranes, the survival rate is 97%. Prenatal detection of vasa previa and cesarean delivery are recommended to avoid perinatal mobility and mortality. Further investigation can determine prediction markers for timely intervention.
INTRODUCTION

The prevalence of placenta previa has been estimated to be approximately 0.5% of all pregnancies. It is a major cause of maternal morbidity and mortality because of the associated massive antepartum haemorrhage. Moreover, placenta previa is associated with preterm delivery with the neonatal mortality increasing threefold as a result of prematurity. Furthermore, the effect of anterior/posterior placental position on preterm delivery is unknown, although increased perinatal risks, placenta accreta, excessive intraoperative blood loss and neonatal anaemia have been reported to be associated with anterior placenta previa. The aim of the present study was to evaluate whether different types and locations of placenta previa influence risk of antepartum haemorrhage related preterm delivery.

MATERIALS AND METHODS

It is a prospective study conducted from September 2016 to April 2018 at R L Jallappa hospital, Kolar. The study included 96 women with singleton pregnancies diagnosed with placenta previa. Using ultrasound the women were categorized into complete or incomplete placenta previa, and then assigned to anterior and posterior groups. Complete placenta previa was defined as a placenta that completely covered the internal cervical os. Incomplete placenta previa comprised marginal and partial placenta previa. Maternal characteristics and perinatal outcomes in complete and incomplete placenta previa were compared, and the differences between the anterior and the posterior groups were evaluated.

CLINICAL CASES AND SUMMARY RESULTS

Antepartum haemorrhage was more prevalent in women with complete placenta previa than in those with incomplete placenta previa (75% versus 25%, P =0.00001), resulting in the higher incidence of preterm delivery in women with complete than in those with incomplete placenta previa (77.2% versus 22.7%; p < 0.001). In complete placenta previa, incidence of antepartum haemorrhage and blood loss was higher in anterior than in posterior groups (80% vs 68%) Consequently, gestational age at bleeding onset was lower in the anterior group than in the posterior group, and the incidence of preterm delivery was higher in the anterior group than in the posterior group (70.5% versus 29.4%; p <0.00001). In incomplete placenta previa, gestational age at delivery did not significantly differ between the anterior and posterior groups.

CONCLUSIONS

There is a higher incidence of preterm delivery and antepartum haemorrhage associated with complete placenta previa, particularly when the placenta is located on the anterior wall. Hence, sonographic determination of the placental position is very important to predict placenta previa and in such cases close attention and precautionary measures should be taken to avoid adverse feto-maternal outcome.
INTRODUCTION

Placenta is an organ of the ovulum that is formed at the end of the third month from bushy chorion and basal decidua. Placenta is an essential link between mother and developing fetus. Its role is multiple, i.e. nutritive, respiratory, endocrine, excretory and protective. Normally embedded placenta develops on the front and back wall of the uterine body; its lower edge is located 5-7cm away from the internal cervical os (ICO). In Placenta Previa (PP), placenta is embedded in the lower segment of the uterus and its lower edge partially or completely covers the ICO. PP is classified based on the distance from the ICO to the placental edge: marginal PP-placental lower edge reaches margin of the ICO; partial PP-placenta partially covers the ICO; central PP-placenta completely covers the ICO.

MATERIALS AND METHODS

The total number of newborns from normally embedded placenta and placenta previa in the Obstetrics and Gynecology Clinic “Narodni front” during the five-year period from 01.01.2005 to 01.01.2010 was analyzed.

CLINICAL CASES AND SUMMARY RESULTS

During the observed five-year period, 34723 newborns were born. The total number of newborns from pregnancy with PP was 92. In this PP group, the incidence of PPC was 36.9% (34), the incidence of PPM was 43.4% (40) and the incidence of PPP was 19.6% (18).

CONCLUSIONS

The incidence of newborns from pregnancies with PP was 2.65:1000 of newborns.
INTRODUCTION

Cervical pregnancy is a peculiar form of ectopic pregnancy, whose pregnancy is implanted into the cervical mucosa, below the level of the internal os. They account for less than 1% of all ectopic pregnancies, with a reported incidence of 1 in 1000–95000 pregnancies. It is still debated which one is the best and most correct management and treatment options. Transvaginal ultrasound permits the correct recognition of few simples criteria to discriminate a viable intrauterine pregnancy from a cervical pregnancy. A delay in diagnosis and treatment can lead to uterine rupture, major haemorrhage, hysterectomy and serious maternal morbidity. Management plan should be planned individually, early diagnosis permits to treat conservatively preventing major complications and preserving maternal fertility.

CLINICAL CASES AND SUMMARY RESULTS

A 7-weeks primigravida was admitted to the hospital with diagnosis of cervical pregnancy. Clinical examination was negative; transvaginal US scan revealed an empty uterine cavity and a gestational sac (26x32 mm) within the cervical canal, with an embryo and its cardiac activity. Serum β-hCG level was 30027 UI/L. A counselling in order to the conservative and surgical options was made. Since the patient was harmodynamically stable, medical treatment was chosen. After performing general blood exams, a transvaginal intra-sac inoculation of 82.5 mg of Methotrexate (50 mg/mm2) was performed, using a 22-Gauge needle, under transabdominal US guide. Serum β-hCG levels were performed on the 4th and the 7th day after treatment. Since the reduction between two values was less than 15%, the woman was suitable for a 2nd cycle of Methotrexate, with intramuscular administration. Serum β-hCG level showed a decreasing trend of more than 15%; the value was repeated weekly until negative level, which took 6 weeks.

CONCLUSIONS

Management options for cervical pregnancy range from conservative therapies to surgery. The availability of transvaginal ultrasound means that early recognition of stable cervical pregnancies is possible, and conservative treatment could be considered first line treatment among stable patients. Our experience supports that conservative treatment can be safely and successfully administered.
Abnormal Placentation

Prenatal ultrasound diagnosis of abnormally invasive placenta in a gynaecological and obstetrics clinic in Novi Sad

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Introduction

Abnormally invasive placenta (AIP) occurs when the placenta has an abnormal attachment to the uterus and is a consequence of damage to the endometrium-myometrial interface of the uterine wall. The incidence of abnormally invasive placenta increases with history of cesarean delivery and is the most common reason for cesarean hysterectomies. Maternal mortality and morbidity are reduced when AIP is diagnosed prenatally and delivery is planned in a tertiary care hospital with a multidisciplinary team. The outcomes of patients with AIP depend on adequate prenatal diagnosis of the abnormally invasive placenta, as planned caesarean sections and management are associated with lower maternal morbidity rates. Prenatal diagnosis of invasive placentation relies on ultrasound and colour Doppler.

Materials and Methods

This study was done in a single site tertiary delivery centre in Novi Sad over a period of six years. One hundred and sixteen pregnant women with placenta previa were enrolled in this study. All cases were diagnosed with 2D grey scale and colour Doppler ultrasound. Examination was performed to detect loss of clear zone, abnormal placental lacunae, bladder wall interruption, myometrial thinning, placental bulge/exophytic mass, uterovesical and subplacental hypervascularity, bridging vessels and turbulent flow through the lacunae. All data were statistically analysed.

Clinical Cases and Summary Results

Over the six-year period a total number of one hundred and sixteen placenta praevia cases were identified. Seventeen cases (14.6%) had AIP confirmed by surgical and histopathological finding. In this series, the sensitivity of ultrasound and colour Doppler in diagnosis of AIP was 82.3% and the specificity 96.9%. The positive and negative predictive values were 82.3% and 97.9% respectively. AIP were located predominantly at anterior uterine wall (14/17, 82.3%). Ultrasound markers for AIP were found: loss of clear zone (17); abnormal placental lacunae (17); bladder wall interruption (7); myometrial thinning (17); placental bulge/exophytic mass (6); uterovesical and subplacental hypervascularity (15); bridging vessels (10); and turbulent flow through the lacunae (15).

Conclusions

The key factor in AIP management is prenatal diagnosis, for which ultrasound is a highly accurate tool. Despite improved management of patients with AIP, we should think about ways to prevent occurrence of this serious condition. At our Clinic a modified technique of the uterus closure in caesarean section was developed (CS – Modification Vejnovic). The hypothesis of the on-going research is that operative technique influences the incidence of the AIP.
TOPIC: Abnormal Placentation

ABSTRACT ID: 768

TITLE: Prediction of risks of obstetric complications in circulation of antiphospholipid antibodies in blood

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INTRODUCTION

Antiphospholipid syndrome (APS) is a symptom complex combining certain clinical signs and laboratory data - the presence of antiphospholipid antibodies (AFA) in combination with arterial and venous thrombosis, fetal loss syndrome, immune thrombocytopenia and / or neurological disorders. Detection of AFA in patients with adverse pregnancy outcomes and association of different types of AFA with certain complications will make it possible to identify a group of women at risk and choose the right tactics for managing pregnancy. According to international recommendations, the diagnosis of APS is based on laboratory and clinical criteria. For laboratory diagnostics, standardized ELISA test systems are recommended.

MATERIALS AND METHODS

The purpose of this work was to determine the risks of obstetrical complications in the case of AFA in the examined group of patients who had a history of miscarriage, infertility, premature detachment of the normally located placenta (PDNLP), chronic placental insufficiency with intrauterine fetal development delay syndrome (CPI, CRF), antenatal death of the fetus, preeclampsia.

92 patients with an obstructed obstetric-gynecological anamnesis were examined for the presence of AFA by two methods of laboratory diagnosis. Examination of pregnant women was carried out in I (in 36% of cases) and in II trimesters (64% of cases) of pregnancy. The data obtained are processed using statistical analysis methods.

CLINICAL CASES AND SUMMARY RESULTS

The odds ratios (OR) of AFA detection and obstetric complications of Table 1. In assessing the association of AFA carriage and obstetric complications in this group of patients, the following data were obtained. When carrying antibodies to beta2-glycoprotein, the risk of miscarriage is increased by 2.222 times (p>0.05), PONRP is 2.086 times (p>0.05), pre-eclampsia is 2.679 times (p>0.05). With the carriage of antibodies to cardiolipin, the risk of developing PDNLP in 4,100 times (p>0,05), CPI and CRF is 4,867 times higher (p>0,05). With the carriage of antibodies to annexin V, the risk of developing CPI and CRF is 13.5 times higher (p<0.05), preeclampsia is 4.343 times higher (p>0.05). There were no associations between AFA circulation and obstetric complications in cases of antibodies to beta2-glycoprotein and antenatal fetal death, antibodies to cardiolipin and infertility and preeclampsia, antibodies to annexin V, and antenatal fetal death.

CONCLUSIONS

Statistically reliable results were obtained in the case of carriage of antibodies to annexin V and the risk of developing CPI, CRF. In other cases, statistical reliability was not obtained, which requires further study of the immunological causes of obstetric complications.
INTRODUCTION

Obesity is an important factor complicating the course of pregnancy and delivery. The epidemic of obesity in the 21st century makes this problem especially urgent. The delivery of patients with morbid obesity carries very high risks for the patient in anesthetic and surgical terms.

MATERIALS AND METHODS

We had a caesarean section in a patient with morbid obesity, weighing 240 kg. The age of the pregnant woman is 33 years. This second pregnancy occurred spontaneously, proceeded without gestational complications. In an anamnesis, 13 years ago a cesarean section about the weakness of labor. Indication for the operation were: the previous cesarean section, morbid obesity, the unreadiness of the cervix for delivery, the gestation period is 38 weeks. The operation was performed in conditions of central venous access: catheterization of the subclavian vein on the right. Spinal epidural anesthesia was performed.

CLINICAL CASES AND SUMMARY RESULTS

Prior to the operation, laparolifting was performed, by broadly sewing the skin of the anterior abdominal wall in three places, in order to provide access to the wound. Surgery: Transverse suprapubic abdominal incision. Caesarean section in the lower uterine segment by transverse section. The wound on the uterus is sewn with a double-suture. Drainage of the abdominal cavity and subcutaneous tissue was performed. The duration of the operation is 80 minutes. Blood loss - 600,0 ml. Fetal weight - 4120,0, length - 56 cm. Assessment on the Apgar scale - 8-9 points.

In the postoperative period, thromboembolism was prevented by low molecular weight heparins, early activation of the patient. The postoperative period was complicated by the development of the seroma of the postoperative wound. The patient was discharged on the 7th day after the operation, without complications.

CONCLUSIONS

The delivery of patients with morbid obesity has surgical and anesthetic risks. The use of laparolifting makes it easier to perform surgical access at a caesarean section in patients with obesity.
INTRODUCTION

Puerperal infection remains a significant cause of maternal morbidity and mortality worldwide. Those infections occur more likely after Cesarean delivery compared to normal labor (1). Numerous strategies have been developed in an effort to prevent cesarean-related complications including the administration of prophylactic broad-spectrum antibiotics at the time of cesarean (2). Prescribing wide spectrum oral antibiotics during hospital discharge in addition to intra-operative prophylaxis is not uncommon. Despite solid data, many large volume units recognize this policy to prevent surgical site infections (SSI) (unpublished data). The purpose of this study is to determine the utility of prophylactic oral antibiotics in a cohort of low-risk women undergoing elective cesarean delivery at term.

MATERIALS AND METHODS

Retrospective case control study was conducted between 2014 and 2016. Total of 389 low risk elective cesarean deliveries were selected. All cases were age, BMI and parity matched. Women were excluded if there was evidence of: (1) labor, (2) ruptured membranes, (3) a preexisting pelvic infection, (4) BMI >30 and (5) penicillin allergy. All cases received intra-operative prophylaxis during cord clamping. In group I (152 subjects), no further antibiotics were given and in group II (232 cases), oral cephuroxime 500 mg BID po was given during hospital discharge for 7 days. Primary outcome is to compare SSI. Secondary outcomes are endometritis and other infectious conditions.

CLINICAL CASES AND SUMMARY RESULTS

Basal characteristics of the groups are similar including age, parity, BMI, route of anesthesia and operation time (p >0.05). Overall SSI rate is 2.5%. Only 2 SSIs were noted in group I (1.2%) compared to 8 in group II (3.4%) (p>0.05). Secondary outcomes including endometritis, urinary tract infections, febrile morbidity and duration of hospital stay were all comparable among groups without statistical significance. Neonatal infections requiring hospitalization were also similar between the groups. All data is shown in table-1.

CONCLUSIONS

Although the SSI rate is relatively low compared to literature, we failed to reveal any beneficial effect of further oral antibiotic use during hospital discharge in low risk elective Cesarean deliveries. Therefore, routine use of oral antibiotics in addition to intra-operative prophylaxis should be questioned in terms of increased costs, risks of bacterial resistance and long term consequences over newborn micro biome. The main limitation of our study is the retrospective design.
INTRODUCTION

Previous studies have indicated that women undergo adaptive psychological changes during pregnancy, labour, and puerperium and there seemed to be some degree of association between post-partum depression and mode of delivery, vaginal or cesarean. The rate of cesarean delivery is rapidly increasing all over the world and it is relevant to identify women at risk of depressive symptomatology early after delivery to enable an immediate intervention.

MATERIALS AND METHODS

A cohort of 1023 consecutive Italian mothers delivering at term a healthy baby at Policlinico Abano Terme (Italy), completed the Edinburgh Postnatal Depression Scale (EPDS) 2 days after vaginal or cesarean delivery. We analyzed the factor structure of the EPDS to identify depression, anxiety, and anhedonia factors associated with delivery mode.

CLINICAL CASES AND SUMMARY RESULTS

Six hundred and ninety-four puerperae (72.36%) had a vaginal delivery and 256 (26.69%) a cesarean delivery, respectively. Mean EPDS scores were higher in mothers who underwent to a cesarean delivery in comparison to women with vaginal delivery (6.95 ± 4.80 vs. 6.05 ± 4.20, p 0.007)). The factor analysis of EPDS also indicated that depression, anxiety, and anhedonia were significantly higher in mothers with a cesarean delivery compared to mothers with a vaginal delivery (depression: 0.53±0.72 vs. 0.37±0.65, p<0.007; anxiety: 1.07±0.88 vs. 1.16±0.93, p<0.02; anhedonia: 0.32±0.59 vs. 0.19±0.48, p<0.003, respectively).

CONCLUSIONS

The results of our study indicate that women who had a CD have an increased risk of developing post-delivery depressive symptomatology and specifically higher depression, anxiety, anhedonia. In particular, the use of EPDS subscales is a good tool to better understanding the spectrum of maternal postpartum psychological problems related to delivery mode.
TOPIC: Cesarean Section

ABSTRACT ID: 214

TITLE: Does double layer closure in cesarean section affect total uterine nische volume?

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AFFILIATIONS: Gazi University Faculty of Medicine Dept of Obstetrics and Gynecology Division of Perinatology

INTRODUCTION

Over past few decades the rate of cesarean section (CS) and related complications have increased. Suboptimal healing of uterine incision, may lead to scar dehiscence and related with long term sequelae like spotting. Uterine nische describes the hypoechoic area within the myometrium that is discontinuous with myometrium at the cesarean site. Surgical technique of uterine closure could affect nische size. The aim of this study is to compare niche volumes with 3D ultrasound for single layer and double layer uterine closure at postpartum 6th week.

MATERIALS AND METHODS

A prospective case control study was designed with healthy term (≥ 37 gestational week) pregnant women under going primary cesarean section between December 2016- September 2017. Uterine closures were performed by two different surgeons. 6 weeks later, transvaginal 3D ultrasound (Figure 1) was performed for calculating niche volume. For statistical analysis Mann Whitney U test was used.

CLINICAL CASES AND SUMMARY RESULTS

The median volume values for single and double layer closure were 443,60 mm3 and 66,53 mm3 respectively. The minimum-maximum values were 122.27-865.05 mm3 and 8.35-526.78 mm3, respectively. The difference between niche volumes for single and double closure were found to be statistically significant (p<0.001).

CONCLUSIONS

Using 3D transvaginal ultrasound, total niche volume could be calculated more accurately and reliable. Uterine niche volume in double layer closure at postoperative 6th week was found to be less than single layer closure. Thus, double layer closure provides better uterine healing and expected to be associated with less long term morbidity.
TOPIC: Cesarean Section

ABSTRACT ID: 235

TITLE: Long-term results of the application of fibrin cryoprecipitate at cesarean section.

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INTRODUCTION

In the Russian Federation, the frequency of successful spontaneous labor in women with a scar on the uterus after a previous operation by cesarean section is 5-8%. Such low figures in the country are due to a number of factors. Firstly, we do not have a standardized algorithm for the management of labor in such patients, and there are no more accurate diagnostic methods for assessing the scar tissue condition. Despite the listed problems, all experts agree that in order to achieve a favorable outcome of spontaneous delivery in a cohort of such women, the scar on the uterus should be morphologically valuable. In this regard, great attention should be paid to the search for new drugs for the activation of complete tissue repair.

MATERIALS AND METHODS

In 2011-2013, we developed and applied fibrin cryoprecipitate during cesarean section. Then the study included 200 pregnant women. Of these, 24 patients underwent repeated pregnancy between 2016 and 2018. The interval between them averaged 4.2 ± 0.84 years. In order to evaluate the long-term results of the application of fibrin cryoprecipitate, we analyzed the features of the course of repeated pregnancy and childbirth. Mandatory parameters for evaluation of efficacy were complications during pregnancy, the thickness of the scar in a term after the data of the echographic examination, the method of delivery and its complications.

CLINICAL CASES AND SUMMARY RESULTS

When assessing the course of pregnancy, we found that without complications, it occurred in 83.3% (20) of observations. In 13% (3) of cases, a threat of interruption in the first trimester was detected, and only 4.2% (1) of the observations showed that the pregnancy was accompanied by an increase in the uterus’s tone throughout its entire length. The results of the echographic evaluation of the scar were different. Its thickness in the deadline reached 4-5 mm in 29.1% (7) of observations. These patients independently developed regular generic activity, and they were delivered through natural birthmarks. Complications in childbirth and the postpartum period have not been established. In 71.3% (17) of cases, the thickness of the scar in the term of gestation varied from 1 to 3 mm. However, among these women, the maturity of the neck on the Bishop scale was more than 6 points in 42% (10) of observations, and only 29.1% (7) considered the maturity of the neck as insufficient.

CONCLUSIONS

The long-term results of the application of fibrin cryoprecipitate during cesarean section showed that its use led to a favorable course of repeated pregnancy. Due to the influence of the adhesive in this group of patients, it was possible to achieve the formation of a full-fledged scar, and thus spontaneous delivery was possible in 71.1% (17) of observations. The use of fibrin cryoprecipitate prevented the development of adhesions.
INTRODUCTION

The aim of this study was to prove the connection between the birth trauma and the way of delivery.

MATERIALS AND METHODS

9496 newborns, term 8630 (90.88%), praeterm 866 (9.12%), who were born at Special Hospital for Gynecology and Obstetrics –Mother Theresa, Skopje, Macedonia, during the period of three years (2009-2011), were studied retrospective. We analyzed the method of delivery: vaginal (spontaneous and with intervention) and cesarean and the type of birth trauma. 7699 (81%) of newborns were born by spontaneous vaginal method, 135 (1.42%) were born vaginal with intervention and 1662 (17.5%) were born with cesareum section.

CLINICAL CASES AND SUMMARY RESULTS

The incidence of birth trauma in the whole group (9496 newborns) was 5.72% (544). In a group of newborns with spontaneous vaginal delivery 6% (462) were with birth trauma. In a group of newborns with vaginal delivery with intervention 37% (50) were with birth trauma. In newborns with cesareum section 1.92% (32) with birth trauma. From 9496 newborns: Intracranial hemorrhage (ICH) were 0.85% (81), term 0.7% (61), praeterm 2.3% (20). Cefalhaematoma 2.54% (242), term 2.6% (225), praeterm 2% (17). F-ra claviculae 1.94% (185), term 2.1% (181), praeterm 0.5% (4). Paresis plexus brachialis 0.23% (22), term 0.23% (20), praeterm 0.23% (2). F-ra Femoris 0.01% (1), term newborn. Oedema cerebri 0.02% (2), term newborn 0.01%(1), preterm 0.1%(1).

CONCLUSIONS

Obstetric techniques of delivery, like the methods of Bracht, vacuum extraction, forceps and extraction are connected with increase of incidence of birth trauma. This is pointing us to the risk of the use of vaginal obstetrics intervention, and to avoid them when ever it is possible.
TOPIC: Cesarean Section

ABSTRACT ID: 260

TITLE: C-section. A better opportunity for the extreme prematures infants?

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INTRODUCTION

Worldwide, the premature infants represent a public health problem. Prematurity is the single most important cause of death in the first month of life and is a factor in over 75% of pediatrics deaths in the neonatal period. Over the last years, the survival rate of extreme premature infants has grown. Despite of technological advances and efforts, the infants remain at high risk of death and disability. The onset of preterm birth cannot always be influenced. Therefore, the route of delivery, although controversial, is crucial.

The present study aims to analyze, in a retrospective manner, the management of premature babies below 28 weeks and the possible link between the mode of delivery and the occurrence of early complications or perinatal death.

MATERIALS AND METHODS

The study has been performed in the Ist Department of Neonatology Cluj-Napoca, Romania, between 2011 and 2016 and included 111 premature infants below 28 weeks of gestation.

The study group was splited. The first group is the subgroup of c-section: 19 cases with the gestational age (GA)=26.79±1.47 weeks and birth weight (BW)=933.16±155.35g. The second one is the spontaneous delivery group: 92 cases with GA=26.53±1.33 and BW=944.35±226.35g.

For each patient there were assessed the following parameters: anthropometric data (weight, length, and head circumference), mode of delivery, antenatal corticotherapy, severity of respiratory distress syndrome, resuscitation maneuvers, Astrup parameters, early complications and mortality rate. The statistics have been performed with STATISTICA VI.

CLINICAL CASES AND SUMMARY RESULTS

During study period, the incidence of extreme premature birth increased from 1.53% to 3.31%. Overall, 17.11% were born by C-section.

The severity of respiratory distress syndrome was significantly higher in the c-section group (p=0.05).

All required resuscitation in the delivery room. No statistical differences were found between the two groups regarding Apgar score at 1 min (p=0.47), the first pH (p=0.12) or quantification of resuscitation.

The value of pO2 was significant higher in the spontaneous group (p=0.04).

Regarding the FiO2 needed in the first day and at 36 weeks (post menstrual age) there were no statistically significant differences. The immediate complications (pneumothorax, cerebral hemorrhage, pulmonary hemorrhage, digestive hemorrhage or persistence of arterial duct) have not been influenced by delivery mode.

Mortality rate was not influence by the mode of delivery, yet the mortality rate decreased with the gestational age from 53% at 24 weeks to 18.51% at 27 weeks.

CONCLUSIONS

Compared to vaginal delivery, C-section delivery does not influence the resuscitation requirement in the delivery room, the Apgar score nor the occurrence of immediate neonatal complications.

The severity of respiratory distress syndrome was significantly higher in the C-section group. The delivery path did not have an influence on the management and mortality rate of the premature infants born before 28 weeks.
INTRODUCTION

Cesarean delivery rates are increasing worldwide specially in Iran, despite potential evidence of increased maternal and neonatal risks and the negative economic consequences. This study was conducted to compare the neonatal complications in elective cesarean and vaginal delivery, in Mashhad, Iran.

MATERIALS AND METHODS

This study was a descriptive-analytic cross-sectional study that conducted on infants born at the maternity ward of Imam Reza and Ghaem Hospitals in Mashhad university of medical sciences in Iran. The sample size was estimated to be 770 neonates, (with confidence interval 95% and test power; 80%). We analyzed data by using of Student t-test, Mann Whitney and chi-square tests in SPSS 11.5.

CLINICAL CASES AND SUMMARY RESULTS

In this study we had 770 newborn; 426 infants were born with cesarean delivery and 344 newborns with normal vaginal delivery. There was a significant difference between the two delivery methods. The incidence of respiratory distress syndrome was 31 (7.3%) neonates in the C/S group but 12 (3.7%) neonates in NVD group (P = 0.002). Neonatal Asphyxia was observed in 14 cases (3.3%) with C/S and 24 cases (7%) with NVD (P = 0.001). Transient tachypnea of neonates (TTN) occurred in 14 patients (3.3%) with C/S compared with 2 neonates (0.6%) with NVD. The difference was significant (P = 0.001). 28 patients (6.6%) in C/S group but in NVD group 33 (10.2%) needed for NICU admission which was significant. (P = 0.001).

Incidence of Birth trauma was 6 (1.4%) in C/S group and 48 (14%) in NVD group and there was a significant difference between two groups (P<0.001)

CONCLUSIONS

according to our findings neonatal complications due to elective cesarean section are significantly more than normal delivery.
INTRODUCTION

General anesthesia (GA) during caesarean section (CS) is infrequent. In a retrospective study, we included all the Caesarean sections performed under GA in our institution aiming to improve the management of the mother and the newborn (NN) in these cases.

MATERIALS AND METHODS

This is a retrospective observational study including 91 patients who underwent cesarean section under general anesthesia at the Hôtel Dieu de France University hospital between December 2011 and December 2016. We evaluated obstetrical and anesthesia indication, along with maternal and neonatal outcomes.

CLINICAL CASES AND SUMMARY RESULTS

A 4% caesarean section was performed under general anesthesia for a total of 34% caesarean section rate during the same period. The average age of the patients is 33 years, the average parity is 3.4 deliveries, and 68% of deliveries were premature. The most common indication for cesarean section in our series is invasive placental implantation (48% of cases), followed by repeat caesarean section (21% of cases). The most frequent indication of GA for CS is the use of hysterectomy for scheduled CS (70%) and failure of locoregional anesthesia (ALR) for urgent CS (34%). 11% of patients had a postoperative complication, hemorrhage being the most common. 3% of patients had a complication related to GA, namely intubation failure and hypothermia. Prematurity (27%) and neonatal respiratory distress (14%) are the most common complications in newborns.

CONCLUSIONS

Caesarean section under GA exposes the mother and the fetus to considerable morbidity and mortality, but this however could be related to the indication of the cesarean and to prematurity. Maintaining proper indications and the programming of this intervention should improve the fetomaternal outcome.
INTRODUCTION

Postpartum depression (PPD) is not only an important medical problem, but also a social issue. Clinically the PPD can manifest with a depressed mood, insomnia or drowsiness, a great change in body weight, psychomotor agitation or retardation. Up to 85% of women on the first day after childbirth show symptoms of postpartum blues (baby blues), which is self-terminated within 7 to 10 days after. The severity of the pain correlates with the rate of the baby blues and postpartum depression. One of the most effective methods to prevent the pain after the caesarean section is a transversus abdominis plane block (TAP-block). In our study we hypothesized that the use of TAP-block in the postoperative period leads to a decrease in the number of PPD cases after caesarean section.

MATERIALS AND METHODS

342 women took part in this study they undergone a caesarean section with a spinal anesthesia. Randomization depended on the postoperative analgesia. A TAP block was provided as a part of the multimodal analgesia of the postoperative period for the patients of the 1st group (n = 172). The blockade was performed under the ultrasound control by an injection of a ropivacaine hydrochloride solution 0.375%, 1.5 mg/kg. In the 2nd group (n = 170) paracetamol (intravenous form, 3 g/day) together with NSAIDs (ketoprofen, 100 mg with an interval of 8-12 hours) were used as the basic protocol of the postoperative analgesia. In order to detect postpartum depression, the patients filled in the Edinburgh Postnatal Depression Scale 3 times: 6 hours, 3 days and 6 weeks after the operation.

CLINICAL CASES AND SUMMARY RESULTS

Six hours after delivery, baby-blues was detected in 53 out of 170 (31.17%) women who had been anesthetized according to the standard method. In the patients undergone TAP-block the PPD evolved in 44 women out of 172 (25.58%). On the third day after the operation, baby-blues was in 39 women out of the 172 of the first group (22.67%), and in 41 women out of the 170 of the second group (24.12%) (p>0.05). On the 6th week after delivery the PPD was in 16.86% and in 15.29% of the second group. The pain syndrome was less severe in the group where TAP-block was used compared to the usual pain analgesia (p<0.05). A direct correlation between the VAS score on the 6th hour after delivery and the Edinburgh scale at 6 weeks postoperatively was shown in women who did not receive TAP-block. In the group where TAP-block was used, a statistically significant correlation was found between the VAS score at 6 hours after caesarean section and the evidence of baby blues on the 3rd day after surgery.

CONCLUSIONS

The use of TAP-block as one of the components of postoperative analgesia led to a decrease in the frequency of postpartum blues on the first 6 hours after the operation but did not affect the incidence of PPD in 3 days and 6 weeks after caesarean section.
TOPIC: Cesarean Section

ABSTRACT ID: 346

TITLE: Surgical techniques used during cesarean section: results of a national survey of practice in Georgia

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INTRODUCTION

To determine what surgical techniques are used by obstetricians in Georgia for cesarean sections

MATERIALS AND METHODS

A electronic questionnaire was sent through Georgian Obstetricians Gynecologists Association website (www.goga.org.ge) in January 2018 requesting information about the use of surgical techniques during cesarean sections.

CLINICAL CASES AND SUMMARY RESULTS

133 obstetricians replayed back. A range of techniques was used for all procedures in caesarean section operations. Only a few techniques were used by more than 85% of obstetricians, including use of prophylactic antibiotics and Pfannenstiel abdominal entry. There were few large differences in practice of exteriorization of the uterus versus intra-abdominal repair, for single versus double layer closure of the uterus and for closure versus non-closure of the peritoneum.

CONCLUSIONS

There was wide variation in the surgical techniques used by obstetricians for cesarean section operations despite of existence of evidence-based guideline. There is an urgent need to establish a common approach to the surgical techniques considering high cesarean section rate in Georgia. Future research is needed to evaluate many aspects of cesarean section operations on substantive short- and long-term outcomes.
**INTRODUCTION**

Because of the overall increase in cesarean section rate in reference Hospitals as ours, THE WHO encourages to accomplish strategies in order to reverse this tendency. The aim is to obtain rates of cesarean section of 15% without compromising perinatal results. We present the results obtained at our Department of Obstetrics and Gynecology, after implementation of strategies of improvement and adjusting obstetric protocols and involving our staff to achieve this goal.

**MATERIALS AND METHODS**

We present our perinatal results and rate of cesarean section in the last two years, in which, after an internal auditory of our obstetric results, improvement strategies were introduced with changes in the Obstetric protocols involving induction of labour and cesarean section delivery. Due to the increase of our cesarean section rate in the past years, reaching 22% of our deliveries in 2016, and keeping in mind the WHO recommendation of diminishing cesarean rate without compromising perinatal results, an internal auditory was accomplished including cesarean section indication, classification of type of patient related to Robson criteria and Obstetric protocol standardization and updating.

**CLINICAL CASES AND SUMMARY RESULTS**

After all this actions the overall rate section rate in 2017 diminished from 22% to 19,9%, without worsening of our perinatal outcome results.

**CONCLUSIONS**

It is possible to adjust cesarean section rate without compromise on perinatal results, accomplishing improvement strategies, including internal auditory, with the aim of identifying patient groups in which to act and introducing updated standardized obstetric protocols into our clinical practice.
INTRODUCTION
In 2001, the WHO recommended using Robson method for classification cesarean section (CS) in order to homogenize data. This method classifies pregnant women into 10 groups based on 5 obstetric characteristics: parity (nulliparous, multiparous with/without previous CS), onset of labour (spontaneous, induced, elective caesarean before onset of labor), gestational age (term, preterm delivery), fetal lie (cephalic, breech, transverse) and number of fetuses (single, multiple).

The objective of the present study was to analyze the caesarean deliveries obstetric profile performed in Alicante General University Hospital during 2016 and 2017, using the Robson classification in order to identify the groups that contributed most to the total caesarean rate and to establish strategies to reduce it.

MATERIALS AND METHODS
We conducted a retrospective cohort study in which we reviewed CS rate before analyzing the rate for each of the 10 Robson groups and subgroups according to the Canadian classification.

We compared the rate of two periods: 2016 vs 2017. Alicante General University Hospital is a referral hospital with a NICU equipped to care for extremely preterm neonates. Data collection of pregnancy and childbirth were extracted from the hospital’s medical records. The differences in the population characteristics and the perinatal results during the two years of study were analyzed using the chi-square (qualitative variables) and t-student (quantitative variables) tests. The differences in CS rate between the groups were analyzed using the chi-square test. Statistical significance was set at p<0.05.

CLINICAL CASES AND SUMMARY RESULTS
A total of 4,483 deliveries were recorded at HGUA during the study period. The rate of CS step from 18.5% in 2016 to 20.8% in 2017. Population’s characteristics in both years showed no statistically significant differences (age, parity, proportion of multiple pregnancies, gestational age, newborns weight and Apgar). Table 1 shows the size of each of the Robson groups, the proportion of CS in each of these groups and the contribution of each group to the overall CS rate during the years 2016 and 2017.

The size of the groups has remained almost constant during both years, except G5 which has decreased in 2017 (10.8% vs 9.1%) and G10, which has increased in 2017: 6.4% vs 8.3%. The largest contributor to the overall CS rate was G2 with 29.7%.

During 2017 there was an increase in the CS rate in groups 1, 2, 4, 7 and 10, although it was only statistically significant in G4: 7.1% vs 12.6%. In G3 and G5 this rate remained almost constant and in G6 and G8 there was a non-significant decrease.

CONCLUSIONS
Increased CS rate in recent years requires audits using a classification system to CS in order to homogenize data.

Our study enabled us to conclude that Robson classification is easily used in clinical practice. This classification allowed us to identify that the percentage of CS during 2017 increased, especially, in women subjected to labor induction.

It is proposed to intervene prospectively: review indications and method induction as well as indications of caesarean sections in this group.
TOPIC: Cesarean Section

ABSTRACT ID: 504

TITLE: 'Checking or cleaning-out' the uterine cavity before closure at cesarean section: an international survey of current practice.

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INTRODUCTION

It has been suggested that 'it is imperative that all technical aspects in cesarean section continue to be challenged' (Walsh, 2010). Checking or cleaning-out the uterine cavity before uterine closure would seem justifiable in ensuring that a suspected succenturiate lobe or placental remnants/membranes are removed. One respected online learning module mentions 'wiping with a gauze sponge', a WHO video-clip also online, shows no such step, neither is it mentioned by the National Institute for Clinical Excellence (NICE, UK). We explored this practice amongst active Obstetricians from around the world.

MATERIALS AND METHODS

A 10-question survey tool was developed and pre-tested among junior Obstetricians. Questions and responses were adjusted for easy understanding and uniform concept, to enable one-best answer from listed options. Professional colleagues (60) were invited through workplace e-mails, and their own contacts reached by WhatsApp the mobile phone messaging app, linking all to a SurveyMonkey(R), the online anonymized survey program. This was therefore a convenience sample of Obstetricians with presumed parallel operative skills. Analysis of responses was also generated by SurveyMonkey.

CLINICAL CASES AND SUMMARY RESULTS

There were 124 responses from Obstetricians practicing in 5 continents. The majority of respondents (96.69%) routinely cleaned-out or checked the uterine cavity, although 85.25% were not aware of any evidence to support the practice. Some 77.24% delivered the placenta by controlled traction of the umbilical cord. 'Swab on a finger' was employed by almost half (44.63%) of respondents. Amongst those who checked or cleaned out the uterus, only 3.31% had never encountered any placental tissue or membranes. Of all respondents, 70.73% had themselves or colleagues managed post-cesarean complications related to 'retained products'. More than half (52.03%) did not feel that there was any clinical risk associated with cleaning out or checking the uterus at cesarean section.

CONCLUSIONS

Although most respondents in this pilot survey cleaned and checked the uterine cavity before closure at Cesarean section, they were not aware of scientific evidence that supported doing so. Furthermore, different guidelines or learning modules show no evidence in support of the step. We do not usually clean-out the uterine cavity after normal vaginal delivery, why then do so at cesarean section? We propose a multi-center randomized controlled trial, which may help answer this question.
INTRODUCTION

The rate of Cesarean sections (CS) has been increasing worldwide leading to growing number of women with uterine scars. Maternal morbidity in women with the history of CS is higher when trial of labour (TOL) is unsuccessful than when it leads to vaginal delivery. The aim of the study was to identify modifiable risk factors of repeat cesarean section during the second stage of labour among women undergoing an attempt of labour after previous cesarean delivery.

MATERIALS AND METHODS

In this retrospective observational study (2005-2007 and 2013-2015) 1867 pregnant women with a history of one low transverse cesarean delivery attempted a TOL. Study was conducted at the II Department of Obstetrics and Gynecology in Warsaw, Poland, tertiary reference center in Central Europe. The following potential modifiable risk factors associated with repeat CS: pre-pregnancy body mass index (BMI), pregnancy body mass index, gestational weight gain, body weight, abdominal circumference and fundal height of uterus were analyzed.

CLINICAL CASES AND SUMMARY RESULTS

1867 patients with a history of at least one CS were included to the study. 1025 women had repeated elective CS, 842 women were qualified to TOL. Vaginal birth after cesarean (VBAC) was successful in 565 women. 277 failed to deliver vaginally, out each 72 had CS at full dilation. Modifiable risk factors associated with repeat CS at full dilation were: pregnancy body mass index 30-34,9 kg/m2 (OR=2.60), excessive gestational weight gain (OR=1.77) and abdominal circumference over 100 cm (OR= 2.23).

CONCLUSIONS

Despite optimal care and adequate management 72 women out of 842 qualified to TOL went CS at full dilatation. However, decrease of this risk can be achieved by modification of diet and physical activity during pregnancy.
TOPIC: Cesarean Section

ABSTRACT ID: 515

TITLE: MODIFIABLE RISK FACTORS OF REPEAT CESAREAN SECTION AMONG WOMEN UNDERGOING A TRIAL OF VAGINAL BIRTH AFTER PREVIOUS HISTORY OF CESAREAN SECTION

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INTRODUCTION

The rate of Cesarean sections (CS) has been increasing worldwide leading to growing number of women with uterine scars. Maternal morbidity in women with the history of CS is higher when trial of labour (TOL) fails than when it leads to successful vaginal delivery. The aim of the study was to identify modifiable risk factors associated with repeat CS among women qualified to vaginal birth after Cesarean section (VBAC).

MATERIALS AND METHODS

In this retrospective observational study (2005-2007 and 2013-2015) 1867 pregnant women with a history of one previous CS attempting a TOL. Study was performed at the II Department of Obstetrics and Gynecology in Warsaw, Poland, tertiary reference center in Central Europe. Putative modifiable risk factors associated with repeated CS such as: pre-pregnancy body mass index (BMI), pregnancy body mass index, gestational weight gain, body weight, abdominal circumference, fundal height of uterus, estimated fetal weight were assessed.

CLINICAL CASES AND SUMMARY RESULTS

Out of 1867 women with at least one CS in the past repeat elective CS was performed in 1025 women, 842 of them were qualified to TOL. Vaginal birth among women with the history of CS was successful in 565 (67.1%) women. Modifiable risks factors associated with repeat CS were: pre-pregnancy body mass index higher than 30 kg/m² (OR=1.93), pregnancy body mass index higher than 30 kg/m² (OR=1.80), body weight 95-105 kg (OR=1.72), abdominal circumference exceeding 120 cm (OR=2.20).

CONCLUSIONS

Among 842 women with previous CS in history which were qualified to VBAC only 565 delivered and 277 failed TOL. Presented modifiable risk factors of repeat CS among patients undergoing a TOL after previous CS indicate that adequate body mass and weight gain during pregnancy in this group of patients is highly recommended.
TOPIC: Cesarean Section

ABSTRACT ID: 565

TITLE: Rising trends in caesarean section rates between years 1960 – 2018 in Slovakia: a single perinatology center study

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INTRODUCTION

The Caesarean section (CS) has been increasing worldwide and is the most common abdominal surgical procedure. The CS rate in the last decade reached 17.6% with the highest prevalence in America and Europe. The frequency of CS in Slovakia is similar to the frequency in Europe and nears 30%. The most commonly reported caesarean indications are cephalopelvic disproportion, fetal distress, prior caesarean, dysfunctional labor and elective caesarean.

MATERIALS AND METHODS

We analysed the caesarean section rates between years 1960 and 2018 in our perinatological center that covers the health care for the northern part of Slovakia. We used the 10-Group Robson classification system of caesarean sections and compared the trends of caesarean section groups during the period of 58 years.

CLINICAL CASES AND SUMMARY RESULTS

We found a dramatical increase of caesarean section rates between decades (1.37% in 1960s, 2.68% in 1970s, 5.58% in 1980s, 14.95% between 1990-2009 and 32.1% in 2010s). The year 2018 showed the incidence 28.9% until the end of May. The trends of caesarean section rates are markedly increased in induced labors, breech presentations, twins, and prior caesarean. The total increase is also due to the perfect centralization and effectivity of perinatological care in northern part of Slovakia.

CONCLUSIONS

The woman’s motivation for the choice of CS includes fear of vaginal delivery, preservation of coital function, relief from pain of labor and to obtain tubal ligation. The increase of the worldwide caesarean section rate is alarming, because CS has eight-fold higher mortality and morbidity than vaginal delivery. Robson classification system can help to analyse the CS trends and management of pregnant women more properly and gives the objective findings for possible improvements.
Vaginal birth after cesarean (VBAC) is, nowadays, accepted as an important way to reduce the high global cesarean rate in developed countries. The trial of labour (TOL) after one cesarean section is generally admitted as an effective procedure, with a rate of success of 76.5%. Even with 2 or 3 previous cesarean sections, the rate of success is really high (67% and 63%, respectively) with an acceptable low risk of uterine rupture (UR). In women with TOL and one or two or more previous cesarean sections the incidence of UR is 0.7% and 0.9%, respectively. There is also evidence that a previous vaginal birth is a protector factor against the risk of UR. According to this data, we come up with the next question: how many previous cesarean sections are too much for a TOL in safe conditions?

**Clinical Cases and Summary Results**

We report the case of a 39 year-old woman at 38 weeks of gestation who came to our hospital for a second opinion about her way of delivery. As obstetric history, she presented 3 previous elective cesareans in 2009, 2013 and 2015 and a spontaneous vaginal delivery in 2011. The current pregnancy was controlled without any problem. We checked cephalic presentation and performed a vaginal examination, with a 10 Bishop index. Risks and benefits of VBAC and elective repeated cesarean (ERC), according to the limited current evidence, were explained. She accepted the risks and decided to opt for a TOL. She was informed about alert signs.

At 39+2 weeks, she was admitted on labour. The dilatation progressed favorably, without oxytocin augmentation. She delivered vaginally, with a global active phase of labour of 80 min. The newborn weighed 3.195 g and got an Apgar at 10 minutes of 10. The umbilical cord pH was 7.25.

The puerperium developed favorably with a postpartum hemoglobin of 12.8 g/dl.

**Conclusions**

The decision between TOL vs ERC in patients with 3 previous cesareans should be managed individually. UR risk factors include others different from the number of previous cesarean sections: sequential use of prostaglandins and oxytocin, pelvis capacity, and cervical conditions. If the patient hasn’t got any other contraindications for a TOL, we support that vaginal birth after 3 cesareans could be safe with high rates of success at a third level center with a quick response infrastructure.
TOPIC: Cesarean Section

ABSTRACT ID: 600

TITLE: Massive hemorrhage during c-section related to uterine myoma: importance of size and myomectomy

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INTRODUCTION

Uterine Myoma Is A Common Benign Mass Can Lead To Many Complications During Pregnancy And Peripartum Period. It Was Known The Relationship Between Myoma And peripartum Hemorrhage For Many Years. We Decided To Find The Characteristic Of Which Myoma Could Do Severe Bleeding During C-Section

MATERIALS AND METHODS

This Is prospective Cohort Study From July 2012 Until April 2018 In Private Laleh Hospital. Exclusion Criteria Was: Placenta Previa, Abrupt Placenta, Twin Pregnancy, Polyhydramnios, Failure To Progress Labor. Myomectomy Was Don In Half Of Patients. Multivariable Logistic Regression Analysis Was Performed To Evaluate Variables Of Massive Bleeding (>1500 Ml) Like: Age, Gestational Age, Birth Weight, Number Of Myoma And Size Of Largest Myoma And Myomectomy During Operation.

CLINICAL CASES AND SUMMARY RESULTS

From 1400 Women Who Who Undertaken C-Section: 250 Women (17.8%) Had Myoma And The Half Of Them underwent Myomectomy (8.7%). The Median Of Bleeding Was 1200 Ml In Whom Without Myomectomy And 1420Ml With Myomectomy.

CONCLUSIONS

Presence Of Myoma >9 Cm, Myomectomy During C-Section, Birth Weight >2700Gr Were Determined To Be Risk Factors Of Massive Hemorrhage, So Preparation For This Condition, Including Blood Bank Awareness Should Be Considered
INTRODUCTION

The rate of cesarean section has risen considerably in recent years in both developed and developing countries such as ours. Caesarean section, like any operation, is accompanied by significant postoperative pain that can disrupt the mother's relationship with her baby. We propose to compare the level of post-caesarean pains between two surgical techniques: extra-abdominal hysterorrhaphy (EH), leaving the uterus temporarily during the closing of the hysterotomy, and intra-abdominal hysterorrhaphy (IH) that is repair in situ.

MATERIALS AND METHODS

Our prospective randomized, single-blind, two-month study was conducted in the Gynecology-Obstetrics Department of Sousse, Tunisia, and involves 100 women who will undergo a scheduled or emergency cesarean section under spinal anesthesia or under general anesthesia. This study included 100 women divided into two groups: 50 belong to the extra abdominal hysterorrhaphy group and 50 to the intra-abdominal hysterorrhaphy group. Postoperative pain was assessed using the Visual Analog Scale (VAS).

CLINICAL CASES AND SUMMARY RESULTS

The EVA score assessed during the first 6 hours was higher in the EH group compared to the IH group, it was respectively at 7.74 ± 0.73 and 6.42 ± 0.42 (p = 0.01) with a significant difference between the two surgical techniques.

CONCLUSIONS

By choosing the operative technique of caesarean section, it is appropriate for the surgeon to think about postoperative comfort of the patient, and the technique of intra abdominal hysterorrhaphy seems more appropriate for us to have less postoperative discomfort for parturients.
INTRODUCTION
Currently, the issue of increasing rate of cesarean section (CS) is a serious concern either among professionals and society. Country statistics show a stable growing trend. On average, 1 from 5 pregnant women in the world have CS, in the United Kingdom 1980-9%, 2001-21%, in USA 1970-5%, 1988-25%, 2006-31.1%, in Ukraine 2006-14.3%, 2008-15.8%. According to the data of the Institute of Mother and Child (the only third level maternity hospital in the Republic of Moldova) in 2014 the rate of CS was 33.6%, in 2016-30.5%, in 2017-30.7%. The main indication for CS is the scar on the uterus, every third cesarean surgery is repeated intervention. Thus, today's classic slogan of E. Gradin (1916): "Cesarean surgery - always caesarean surgery" is no longer present.

MATERIALS AND METHODS
A retrospective study of 2316 patients who had a history of scar on the uterus after a CS was performed in the obstetrics departments of the IMC between 2015 and 2017. Over 3-years period, with the general decreasing of births at the IMC (2015-6493 cases, 2017-6122 cases) and across the country, there has been a steady increasing number of women with uterine scarring after previous CS, namely 808 (13.2%) in 2017 vs 756 (11.3%) in 2015. It is important to note that the IMC is the only third level institution in RM where are admitted the maximum number of women with this pathology, including those with 3 or more interventions. This leads to a regular grow of the number of repeated CS, from 31.22% (2014) to 37.8% (2017).

CLINICAL CASES AND SUMMARY RESULTS
The implementation of the national protocol for vaginal delivery after previous CS in January 2015 allowed to decrease the rate of CS from 33.6% in 2014 to 30.7% in 2017. The number of vaginal births after previous abdominal birth grew from 7.7% (2014) to 12.1% (2017) of women with scarring on the uterus. From 406 patients selected for vaginal birth, 76.3% had natural delivery, 23.7% of cases were finished through repeated CS. Only 38.96% had at least one vaginal birth that proves the patient's good selection. In 21.25% of vaginal delivery cases, the labor was completed by vacuum-extractor assistance because of acute fetal hypoxia, prolonged second stage of the labor. Stimulation of labor was required in 12.5% of births. There were no pathological haemorrhage during the third period of labor. Regarding the perinatal results only in two cases children were born with 4/5 points Apgar score due to acute hypoxia, the rest having 7/8 points.

CONCLUSIONS
The rational management of women with scarring on the uterus allow to reduce the risk of obstetrical and perinatal complications. In the case of mature pregnancy and biological matured cervix in patients with scarring on the uterus, it is possible to induce labor through early amniotomy. The degree of maturity of the cervix and the spontaneous onset of labor is a preliminary factor indicating the competence of the scar on the uterus.
INTRODUCTION

Standardization of approaches to the planning of vaginal birth after cesarian (VBAC) is an important challenge worldwide. Attempts to use induction of labor cause controversy, but at the same time are of great practical interest.

MATERIALS AND METHODS

We conducted a retrospective analysis of 41 cases of women with uterine scar after cesarian section, whose labor were inducted with amniotomy in 35 cases, amniotomy followed by intravenous administration of oxytocin in 6 patients. The study was conducted in the Maternity Hospital №13 in St. Petersburg. We analyzed the features of somatic and obstetric history, as well as course and outcomes of labor were analyzed.

CLINICAL CASES AND SUMMARY RESULTS

Time of onset of labor after induction was in an average of 3.0 hours. The average duration of labor was 8.6 hours. The mean time after rupture of membranes before delivery was 8.8 hours. Vaginal delivery occurred in 34 patients (83%), 7 women (17%) were re-delivered by cesarean section.

The indications for the second operation were: abnormalities of uterine contractile activity in 5 women (71.4%), of whom 2 were after amniotomy and oxytocin administration; fetal hypoxia in 1 woman (14.3%), worsening of preeclampsia in 1 patient (14.3%).

Among the women with VBAC, we observed vacuum-assisted delivery in 1 case (2.9%), hypotonic uterine bleeding in 3 (8.8%) patients. The average blood loss was significantly lower in patients with vaginal delivery group than in repeated cesarean section group (473.6 ± 41.7 ml vs 703.6 ± 95.8 ml, respectively, p 0.01). There were no cases of uterine rupture in the examined patients.

CONCLUSIONS

Induction of labor with amniotomy including intravenous administration of oxytocin, can be considered as an effective and safe method of induction of labor in attempts of VBAC. The cesarian section rate after induction of labor in women after previous cesarian section (17%) was less than the cesarian section rate at the Maternity Hospital in 2017 (22.1%).
INTRODUCTION

The Caesarean section (CS) rate has been increasing during the last years. In 2015, WHO proposed the use of the Robson classification as a global standard for assessing, monitoring and comparing CS rates. The classification is robust, simple, informative, universal and useful tool for any institution of any level in any country. This system classifies all women into 10 groups that are mutually exclusive on the base of 5 obstetric characteristics: parity, number of fetuses, previous CS, onset of labor, gestational age, and fetal presentation. The aim of our study is to implement the Robson classification in the Yekaterinburg Clinical Perinatal Center, to identify the target groups, which is mostly influenced on the CS rate and to evaluate opportunities for reducing the number of CS.

MATERIALS AND METHODS

In 2017, 9,240 women with gestation more than 22 weeks were delivered in the Yekaterinburg Clinical Perinatal Center. All of these cases were analyzed according to the Robson classification. Each group was analyzed by relative size, and the rate of CS. The contribution of each group to the total number of cesarean sections was calculated (Table 1).

CLINICAL CASES AND SUMMARY RESULTS

CS was performed in 3,071 women (33.2% of all deliveries). The 5th classification group (cephalic presentation at term with a history of previous CS) is the largest part of all amount of CS (31.7%). The CS rate in this group was 90.4% (975 out of 1078) that is higher than recommended value (50-60%). It was few amount of women were agreed to get experience of vaginal delivery after previous CS (114 out of 1078).

In the 2th group (single cephalic nulliparous pregnancy at term) were performed 662 CS or 21.5% out of all CS in 2017. Inside of this group the rate of CS is 46.6% (662 out of 1420).

We observed high level of CS among preterm singleton cephalic deliveries (10th group), and it was about 11% of all CS. The high level of CS in this group (49.5 %) was due to the pregnancy complications such as preeclampsia, fetal growth restriction, premature rupture of membranes. CS was a common practice in the cases of breech deliveries with the rate 95.8% in the 6th and 89.5% in the 7th group.

CONCLUSIONS

The results of our study can be the basis in developing new strategies of reducing amount of CS in our perinatal center. The Robson classification let us to identify target groups of deliveries and its indications which were more influenced on CS rate. We found few attempts of vaginal deliveries after previous CS, we should analyze closely the indications for labor induction and for elective CS and we also should change the institutional policy in cases of breech delivery.
INTRODUCTION

Cesarean section (C/S) rates in Greece varies from less than 20% up to 80%. In practice various medical and non medical conditions indicate the need of cesarean section (c/s) and the increased rate over the last decades. In view of the Health System in Greece maternity hospitals are both private and public and neonatal care is semi centralized, meaning that level III NICU exists mainly in capital areas, in University NHS hospitals and in large private hospitals. The aim was to record and analyze the map of births and C/S rates from all private and NHS maternity hospitals in Greece before introduction of economic measures regarding 1) the size of the hospital, 2) the easiness of reaching a level III NICU in case of a birth complication and 3) religious and ethnicity issues

MATERIALS AND METHODS

For the period 2008-2009 data collected from all private and public maternity hospitals through a written questionnaire directed to the Head of the Departments. Statistical analysis was focused on birth and C/S rates in view of the size of maternity hospital, being private or NHS and the geographical characteristics of the area such as being a small island or situated far away from the Capital.

CLINICAL CASES AND SUMMARY RESULTS

In total data collected from n=122 maternity hospitals in Greece . NHS maternity hospitals n=84 and private maternity hospitals n=38. In total mean birth rate/per year were n=111.834 births/year. Mean birth rate in NHS hospitals n=55,782 births/year and in private hospitals n=56.052 births/year. Mean C/S rate in NHS hospitals 43% and in private hospitals 55%. In between 2008 and 2009 a rise was noted from 42% to 44% and from 54% to 56% in both NHS and private hospitals respectively. C/S rates > 50% noted in 14/84 NHS hospitals with 10/14 having 5000. In 10/18 NHS hospitals with birth rate <1000 births/year C/S rates were <40%. During the period 2008-2009 50% of all private births (n=28.026/year) were taken place in 2/38 of all private hospitals with C/S rate up to 70%. Lowest C/S rates of 10% were noted in NorthEast Greece in the Region of Thrace were is home to Greece’s Muslim minority made up mainly of Pomaks and Western Thrace Turks

CONCLUSIONS

Before economic crisis C/S rates in Greece varied from 10% up to 70% with no clear indication. Large maternity hospitals tend to have high C/S rates while small units tend to have low C/S rates. Large maternity units may are unable to cope with the technical requirements of normal birth in view of time, space and personnel. Geographical variations may play an important role to the C/S decision. Parameters such as religion and income may contribute to the C/S rate variability.
INTRODUCTION

Gestational Diabetes (GD) is a common problem that led to adverse feto-maternal outcomes, so patients need to be educated on how to control their blood sugar. In spite of all efforts performed in the country, the rate and outcome of such pregnancies is considerable. The aim of this study was to determine the effects of self-care educational program based on the Planned Behavior (Attitude, Subjective Norm, Perceived control) Theory (PBT) on diabetic mothers’ blood glucose levels.

MATERIALS AND METHODS

In this RCT, 60 diabetic women at 24-30 weeks of gestation who were under insulin treatment, referring to the diabetes clinic of Omol-banin Hospital in Mashhad in 2014, were randomly divided into two groups. Self-care education was presented in experimental groups in small groups with 6-8 members in six one-hour sessions in one-week intervals. Control group received the routine educational program of Diabet Clinic in Omol-banin Hospital. Data was gathered applying the “self-care questionnaire that was designed based on Planned Behavior Theory including the subscales of attitudes, subjective norm, Perceived control” and also FBS and postprandial glucose level were measured before and eight weeks after the intervention.

CLINICAL CASES AND SUMMARY RESULTS

The mean scores of attitudes (p=.000), subjective norm (p=.000), Perceived control (p=.000) and mean scores of self-care (p=.000) significantly increased after the intervention in experimental group compared to control group. The Fasting and post-prandial glucose level significantly decreased in both groups after eight weeks, but the changes were significantly higher (p≤.001) in the experimental group. The Fasting Blood Sugar decreased 19.46±9.25 in intervention group compared to 4.87±8.1 in control group (p≤.01) and two hours post-prandial glucose decreased 28.4±10.8 in intervention group compared to 10.66±18.2 in control group (p=.001). There were significant improvement in pregnant mothers’ performance in diet, physical activity and Insulin regulation in intervention group compared to control group.

CONCLUSIONS

Education based on PBT can best improve the behavior of self-care and is suggested as an effective method for regulating the blood glucose levels in diabetic pregnant mothers.
TOPIC: Diabesity

ABSTRACT ID: 51

TITLE: The prevalence of gestational diabetes in Tolna County

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INTRODUCTION

We reported on the prevalence of gestational diabetes (GDM) in Tolna County in 2014. At that time we found a prevalence of 9.1% according to the WHO-2006 and 15.0% according to the WHO-2013 diagnostic criteria.

Aims to compare the characteristics of GDM women and their newborns by the WHO-2006, the WHO-2013 and the NICE-2015 diagnostic criteria to their respective non-GDM controls.

MATERIALS AND METHODS

We report results of a population-wide screening program of GDM in a Western region of Hungary (Szekszárd and its surrounding) between 1 June 2013 and 17 November 2017. Altogether 4797 pregnant women (age: 29.9±5.8 yrs; mean±SD) had a 3-point 75 g OGTT with fasting, 60-min and 120-min postload blood glucose determinations. All GDM women (diagnosed by WHO-2006, WHO-2013 or the NICE criteria) were offered treatment according to national guidelines.

CLINICAL CASES AND SUMMARY RESULTS

According to the old WHO criteria 511 (10.7%), to the new WHO criteria 951 (19.8%) and to the NICE criteria 606 (12.6%) GDM cases were diagnosed. Women in either GDM groups were older (31.7±5.1 vs. 29.6±5.8 yrs [WHO-2006]; 31.7±5.5 vs. 29.4±5.8 yrs [WHO-2013]; 31.6±5.3 vs. 29.6±5.8 yrs [NICE]), had significantly higher systolic blood pressure (120±14 vs. 115±14 mmHg [WHO-2006]; 124±13 vs. 121±12 mmHg [WHO-2013]; 124±13 vs. 121±12 mmHg [NICE]). Based on the data of 4862 newborns (65 twins), no differences in the frequency of intrauterine deaths or congenital malformations was found between any GDM groups and their respective controls. Babies of mothers diagnosed based on the WHO-2013 criteria had a larger mean birth weight than that of healthy control women (3392±536 vs. 3329±510 g), while the birth weight of both old WHO-GDM and NICE-GDM newborns and controls were similar (3330±528 vs. 3338±514 g and 3343±534 vs. 3336±513 g).

CONCLUSIONS

According to the results of our universal GDM screening, the frequency of GDM would double if the new WHO criteria were adopted. New WHO-GDM newborns were heavier compared to their controls irrespective of the fact that their mothers were offered specialized diabetes care, while no difference in the birthweight of both WHO-GDM and NICE GDM and control newborns was found.
Gestational Diabetes (GD) is the most frequent complication in pregnancy and Fibroblast Growth Factor 21 (FGF21) could have a key role on metabolic regulation. Recent reports indicate that pregnant women couring with this pathology have transitory elevated blood levels of FGF21, which decrease at the end of gestation. FGF21 polymorphisms have been related with carbohydrate and lipid metabolism. The rs11665896 polymorphism, at the 3'UTR region of the FGF21 gen, has been associated with obesity. Moreover, to this date there is no studies involving GD with this polymorphism. The aim of this study was to assess the relation between rs11665896 FGF21 gene polymorphism and the risk for develop gestational diabetes from Central Mexico.

MATERIALS AND METHODS

In our study 142 pregnant women between 18 and 43 years old were included. Clinical data, anthropometric measures, serum glucose and lipid profile were performed. DNA was extracted from venous blood samples and the FGF21 rs116659896 polymorphism was genotyped using PCR-RFLP technique.

CLINICAL CASES AND SUMMARY RESULTS

The total of participants were divided in two groups following the ADA criteria for GD classification: 69 normoglucemic and 73 GD patients. Regarding the age, anthropometric measures and metabolic markers no statistically significant difference between the groups were found. Women who were homozygous or heterozygous carriers for T allele of the rs11665896 polymorphism had a lower risk for GD (p = 0.0413) compared with those who were homozygous for the C allele.

CONCLUSIONS

This is the first study that describes the interaction between rs11665896 FGF21 gene polymorphism and the risk for GD. Further investigation is required for the correlation between this polymorphism and its effects during pregnancy.
**TOPIC:** Diabetes

**ABSTRACT ID:** 156

**TITLE:** Oxidative stress in pregnant women with diabetes mellitus: systematic review

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**INTRODUCTION**

Oxidative stress (OS) plays an important role in embryo development, implantation, placentation, fetal development and labor. Diabetes mellitus (DM) is associated with an increase in OS processes. However, the serum and placental expression of OS biomarkers in pregnant women with DM remains unclear.

**MATERIALS AND METHODS**

Based on a systematic review (18 articles), the features of the pro- and anti-oxidant systems of pregnant women with different types of DM have been examined. The levels of activity and enzymes is defined in the serum as well as in placenta.

**CLINICAL CASES AND SUMMARY RESULTS**

Pregnancy in patients with DM is shown to be characterized by an activation of OS processes. This leads to an overexpression of free radicals (peroxynitrite), terminal products of lipid peroxidation (malonic dialdehyde, 8-isoprostane) and specific enzymes (asymmetric dimethylarginine, catalase, xanthine oxidase) and a decrease in the synthesis of antioxidants (superoxide dismutase, glutathione peroxidase and uric acid). The modified expression of these biomarkers is observed both in blood and placenta of pregnant women. The highest changes are observed in women with type 1 DM. Obviously, it depends on the degree of disturbance in carbohydrate metabolism. These suggestions are confirmed in surveys amid women with gestational diabetes where the values of the mentioned biomarkers were controversial.

**CONCLUSIONS**

Obtained results proved the role of hyperglycemia during gestation process such as major factor in development of the OS. These disorders can cause an unfavorable course of pregnancy, abnormal development of the placenta and development of adverse perinatal outcomes in pregnant women with DM. Nevertheless, given the inconsistency of data obtained, further scientific studies are required to clarify this issue.
**INTRODUCTION**

Preeclampsia (PE) is one of the major complications of pregnancy that leads to adverse perinatal outcomes. Pregnant women with diabetes mellitus (DM) have a 2-4-fold risk for the development of this condition. Nowadays, it is established that the disbalance of synthesis of the main angiogenic (placental growth factor (PlGF) and antiangiogenic vascular factors (endoglin (sENG), soluble fms-like type 1 tyrosine kinase (sFlt-1) play a significant role in the evolution of PE. Serum content and ratio of this factors have been evaluated amid women without DM. But in the cohort patients with DM values of the mentioned factors remain unclear.

**MATERIALS AND METHODS**

Based on a systematic review (8 articles), the role and concentration of sFlt-1, PlGF and sENG have been assessed in pregnant women with different types of diabetes mellitus in plasma and in placenta as well. The value of the coefficient sFLT-1/PlGF and sENG/PlGF ratios as possible test systems for the prediction of PE has been estimated.

**CLINICAL CASES AND SUMMARY RESULTS**

In women with DM during pregnancy different failures of the synthesis mentioned biomarkers have been found: increasing levels of antiangiogenic vascular factors (sENG and sFLT-1), and decrease of the main angiogenic factor - PlGF. These specific features are observed both in plasma and in placenta and are more peculiar for women with pre-gestational types of diabetes (especially for type 1 diabetes with nephropathy). Use of the ratio of sENG/PlGF and sFLT-1/PlGF show a good value for the prediction of preeclampsia. Interestingly, these ratios have the higher weight in comparison with validation of these biomarkers separately.

**CONCLUSIONS**

The high incidence of PE amid women with DM requires new clinical approaches for the prediction and prevention of this condition. A good method for solving this problem could be application of PlGF/sENG and sFLT-1/PlGF ratio during pregnancy. They provide additional assessment of the prognostic risk model for the development of preeclampsia. Nevertheless, further randomized studies are required to contribute to the research of this issue.
INTRODUCTION

Gestational Diabetes Mellitus (GDM) is one of the most important complications in pregnancy that are associated with adverse consequences for both the mother and fetus. On the other hand, metabolic syndrome is rapidly becoming a health issue in many countries over the world, because of its impact on diabetes and cardiovascular diseases. There are few studies about metabolic syndrome in pregnancy and its consequences. Given the high prevalence of metabolic syndrome and GDM in pregnancy and their impacts on maternal and newborn outcomes, this study was performed to assess the relationship between the components of metabolic syndrome in the first trimester of pregnancy with gestational diabetes occurrence.

MATERIALS AND METHODS

This prospective cohort study was performed in 2015 - 2016 on 500 pregnant women in their first trimester of pregnancy in Tehran. Serum FBS (Fasting blood sugar) and lipids i.e.: HDL-C (High Density Lipoprotein- Cholesterol), TG (Triglycerides) were measured. A demographic/reproductive questionnaire was completed, the participants' height and weight were measured, and blood pressure was measured. Metabolic syndrome components were defined as: 1. BMI≥30 kg / m² before pregnancy, 2. FBS ≥100 mg / dl, 3. Triglyceride ≥ 150 mg, 4. HDL< 50 mg/dl, 5. Blood pressure ≥ 130 / 85 mmHg. The existence of at least 3 of the above mentioned components was considered as gestational metabolic syndrome.

Data was analyzed by T-test, χ², Mann Whitney-U test, and Logistic Regression in SPSS software V.21.

CLINICAL CASES AND SUMMARY RESULTS

Gestational diabetes occurred in 78 participants (15% of mothers). The results showed that metabolic syndrome itself (p-value: 0.002) and high triglyceride and FBS levels (p-values <0.001 both) had significant relationships with the occurrence of gestational diabetes. Logistic regression analysis showed that increasing maternal age (OR: 1.065, p-value: 0.046) and a history of gestational diabetes in previous pregnancies (OR: 6.562, p-value: 0.010) were significantly related to the occurrence of gestational diabetes.

CONCLUSIONS

It was observed in this study that among the components of metabolic syndrome, high levels of blood sugar, and triglycerides in the first trimester of pregnancy were associated with the occurrence of gestational diabetes. These findings reflect the importance of controlling blood sugar and lipid levels early in pregnancy to reduce this common pregnancy complication and its short and long term consequences and adverse effects on mothers and infants' health, thus reducing health care costs.
TOPIC: Diabesity

ABSTRACT ID: 270

TITLE: Outcome of pregnancies complicated by type I diabetes

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INTRODUCTION

Diabetes (T1D) is the most frequent endocrinological disorder in pregnant women. During last 30 years several improvements has been introduced into management of T1D. In 1994 glucometers were introduced for monitoring blood glucose level and centralization of diabetic mothers was initiated. In 2005 the new insulin analogues got available allowing more stable blood glucose profile.

AIM: To evaluate pregnancy outcomes of women with type 1 diabetes.

MATERIALS AND METHODS

The medical case histories of all T1D pregnant women who delivered in Women’s Clinic of Tartu University Hospital in 1983-2015 and their newborns were analysed and compared in three periods: period I (1983-1993, n=51), period II (1994-2004, n=41); period III (2005-2015, n=97).

CLINICAL CASES AND SUMMARY RESULTS

The prevalence of T1D pregnancies was doubled during the III period. The number of patients with diabetic nephropathy reflecting more severe T1D tended to increase from 8% in I and 21% in III period (p=0.08). However, significantly more patients in III period had HbA1c <7.0% in the first trimester of pregnancy (45% vs 17% in II period). The incidence of ketoacidosis and polyhydramnion dropped 3–5 times from the I to III period (p<0.001). Preeclampsia occurred frequently, from 33% in I to 26% in III period (p=0.49). The caesarean section rate was high in all 3 periods-67%,73%,70%. There was a significant decrease of prematurity (from 78% in I to 37% in III period, p<0.001) and severe neonatal hypoglycemia (45% in I 34% in II and 23% III period; p=0.018). The incidence of congenital malformations, intrauterine growth retardation, respiratory disorders has slightly decreased by the third period. Perinatal mortality rate was 33.3% in period I and 1.03% in period III.

CONCLUSIONS

The outcome of pregnancies of mothers with T1D has been significantly improved despite more severe cases of diabetes during recent years. The reduction of prematurity and neonatal diseases is achieved by close monitoring and more strict control of blood glucose level before and during the pregnancy. Currently, the risk of perinatal death of infants of diabetic mothers is low.
INTRODUCTION

Over the last 4 decades the incidence of obesity at the diagnosis of pregnancy has known an exponential increase, while the prevalence of obesity in the first trimester of pregnancy has doubled between and is still rising. The overall prevalence of gestational obesity is ranging from 9-10% to 16-19% in different studies. Diabesity has been first defined more than 10 years ago by Dr. Francine Kaufman, based on the physiopathology, etiology and complications resemblance between obesity and diabetes. It was described as a heterogeneous metabolic dysfunction varying from light sugar intolerance to overt type 2 diabetes mellitus. The pathology includes abdominal obesity, dyslipidemia, high blood pressure, high serum glucose, systemic inflammatory syndrome and hypercoagulability.

MATERIALS AND METHODS

We proved the link between maternal diabesity and poor fetal prognosis, using an experimental model. The physiopathological pathway involves high levels of inflammation which generate lipid peroxidation, endothelial dysfunction and insulin resistivity. We designed an animal interventional experiment, using gavage diet induced obese Wistar rats submitted to dietary changes during gestation. We searched levels of inflammation from maternal blood, placenta and fetal tissue homogenates (liver, pancreas). The interventions consisted in administering normal diet in one group of rats, supplementing the diet with Omega 3 fatty acids, Omega 6 fatty acids, Sea buckthorn berries and continuing the high fat high sugar diet in the last one.

CLINICAL CASES AND SUMMARY RESULTS

We analyzed adipokine secretion (leptin and adiponectin), lipid peroxidation as proinflammatory markers, antioxidation levels and histologic aspects of the placenta and fetal organs. Fetal birth weight, postpartum adaptation, monthly weight gain, adult life weight and lifespan were assessed. We analyzed the lipid peroxidation levels estimated by MDA (malonyl-dialdehyde) and GSH (glutation) as antioxidant, both maternal and fetal liver and pancreas homogenates and venous blood. Adipokine shift was correlated with high lipid peroxidation measured by elevated MDA and low levels of GSH. We proved that gestational diabesity causes fetal dysfunctions mediated through a chronic proinflammatory status, generating an altered fetal outcome, which is maintained during adult life. Birthweight of obese mothers pups was reduced, as well as lifespan, most of them becoming obese in adulthood and expressing characteristic features of diabesity themselves.

CONCLUSIONS

Based on our experimental result, we proved the strong relation between maternal nutritional status, intraterine environment alteration, placental function and fetal nutrient transfer. The link between maternal diabesity and poor metabolic fetal prognosis is promoted by inflammation, causing lipid peroxidation, endothelial alteration, glucose intolerance and last but not least, epigenetic changes with expression in adulthood.
**TOPIC:** Diabetes

**ABSTRACT ID:** 353

**TITLE:** The impact of mothers with diabetes type 1 gestational weight gain on full-term neonates' hematological and anthropometric parameters

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**INTRODUCTION**

In spite of advances in the management of pregnant women with diabetes type 1 (DT1), risk of pregnancy and neonatal complications remains high. Moreover excess gestational weight gain (GWG) can lead to fetal pathology such as macrosomia, hypoglycemia hyperbilirubinemia and numerous long-term consequences. Thus combinations of DT1 and excess GWG increases the risk of fetus and newborns' complications. In light of the above our goal was to analyze the impact of gestational weight gain of mothers with DT1 on some hematological and anthropometric parameters.

**MATERIALS AND METHODS**

We performed a retrospective study of 100 neonates from mothers with DT1 who were born in RRPC "Mother and child". Newborns' average gestational age was 37.7±0.5 weeks, average weight 3599±452 g, body length 52.6±1.9 cm. All neonates were divided into 3 groups according to the appropriate GWG for pre-pregnancy BMI (IOM, 2009). The Gr1 included 50 newborns from mothers with appropriate GWG for pre-pregnancy BMI (mothers' weight was 65.4±13.3 kg, pre-pregnancy BMI 23.9±4.1 kg/m², GWG 12.4±2.9 kg). The Gr2 included 18 newborns from mothers with excess GWG for BMI (65.9±10.1 kg, 24.1±2.8 kg/m², 16.6±3.1 kg). The Gr3 included 32 newborns from mothers with low GWG for BMI (61.8±8.6 kg, 25.7±14.3 kg/m², 8.4±2.0 kg). Hematological parameters on the 1st, 4th and 10th day of life were analyzed.

**CLINICAL CASES AND SUMMARY RESULTS**

Average newborns weight and body length in Gr1, Gr2, Gr3 were 3632±588 g and 52.4±2.7 cm; 3854±436 g and 53.3±1.9 cm, 3436±401 g and 52.0±2.2 cm respectively. Therefore newborn from mothers with excess GWG had larger weight in comparison with Gr3 (p=0.018). On top of this newborn from mothers with excess GWG demonstrated lower (p=0.009) glucose levels on the 1st day of life (2.95±1.22, 2.60±1.11 and 3.44±1.06 mmol/L in Gr1, Gr2 and Gr3 respectively). Also newborns from Gr1 and Gr2 had higher erythrocytes level on day 4 (p1-3=0.008, p2-3=0.006) in comparison with Gr3. Gr1 neonates had higher erythrocytes (p=0.039) and hematocrit (p=0.014) levels on day 10 in comparison with Gr3. A negative correlation between Gr2 mothers’ BMI and newborns’ weight was found (r=-0.567, p<0.05). Furthermore we established a positive correlation in Gr1 between mothers’ pre-pregnancy weight and newborns’ weight (r=0.619, p<0.05), head circumference (r=0.560, p<0.05), chest circumference (r=0.541, p<0.05).

**CONCLUSIONS**

Combination of DT1 and excess gestational weight gain increases the risk of newborns’ complications. Anthropometric, biochemical and hematological parameters features of newborns from mothers with DT1 and excess gestational weight gain reflect the adaptation stress in the early adaptation period. Therefore it is reliable to inform women about appropriate gestational weight gain according to the pre-pregnancy BMI and observe pregnant women with anthropometric status control.
INTRODUCTION

Increased body weight, especially in diabetic patients, affects the course and outcome of pregnancy as well as neonatal wellbeing.

Objective: To compare the fetomaternal outcome in obese, overweight and normal weighted diabetic pregnant women.

MATERIALS AND METHODS

This retrospective study was carried out throughout the period of 36 months (2015-2017). Out of 196 diabetic pregnant patients included in the study, 134 were obese, 44 overweight while 18 had normal weight. Patients with body mass index (BMI) greater than 30 were obese (Group No I), those with BMI 25 – 29.9 Kg/m² were overweight (Group No II), while patients with BMI of 18.5 to 24.9 (Group No III) were of normal weight. Also, investigated patients with diabetes mellitus (DM) were classified into 3 groups (DM type 1, DM type 2, and gestational DM, which was divided into two subgroups: insulin-dependent, and insulin-non-dependent one). The methods of statistical analysis comprised Student’s t and parametric tests and value of < 0.05 was considered as significant.

CLINICAL CASES AND SUMMARY RESULTS

The age of patients in all three groups ranged from 20 to 45 years with mean age of 32.5±3.1 years. Obese and overweight pregnant diabetic patients had significantly high frequency of pre-eclampsia (17.3%, 4.6% and 1.5% respectively), pregnancy-induced hypertension (26%, 4% and 2.6%, respectively; p<0.05), elective cesarean section (44.3%, 12.8% and 5.1%, respectively; p<0.05), polyhydramnion (18.4%, 5.1% and 1.0%, respectively; p<0.05), premature rupture of membranes (7.7%, 3.1% and 1.0%, respectively; p<0.05). Neonatal complications in obese and overweight pregnant women compared to normal weighted patients were: Stillbirth (1%, 0.5% and 0%, respectively; p<0.05), diabetic fetopathy (29.1%, 5.1% and 0.5%, respectively; p<0.05), admission to neonatal intensive care unit (8.7%, 2.6% and 1.5%, respectively; p<0.05), fetal birth anomalies (2.6%, 0.5% and 2.6%, respectively; p<0.05), Apgar score at birth (first and fifth minute: 7.6-8.6, 7.5-8.6, 7.2-8.2, respectively), neonatal hypoglycaemia (1.0%, 1.0% and 0.5%, respectively; p<0.05).

CONCLUSIONS

Both maternal and neonatal complications were more frequent in obese than overweight and normal weight patients. Therefore, increased BMI presents and important influencing risk factor for complications occurring in diabetic pregnant patients.
**ABSTRACT ID:** 384

**TITLE:** The influence of body mass index on gestational age and the mode of delivery in pregnant diabetic patients

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**INTRODUCTION**

Introduction: It is well known that body mass index (BMI) has an influence on the course and outcome of pregnancy, but there are only few studies investigating the relationship between BMI, gestational age and the mode of delivery in diabetic pregnant patients.

Aim: To investigate the possible influence of BMI on gestational age and the mode of delivery in pregnant diabetic patients.

**MATERIALS AND METHODS**

In this retrospective study we included 196 diabetic patients delivered throughout the period of 36 months (2015-2017). These patients were divided into three groups, according to their BMI. Patients with BMI greater than 30 were obese (134, Group No I), those with BMI 25 – 29.9 Kg/m² were overweight (44, Group No II), while patients with BMI of 18.5 to 24.9 (18, Group No III) were of normal weight. Furthermore, investigated patients with diabetes mellitus (DM) were classified into 3 groups (DM type 1, DM type 2, and gestational DM). Gestational age at delivery was subdivided into three periods: < 33.6W, 34-36.6W, and >37 W. The methods of statistical analyses comprised Student’s t and parametric tests, and value of < 0.05 was considered as significant.

**CLINICAL CASES AND SUMMARY RESULTS**

DM type I had 34 patients (Group I, 17.3%), DM type II 29 (Group II, 14.8%), while 133 (Group III, 67.9%) patients had gestational diabetes mellitus.

In DM type I group of patients pregnancy was terminated vaginally in 9 (26.5%) patients, and by cesarean section (SC) in 25 (73.5%) of them (20 – 58.8% elective, and 5 – 14.7% emergency). Gestational age of both vaginally and patients delivered by SC was above 37 weeks, and the majority of them were overweight.

In DM type II group pregnancy was terminated vaginally in 3 (10.3%) patients and by SC in 26 (89.7%) of them (20 – 69% elective, and 6 – 20.7% emergency). Gestational age of both vaginally and patients delivered by SC was above 37 weeks, and the majority of them were in obese group.

In gestational DM group of patients pregnancy was terminated vaginally in 60 (45.1%) patients and by SC in 73 (54.9%) of them (70 – 52.6% elective, and 3 – 2.3% emergency). Gestational age of both vaginally and patients delivered by SC was above 37 weeks.

**CONCLUSIONS**

BMI affects the mode of delivery and gestational age in all three groups of diabetic patients. In DM type I and II group of patients gestational age of both vaginally and patients delivered by SC was above 37 weeks, and the majority of them belonged to obese group. In gestational DM group of patients gestational age of both vaginally and patients delivered by SC was above 37 weeks, but in this group overweight and normal weighted patients were more frequently delivered vaginally than by SC.
INTRODUCTION

Being born large for gestational age (LGA) increases the risk of infant mortality/morbidity and metabolic and cardiovascular diseases at adulthood. While neighborhood deprivation is known to be associated with preterm birth, low birth weight and small for gestational age its effects on LGA have been little investigated.

Objective: To evaluate the associations between maternal neighborhood socioeconomic context and LGA

MATERIALS AND METHODS

Population based study. All singleton infants born alive from 2013 to 2016 in Marseille, France, were included by extracting data from the national hospital admission database. Infants born LGA were compared to those born AGA (Adapted for Gestational Age). Socioeconomic disadvantage index (SDI) was used and calculated for the 16 arrondissements of Marseille. Each infants were allocated an IDS score according to the mother address code.

CLINICAL CASES AND SUMMARY RESULTS

During the study period 43 309 infants were included in the analysis and 4747 (11%) were born LGA. NICU admissions were higher in LGA infants (6.40% vs 4.40% in AGA infants, p<0.0001). The rate of LGA and gestational diabetes ranged from 10% and 4% in the least deprived area to 12% and 9% in the most deprived area respectively (p<0.0001 for both variables). Adjusted to maternal age, gestational diabetes and tobacco consumption, infants from mother living in the most deprived neighborhood were more likely to be LGA with OR = 1.28 (95% IC:1.16; 1.41; p<0.0001 vs the least deprived neighborhood).

CONCLUSIONS

Infants from mothers living in deprived neighborhoods are more likely to be born LGA and from gestational diabetes. Other studies are needed to determine mechanisms of such socioeconomic inequalities in birth weight outcome. Neighborhood deprivation index may be used to implement preventive strategies in order to limit transgenerational transmission of non-communicable chronic diseases.
INTRODUCTION

The population obesity rate is increasing all over the world. This includes many women in reproductive age. Obesity is one of the most important situations that could affect women and fetus during pregnancy. It is associated to anovulation, abortion, stillbirth, preterm birth, gestational diabetes, preeclampsia, macrosomia and congenital anomalies. The American College of Obstetricians and Gynecologists considers pregestational bariatric surgery a good option for weight loss in patients with a body mass index of 40 kg per m² or more, or in those with a BMI of at least 35 kg per m² which have comorbidities.

Objetives: To assess the impact and the obstetric outcomes of pregestational bariatric surgery in the University Hospital of the Canary Islands.

MATERIALS AND METHODS

From July 2004 to April 2015, we performed a retrospective, descriptive study including 11 pregnant women with personal history of bariatric surgery (2 Vertical Banded Gastroplasty and 9 gastric by-pass).

CLINICAL CASES AND SUMMARY RESULTS

We had 9 eutocic deliveries (3 with previous cesarean section deliveries) and 2 cesarean section deliveries (1 breech presentation and 1 elective for previous medical history). All new born were full-term (GE≥38 weeks), with birth weight between 2900-3810g and 9/9 Apgar score. The only complications were two cases of severe anemia which were treated with endovenous iron supplementation and one case of mild anemia treated with oral iron supplementation.

CONCLUSIONS

Our experience suggests that bariatric surgery is a recommended performance to reduce risks during pregnancy in obese women.
INTRODUCTION

Diabetes in pregnancy (DIP) is associated with maternal and neonatal complications. Regular data and practice review may help in continuing service improvement and overall planning. This study is a follow-up to an earlier one, and compares pooled data comparing outcomes of pregnancy between gravidas with newly identified hyperglycemia, with those who were normoglycemic.

MATERIALS AND METHODS

We accessed the exclusive database of our institute, which has a high case-ascertainment and captures data from the Women's Hospital, Doha (average annual birth rate 16,500). Some 2000 oral Glucose Tolerance Tests were undertaken between January 2016 and April 2016. From these, we excluded 122 women who did not deliver in our hospital. Categorical variables were extracted from our hospital's parallel electronic database (CERNER) of routinely collected obstetric records including: route of delivery, gestational age at delivery, perinatal events and birth weight. Analysis was by Microsoft Excel program.

CLINICAL CASES AND SUMMARY RESULTS

We compared the parameters between mothers with Diabetes (DM, number= 17), Gestational Diabetes (GDM, number= 402) and Normal Blood sugars (N, 1429). The findings are summarized in Table 1. Those with DM were older, had higher body mass indices (32.4 ±6.5 vs 31.7± 6.3 vs 28.8 ±6.3) and had babies that were large for gestational age (19.6% vs 13.8%) but macrosomia (>4000g): was more frequent amongst GDM: 8.75% vs 9.3% vs 4.2%. Babies of mothers with DM were more likely to be admitted into the Special Care Baby Unit (21.7% vs 14.7% vs 8.1%), and to suffer respiratory distress (19.65% vs 8.1% vs 4.7%) and jaundice. Additional detail is shown in Table 1. The overall stillbirth rate was noted to have fallen from 11.8% to 1.0% from an earlier report from this center, in 2011.

CONCLUSIONS

Hyperglycemia first detected in pregnancy is associated with relatively unfavorable neonatal risks. This study did not reveal more frequent obstetric intervention. Maternal weight control is likely to be reflected in newborn weights, but the differences between SCBU admission and respiratory distress may be explained by a tendency to admit such babies for neonatal observation.
INTRODUCTION

Pregestational type 1 diabetes mellitus is associated with adverse fetal and maternal outcomes. Despite advances in perinatal care, infants of diabetic mothers remain at risk for a multitude of physiologic, metabolic, and congenital complications such as preterm birth, macrosomia, asphyxia, respiratory distress, hypoglycemia, hypocalcemia, hyperbilirubinemia, polycythemia and hyperviscosity, hypertrophic cardiomyopathy, and congenital anomalies, particularly of the central nervous system. Children born to mothers with type 1 diabetes also are predisposed to later-life risk of obesity, type 2 diabetes, and cardiovascular disease.

MATERIALS AND METHODS

This is a prospective comparative study, included 60 children born to mothers with type 1 diabetes and 20 children born to mothers without diabetes mellitus. Newborns from mothers with diabetes were divided into subgroups depending on the severity of diabetic fetopathy: severe (n = 7), mild to moderate (n = 33), without symptoms of fetopathy (n = 20). We assessed the head circumference, length and weight, the level of plasma fasting blood glucose and blood lipid parameters in the children at the birth, at the early neonatal period, at the age of 3, 6, 9 and 12 months.

CLINICAL CASES AND SUMMARY RESULTS

The incidence of neonatal hypoglycemia was 71.7%, macrosomia was 63.3%, intrauterine growth restriction was 15% in children from women with type 1 diabetes. Newborns with diabetic fetopathy had elevated levels of triglycerides, cholesterol, and low-density lipoproteins in the blood. In the first year of life children born with diabetic fetopathy had a greater weight gain and higher level of plasma fasting blood than children born to mothers without diabetes. Dyslipidemia in the form of increased cholesterol, triglycerides, and low-density lipoprotein was observed in children born to mothers with type 1 diabetes throughout the first year of life. There were no significant differences between a group of children without diabetic fetopathy and a group of children born to mothers without diabetes.

CONCLUSIONS

Thus, the increase of weight gain in the first year of life can be associated with a disorder of carbohydrate and lipid metabolism in children born with diabetic fetopathy. These observations may represent an example of environmental programming of fetal development with lifelong implications for later disease. Care of the neonate born to mothers with type 1 diabetes mellitus needs to focus on ensuring maintenance of normal glucose and lipid metabolism, and feeding.
INTRODUCTION

Perinatal outcomes in women with type 1 diabetes linked to preconception and pregnancy glycemic profile. The traditional method for achieving good glucose control is insulin therapy. In pregnancy, intensified insulin therapy is usually used in the regime of multiple daily injections (MDI). An alternative to MDI is a continuous subcutaneous insulin infusion (CSII) or pump insulin therapy. It is known that CSII has important advantages in pregnancy and is safe in compliance with all the rules of use, but there is no convincing evidence that for the same degree of compensation of carbohydrate metabolism during pregnancy, pump insulin therapy is preferable to intensified insulin therapy by repeated injections of insulin.

MATERIALS AND METHODS

Prospective comparative study included 32 pregnant women with type 1 diabetes. Depending on the method of insulin administration, patients were divided into 2 groups. In group 1 (n = 13) insulin was administered by continuous subcutaneous insulin infusion (CSII) in group 2 (n = 18) used the mode of multiple daily injections (MDI). Maternity groups did not differ in age, social status, parity, body mass index before pregnancy, the level of blood pressure, duration of diabetes type 1, the presence of vascular complications of diabetes, levels of glycated hemoglobin.

CLINICAL CASES AND SUMMARY RESULTS

Preterm delivery occurred more frequently in patients with MDI (66.7% vs. 46.2%, p> 0.05). Birth weight> 90th percentile are more common in newborns from mothers with MDI (77.8% vs. 30.8%, p = 0.025). Hyperbilirubinemia was more common in children from mothers with MDI (72.2% vs. 23.0%, p = 0.02). Diabetic fetopathy was detected in 38.5% of infants from CSII group and 83.3% from MDI group (p = 0.048). In the intensive care needed 92.3% of newborns from mothers with CSII and 100.0% of the children from their mothers with MDI (p> 0.05). In the second phase of the rehabilitation of 76.9% of children were transferred from mothers with CSII and 94.4% of children from mothers with MDI (p> 0.05). Children from mothers with CSII rarely needed intensive care and the transfer to the second stage of rehabilitation, discharged home earlier than the children of mothers in the MDI.

CONCLUSIONS

The results of our study have shown that the same level of glycated hemoglobin in pregnant women with type 1 diabetes using CSII decreases the incidence of preterm delivery, macrosomia, and hyperbilirubinemia in infants, diabetic fetopathy compared with MDI. The results obtained can be explained by the lower variability of glycemia when insulin is administered with CSII. Thus CSII can be considered as an alternative treatment for women with type 1 diabetes before and during pregnancy.
**INTRODUCTION**

Gestational diabetes diagnosed in the first half of pregnancy is associated to higher risk of adverse outcomes than late-onset gestational diabetes and it has been considered as a form of pregestational diabetes uncovered during pregnancy. The aim of the present study was to evaluate the percentage of women with this diagnosed that can be missed by using the IADPSG criteria for overt diabetes as IADPSG do not recommend oral glucose overload in the first half of pregnancy even in women with high risk.

**MATERIALS AND METHODS**

Clinical records of 611 pregnant women diagnosed with gestational diabetes in early pregnancy (< 22 weeks’ gestation) by the two-steps NDDG criteria were reviewed. Only cases with registered fasting plasma glycaemia, first trimester HbA1c and random plasma glucose were included. IADPSG criteria for overt diabetes were: FPG > 126 mg/dL, HbA1c > 6.5% or random plasma glucose > 200mg/dL.

**CLINICAL CASES AND SUMMARY RESULTS**

Only 53 women (8.7%) of women having early gestational diabetes were diagnosed as having overt diabetes using the IADPSG criteria while the vast majority of cases of early gestational diabetes (91.3% (558/609)) had been missed. From them 19.53% (109/558) needed insulin therapy since the beginning of pregnancy while the rest could be controlled with exercise and diet.

**CONCLUSIONS**

The vast majority of women with early-onset gestational diabetes would be missed using the IADPSG criteria for overt diabetes. Considering the potential risks for pregnancy in these women, this is one of the reasons to reconsider the implementation of these criteria.
INTRODUCTION

Monitoring of pregnant women with gestational diabetes mellitus (GDM) requires testing for fasting plasma or capillary glucose levels, as well as glycated hemoglobin, which is not unbiased, though. Searching for new, more reliable indices, such as glycated albumin, is the aim of the present study.

MATERIALS AND METHODS

82 pregnant women (41 with gestational diabetes and 41 age matched, with normal pregnancy) in the 24th to 28th week of pregnancy were included in the study. Fasting glucose, insulin and glycated albumin were determined and correlated. Statistical significance was set at p<0.05.

CLINICAL CASES AND SUMMARY RESULTS

Values of parameters were normally distributed. Comparison of glycated albumin between the two groups showed marginally statistical significant difference (p=0.055), with GDM pregnant women having increased levels. Nevertheless, glycated albumin did not present any significant correlation with glucose, insulin or weight of women in either group.

CONCLUSIONS

The study presents preliminary results of investigation of glycated albumin as a candidate biomarker of gestational diabetes. Present data cannot support the use of glycated albumin as a biomarker in gestational diabetes mellitus.
INTRODUCTION

Gestational diabetes (GDM) is increasing in prevalence and remains a significant cause of maternal, fatal and neonatal morbidity and mortality. When diagnosed with GDM women often describe the shock and distress resulting from the diagnosis. This study aimed to explore omens lived experience of a diagnosis of GDM and adaptations in their pregnancy.

MATERIALS AND METHODS

Based on previous qualitative research by our group, a questionnaire was developed reviewing women's reaction to the diagnosis, support services and responses to management. Consenting women with a diagnosis of GDM attending either the National Maternity Hospital, Dublin or Wexford General Hospital were invited to complete the questionnaire.

CLINICAL CASES AND SUMMARY RESULTS

Over a six-week period 105 questionnaires were completed (90% response rate). One third (n = 35) were primiparous, and 24 (22%) had previous GDM. The median gestational age at diagnosis was 28 weeks (4-37 weeks) and median time from diagnosis to questionnaire was six weeks. Women worried more for their babies' health (89%) than their own (68%). A clear majority (97%) were more conscious of the food they ate and found the diet and lifestyle changes manageable (82%). Family (94%) and medical professionals (93%) were significant sources of support. Women were clear about why they had GDM (71%); what they needed to do (85%) and the information they were given (85%). A majority (89%) reported disappointment in the diagnosis.

CONCLUSIONS

This study highlights the importance of multidisciplinary support and information to women with newly diagnosed GDM.
INTRODUCTION
Gestational diabetes mellitus (GDM) is associated with pregnancy complications and acute and long-term morbidity for the offspring. The IADPSG recommends HAPO 5 criteria for screening GDM, based on the results of the HAPO study. The HAPO 5 cut-off values for the 75g oral glucose tolerance test (OGTT) are 92, 180, and 153mg/dl fasting, at 1 hour and 2 hours, respectively, associated with an odds ratio of 1.75 for pregnancy complications if untreated. The HAPO 4 cut-off values, corresponding to an odds ratio of 2, are 95, 191 and 162 mg/dl, at the same intervals. The aim was to evaluate the impact of GDM on perinatal and neonatal outcome in relation to (a) IADPSG criteria, (b) the number of abnormal values of OGTT, (c) the therapy (diet+ exercise, insulin), and (d) HAPO5 and HAPO4 criteria

MATERIALS AND METHODS
We retrospectively reviewed the electronic files of all neonates born alive in a three year period (2015-2017) whose mothers underwent an 75gr OGTT and classified as GDM according to IADPSG criteria. Maternal characteristics were collected through a questionnaire completed by all parents on admission and through maternal interview at discharge. Exclusion criteria were multiple pregnancies, GA<29wks, refugees, mothers of Asian/African origin, mothers with pregestational diabetes or untreated GDM. SGA and LG were defined as < 10th and >90th percentiles using the INTERGROWTH-21st Project and for neonates <33 wks the Fenton growth curves. Data recorded included maternal age, race, BMI, and parity, mode of delivery, Apgar scores, and neonatal morbidity (admission to NICU, respiratory support, sepsis, phototherapy, hypoglycemia polycythemia birth injuries, and congenital heart disease and other congenital anomalies).

CLINICAL CASES AND SUMMARY RESULTS
1178 women were included. GDM had 258 according to IADPSG?HAPO 5 criteria with 43 (16,7%) requiring insulin, and 190 according to HAPO 4 criteria with 38 (20%, p:0,44) requiring insulin. 160 (62%), 70 (27,1%), and 28 (10,9%) mothers had 1, 2, and 3 abnormal values of OGTT. The impact of GDM on perinatal and neonatal outcome was:
1. GDM compared to non-GDM group differed significantly regarding the prematurity (p:0,0024), maternal age (p:<0,0001), C-section (p:0,006), BMI, Apgar score (p:0, 033), NICU admission (p:0,0007), respiratory disorders PPV (p:<0,0001), phototherapy (p: 0,01).
2. The number of abnormal values of OGTT was significantly associated with the proportion of mothers requiring insulin (p<0,001)
3. Higher proportion of mothers treated with insulin (n:43) delivered with CS (p=0,025) compared to those treated diet+exercise (n:215). No differences in other variables
4. Use of HAPO 5 vs. HAPO4 criteria had no significant impact on perinatal and neonatal outcomes.

CONCLUSIONS
From the neonatal point of view, (a) the benefits of treating patients with values between HAPO 4 and HAPO 5 cut-of values, is not clear, (b) the good control of GDM influence the perinatal and neonatal outcomes, and (c) the role of GDM criteria on neonatal outcomes needs further elucidation.
INTRODUCTION

Pain control is one of the responsibilities of the professionals involved in labor and one of the main concerns of pregnant women. Various measures are available for labor pain relief although not all have demonstrated effectiveness. Water immersion during labor has demonstrated multiple benefits for both the mother and newborn and has been described as a useful method to reduce the pain. In general, women who underwent water immersion reported a better experience of labor in comparison to those who did not. The objective was to identify the effect of immersion in the water during the period of labor dilatation on different parameters of maternal and neonatal health.

MATERIALS AND METHODS

A prospective observational study was conducted in women giving birth in Spain. Study inclusion criteria were: age over 18 yrs; primiparity; uncomplicated pregnancy; fetus in cephalic position; spontaneous labor onset. The participants signed informed consent. Data were gathered using an ad hoc questionnaire with 37 items, administered after the immediate puerperium (>2 hrs after delivery) by one of six trained interviewers. A pilot study was performed to confirm the validity of an ad-hoc data-gathering questionnaire. Statistical analysis was performed using the chi-square or Fisher’s test, Student’s t-test or Mann Whitney U test, and ANOVA or Kruskal Wallis test. The behavior of quantitative variables over time was studied with the Student’s t-test for paired samples or the Wilcoxon test.

CLINICAL CASES AND SUMMARY RESULTS

The study included 71 women, with a mean pain score (maximum of 10) of 8.35±1.32 immediately before water immersion versus 5.79±1.8 after 30 min of immersion (p<0.001). Out of the 71 women immersed in water for ≥ 30 min during their labor, 94.4% (n=67) had early skin-to-skin contact with their newborn. A postpartum complication (uterine cavity revision) was observed in only one woman. A score Apgar Test ≥ 7 was recorded in 98.6% (n=70) at 1 min of life and in 100% (n=71) at 5 min of life. No resuscitation measure was required at delivery in 88.7% (n=63) of the newborns; the remaining 11.3% (n=8) required aspiration of secretions. Hospitalization in the neonatal unit was not needed by 94.4% (n=67) of the newborns; the remaining 5.6% (n=4) were hospitalized for grunting (n=1), hypoglycemia (n=1), respiratory distress (n=1), or hypotonia with hypothermia and grunting (n=1). Breastfeeding began early (< 1 hr postpartum) and effectively in 78.9% (n=56) of newborns.

CONCLUSIONS

Our results are in line with most of the available evidence: the immersion in water during labor provides benefits not suppose an increased risk to the health of the mother and the newborn. Water immersion during dilatation appears to be a useful approach for reducing pain during labor, fulfilling recommended clinical objectives, and maintaining good mother-child health indicators.
In the first meeting after the birth, behavior of the mother or father towards the baby is considered as the first parenting behavior. The behavior of the mother towards the baby in the first meeting after birth gives important clues about the bonding process between the mother and the baby in the later period. For this reason, it is important for the midwife and the nurse who are responsible for the care of the newborn and the mother in the early postpartum period, to carefully observe the mother's behavior to identify the emotional connection between the mother and the baby. This study was conducted to evaluate the relationship between fear levels of birth and parenting behaviors of mothers in early postpartum periods and to determine some demographic factors that affected this.

MATERIALS AND METHODS

This study is a cross-sectional study carried out between January and April 2018 in Sakarya. Inclusion criteria for study are women in the Postpartum Service who had vaginal delivery and in postpartum first 4 hours. The questionnaire prepared by using the literature in accordance with the purpose of the study was filled by 495 mothers who accepted to participate in the study by face to face interview method. The "Wijma Delivery Expectancy / Experience Questionnaire Version B" was used to assess the fear of birth. "Postpartum Parenting Behavior Scale" was used to evaluate parenting behavior. Student T test, One Way Anova and Pearson Correlation Analysis were performed with the help of Statistical Package for Social Sciences (SPSS) program. Statistical significance was accepted as p<0.05.

CLINICAL CASES AND SUMMARY RESULTS

The age of the study group ranged from 18 to 42 years with an average of 27.25±5.19 years. The mean score for the Wijma Delivery Expectancy / Experience Questionnaire B version was 107.76±15.00 and the mean score for the Postpartum Parenting Behavior Scale was 4.26±1.05. There was no relationship between maternal birth experience and early postpartum parenting behaviors (r=-0.072; p=0.108). The mean score for the Wijma Delivery Expectancy/Experience Questionnaire B version was found to be statistically significantly higher who working women, have problems related to pregnancy, defined the birth process as "very difficult and bad", did not breastfeed after birth and did not adapt to the mother after delivery (for each; p<0.05). Also, the mean score for the Postpartum Parenting Behavior Scale was found to be statistically significantly lower in those who primary school graduated, perceived income as bad, smokers and did not adapt to the mother after delivery (for each; p<0.05).

CONCLUSIONS

There was no relationship between maternal experiences of birth and early parenting behaviors. However, it was determined that mothers had a clinical level of fear at birth, whereas the mean level of early parenting behaviors was moderate. It may be advisable for women to be educated about the pregnancy, birth and postpartum period starting from the preconceptional period, non-pharmacologic supportive methods in labor.
INTRODUCTION

Birthing procedures and mode of newborn feeding at discharge are two criteria among others for accreditation of a "baby-friendly" hospital. The primary aim of our study was to determine whether the implementation of the initiative changed the approach of medical staff towards routine episiotomy. Also, we sought to determine whether the initiative changed newborn feeding practices at discharge and whether it contributed to changes related to breastfeeding frequency. Our secondary aims were to ascertain whether the initiative influenced the prevalence of epidural analgesia in labour, the prevalence of oxytocin infusion for active labour management, amniotomies performed for labour augmentation as well as the number of instrumentally assisted deliveries.

MATERIALS AND METHODS

The study is a retrospective review comparing 105 women who gave birth in the first six months of year 1993, a period before the "baby-friendly" initiative, with a cohort of 99 women who gave birth in year 2015, a period following the implementation of the "baby-friendly" initiative. In both groups the inclusion criteria were vaginal cephalic occipito-anterior birth presentation, low risk pregnancy and nuliparous mother without labour complications. We used descriptive statistical analysis, z-test and mann whitney test to show the differences between variables. Data processing was performed in microsoft excel tm. Statistical significance was considered p<0.05

CLINICAL CASES AND SUMMARY RESULTS

Among 2558 newborns in 1993 and 1626 in 2015, 105 newborns from 1993 and 99 from 2015 fulfilled the inclusion criteria and were included in the study. The results showed a statistically significant difference between women in 1993 and 2015 in the number of episiotomies performed, with less episiotomies performed in 2015. Also, epidural analgesia and oxytocin infusion were more often used in deliveries in 2015, and this difference was statistically significant. There was no statistically significant difference between groups concerning rate of amniotomies performed, number of deliveries with vacuum extraction or length of childbirth. A statistically significant difference was observed between women in 1993 and 2015 regarding mode of feeding; in 1993 the majority of newborns were fed using combined feeding, while in 2015 the prevailing mode was breastfeeding. Women and newborns stayed less in hospital in 2015 and the time between birth and first feeding was shorter in 2015.

CONCLUSIONS

We can conclude that implementation of the "baby-friendly initiative" positively influenced medical staff towards routine episiotomy practice in cephalic presentation vaginal deliveries. the increase in breastfeed newborns did not influence low weight gain but decreased days of hospital stay and the time between birth and first feeding. the increase in breastfeeding newborns at hospital discharge is a positive result of this initiative.
INTRODUCTION

A midwife is a person who has met all requirements and gained qualifications in order to become legally licensed to perform maternal care. The midwife is recognized as a responsible and trusted professional who, in partnership with other women, provides support, care and advice during pregnancy and childbirth, supervises delivery independently at her own responsibility and takes care of both infants and toddlers. Such types of care include preventive measures, promotion of natural birth, recognition of complications in mothers and children, access to medical care and other forms of appropriate assistance and emergency procedures in cases of danger.

MATERIALS AND METHODS

Notwithstanding the fact that midwives have clear responsibilities, there are still countries that haven’t completely implemented their competence and significance in relation to health care across Europe.

The purpose of this research is to explore and compare how many aspects of midwifery practice differ among several countries in years 2011 and 2018. For this research the same questionnaire is used as in 2011 so that the comparison can be made in a correct and precise way. The mentioned questionnaire will be posted online and offered to representatives of the countries by e-mail. The questionnaire consists of 18 questions related to midwifery practice, private practice, prenatal care, midwifery regulation etc.

CLINICAL CASES AND SUMMARY RESULTS

The midwife is a person with an extremely important task in health, counseling and education within a family and community. However, in several countries both of these are still unfamiliar with the responsibilities and competence of a midwife. Some laws regulate their work, but they are not effective in practice. This is especially a problem that many EU members have encountered.

Regarding the fact that legislation and regulations for midwives had to be changed since entering the EU, it is important to notice that those changes helped regulate the work of midwives and made their competences clearer.

By doing this research our biggest aim was to compare their practice and legislation in order to see if there are differences of midwifery practices among Europe.

CONCLUSIONS

After concluding and examining results of the entire questionnaire and this research we can say that there is still a lot of space left for improvement within the EU and regardless the existing legislation and laws within the EU, midwifery practices differ significantly from country to country.
INTRODUCTION

Post-partum haemorrhage (PPH) is the major cause of maternal mortality worldwide. This study was conducted aiming at assessing the knowledge and practice of nurse midwives regarding management and prevention of postpartum haemorrhage in selected hospitals in Limpopo province, South Africa.

MATERIALS AND METHODS

A quantitative, cross-sectional, descriptive design using structured interviews was adopted to elicit information on knowledge and practice of nurse/midwives in the management and prevention of post-partum haemorrhage. 75 nurse/midwives were drawn from four selected public hospitals, interviewed and observed.

CLINICAL CASES AND SUMMARY RESULTS

The findings revealed that, respondents have extensive experience varies from 11 to 30 years but only 30% of them received in service training about PPH. Majority (79.3%) of the respondents generally had good knowledge about Postpartum haemorrhage. Respondents’ knowledge about assessment and management, sign, Prevention and definition, types, common causes were (79.5%). Surprisingly, almost (66.0%) and (59.0%) respectively less knowledge about complications and risk factors of PPH. Practical aspects of nurse/midwives regarding prevention of PPH was (67.4%).

CONCLUSIONS

The results from this study showed that NM had good knowledge regarding PPH prevention and management with satisfactory practice regarding prevention of PPH. The study highlighted the need for continuous in-service training to updates NM knowledge and practice regarding management and prevention of PPH. Competency based standards need to be established for midwifery practice and the implementation of such standard be monitored.
INTRODUCTION

Applying prenatal screening has led to an increase in fetal anomaly detection in early stages of pregnancies. Whereas the interaction of mothers experiencing such problems and their families with healthcare providers is an important component of coping with stressful outcomes, no support or care plan is available for them and their needs in this regard are not studied in our society. So, this study was conducted to explore the maternal and families' information needs following a prenatal diagnosis of fetal anomaly.

MATERIALS AND METHODS

This descriptive exploratory qualitative study was done from the perspective of parents following a prenatal diagnosis of fetal anomaly. Using the purposive sampling, 19 eligible pregnant women and 4 fathers participated in the semi-structured interviews in order to elicit meaning behind their experiences about the subject under study, in Mashhad 2017. Data were transcribed, coded and organized into different categories based on three primary phases of preparation, organization and reporting using MAXQDA software.

CLINICAL CASES AND SUMMARY RESULTS

A number of information needs were identified, including: (1) Complexity of making a decision; (2) Information for next step – the near future; and (3) the inadequacy and inconsistency of perceived information. There is a need for information on multiple subjects following the prenatal diagnosed anomalies, including the prognosis process, day-to-day management and the decisional process regarding the future of the pregnancy.

CONCLUSIONS

Parents faced with a prenatal diagnosis of fetal anomaly present a big variety of information needs, which was not provided adequately by healthcare providers. The results of this study highlight the need for good communication based on health provider knowledge of how parents understand and experience of prenatal diagnosed anomalies. A plan of action for providing this information was designed based on detected needs.
INTRODUCTION

Increased life expectancy up to 78 years by 2024 is one of the main priorities for the Government stated by the president of Russia Vladimir Putin in March, 2018. The goal can be achieved through improved availability and quality of care, which depends on professional level of healthcare personnel, proper distribution of tasks between health workers with different specialties and effective management of care. It is also important to think about the cost-efficiency and increase the amount of care provided by midwives. Midwives can lead the work on health promotion during pregnancy, prevention of pregnancy, birth and abortion complications, cancer screening programs and promotion of reproductive health.

MATERIALS AND METHODS

The role of midwives is an important part of the global discussions on transformation of Health Systems. Individual country cases show a great variety of approaches towards professional regulation and midwifery roles starting from high responsibility for physiological pregnancy and birth care, preparation of the woman and family for childbirth, promotion of reproductive health, cancer screening programs, till very limited scope of practice. Taking into account high figures of midwives outflow in Russia and decreased ratio of midwives per 10000 population – from 9,9 in 2000 till 7,5 in 2016) the RNA initiated a study focused on midwives roles, content of midwifery practice, staff attitudes towards their functions to facilitate policy planning in the field of human resources for health.

CLINICAL CASES AND SUMMARY RESULTS

Studies conducted up to date indicate a high level of readiness of midwives towards a more autonomous practice. One of the studies covered 415 midwives including 42% from hospitals and 58% representing primary care facilities. The study demonstrated that midwives highly accept a more autonomous role (64% of respondents supported an independent midwifery patient appointment, 24% indicated that midwifery functions could be extended and include care for physiological pregnancy – 74%, preventive/screening prematernal patient reception – 80%, dispensary observation – 41%). More than 60% of respondents noted the need for development of the Higher midwifery education.

CONCLUSIONS

As midwives’ role in the world is growing, including the education and professional regulation (WHO reports that in 30 countries of European region bachelor degree in midwifery is available, in 28 – master degree), and leads to improved patient outcomes it is really the time to revisit the approaches towards midwifery practice in Russia including a wide-range discussion of functions that could be taken by midwives, an enlarged scope of practice, and establishing Higher midwifery education.
INTRODUCTION

Patient-centered care means consulting and open communication with the patient on the issues of his health, the patients’ full involvement in the process of care and decision making and respect of the patient’s preferences about care, as well as empathy, continuity and integrity of care.

Patient and family oriented approaches towards care are highly supported by the World Health Organization and recommended through its publications and documents, collected and disseminated individual country cases and campaigns that put the light on nursing and midwifery personnel as key providers of patient-centered care.

MATERIALS AND METHODS

Patient-centered care is widely used in caring for women and newborns and is rooting in the history when a person caring for the birth was also caring for the pregnancy and knew the family history. When birth care moved to maternity homes it has been transformed into the purely medical procedure and left no space for family and women to be involved.

Only starting from 90s multiply international initiatives brought about the opportunities for new approaches towards birth and pregnancy care, including the family and woman preparation for the birth, early start and support of breastfeeding, joint stay of a mother and a baby while they are in maternity home.

These approaches are continually followed by the Omsk regional perinatal center.

CLINICAL CASES AND SUMMARY RESULTS

For the period of 2013-2017 due to continued implementation of patient-centered care Omsk regional perinatal center achieved improved patient outcomes, including:

1. Decrease use of medicine (number of IV injections decreased with 37%; number of IV infusions decreased with 47%) – as the need in medication was much lower due to the partner involvement in birth);
2. Decreased injuries of the perineum with 12% and decreased injuries of newborns with 2,2%;
3. Postpartum infections decreased in women from 5,0% till 3,6%; in newborns from 5,6% till 3,8%;
4. The length of hospitalization decreased from 5-6 days till 3-4 days.
5. Women experience of birth got improved with 14%

Besides, Omsk region showed decreased rates of abortion and increased rates of breastfeeding which is due to the complex efforts on the regional level supportive of midwifery consultations and interventions.

CONCLUSIONS

Based on the positive outcomes of the patient-centered maternity care it is important to achieve its 100% availability to all women and newborns and on all stages of care, starting from family planning and until postpartum care and breast-feeding support. As midwives are in the heart of the patient-centered care, there is a great need to support policy planning, developing the midwifery roles, enlarging the scope of practice and autonomy.
INTRODUCTION

Childbirth fear is a problem resulting in important obstetric outcomes today. Thus, it is important for women who have childbirth fear to be identified and intervened in advance. Accordingly, in this study, it was aimed to determine the level of childbirth fear of primipara women.

MATERIALS AND METHODS

The descriptive and cross-sectional study was conducted between August 2016 and January 2017. 259 women who experienced their first pregnancy participated in the study. Study data were collected between the gestational weeks 20 and 24 of women by a questionnaire form related to sociodemographic and obstetric characteristics and Wijma Delivery Expectancy/Experience Questionnaire Version A. For data analysis, descriptive statistics and non-parametric tests were used.

CLINICAL CASES AND SUMMARY RESULTS

It has been determined that 57.1% of participant women are between 18 and 25 years of age, 64.1% are at least high school graduate, 86.5% have an intended pregnancy, almost all of them (93.1%) want to have vaginal delivery and 95% have prenatal care. It has been detected that women had an average score of 72.73±18.16 (min:11, max:121) on WDEQ A. In addition, it has been determined that the level of childbirth fear was low in 4.2% of women, moderate in 22%, severe in 53.3% and at a clinic level in 20.5%. In addition, working women (U=2665.0, p=0.014) and women who received prenatal care from a physician (U=5464.0, p=0.000) were found to have significantly higher averages of WDEQ A score.

CONCLUSIONS

In this study, it has been determined that approximately one out of every 3 women had childbirth fear at a severe and clinical level. Routine screening and minimization of childbirth fear by appropriate interventions in obstetric clinics are necessary to improve obstetric outcomes.
TOPIC: Doctors and Midwives: care or cure

ABSTRACT ID: 750

TITLE: Human Factors in CTG (Mis)Interpretation

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INTRODUCTION

The contribution of human factors to errors and adverse outcomes within most healthcare systems cannot be underestimated. In Obstetrics we rely on the cardiotocograph (CTG) as a non-invasive tool for detecting fetal hypoxia. However, since its introduction in 1960 the CTG has failed to reduce the rate of hypoxia-induced perinatal morbidity and mortality. This has an inestimable effect on the parent(s) of the child, and also carries a significant financial burden. Recent figures from the National Health Service Litigation Authority (NHSLA) show that Obstetrics makes up 42% of the total value of negligence claims in the UK.

MATERIALS AND METHODS

The recent Each Baby Counts report indicates that 62% of stillbirths, neonatal deaths, and brain injuries in 2015 were related to errors in CTG interpretation and management. In the report only 23% of action and recommendations were solely aimed at individual members of staff, the other 77% took a systemic approach and highlights human factors as the major cause of clinical errors.

CLINICAL CASES AND SUMMARY RESULTS

The aim of this review is to explore the different aspects of human factors and how each contribute to CTG misinterpretation. After the Confidential Enquiry into Stillbirths and Deaths in Infancy (CESDI) report published in 1997 it was hoped that simplifying guidelines and rolling out regular CTG training would reduce error rate but this has not had the desired effect.

CONCLUSIONS

We believe that rolling out human factors training across all departments within the healthcare system will increase insight and awareness into our own human factors. This will invariably lead to a culture change and will hopefully be the glue between guidelines, training, and implementation needed to drive down error rates in CTG interpretation and management.
INTRODUCTION

The aim of the investigation was to study the frequency of mutations of a complex of genes that regulate the synthesis of connective tissue in pregnant women with nDST and prolapse of the mitral valve. We examined 38 women with mitral valve prolapse of varying severity as manifestations of nDST, the course of pregnancy was analyzed, its outcomes for the mother and newborn, depending on the polymorphism of the COL1a1 genes (α-1 collagen type 1 protein chain), Col3A1 (α-1 chain protein of type 3 collagen), endothelin-1, ERS1 and ERS2 (estrogen receptors), LAMC1 (laminin, gamma 1), MMP1, MMP3, MMP9.

MATERIALS AND METHODS

Mitral valve prolapse refers to the most common and studied visceral manifestation of connective tissue dysplasia (DST). The aim of the study was to study the frequency of mutations of a complex of genes that regulate the synthesis of connective tissue in pregnant women with nDST and mitral valve prolapse. A total of 38 women with mitral valve prolapse of varying severity as manifestations of nDST were analyzed, the course of pregnancy was analyzed, its outcomes for the mother and newborn, depending on the polymorphism of the COL1a1 genes (α-1 collagen type 1 protein chain), Col3A1 (α-1 chain protein of type 3 collagen), endothelin-1, ERS1 and ERS2 (estrogen receptors), LAMC1 (laminin, gamma 1), MMP1, MMP3, MMP9. The age of the women was 28.5±0.5 years, the first pregnancy was 22 (57.9%).

CLINICAL CASES AND SUMMARY RESULTS

The analysis of polymorphisms showed the following: heterozygotes for COL1a1 (c.104-441G>T) were 26 (68.4%) of women (an unfavorable marker), the rest - homozygotes for a frequent allele. Homozygote for rare alleles (T / T) in our study was not. Heterozygotes according to Col3A1 (p.2092G>A) were 13 (34.2%) women (adverse variant), the remaining homozygotes in the frequency allele. Heterozygotes according to END1 (G5665T) were 11 (28.9%) women, the rest - homozygotes for a frequent allele. Heterozygotes for ERS1 were 34 (89.5%) women, which is possible and explains the complicated course of pregnancy from early periods, the development of ICI, PR, hematoma, the failure of hormone replacement therapy. Heterozygotes for ERS2 were 18 (47.4%) women, the rest - homozygotes for the frequent allele. The heterozygotes for LAMC1 (-2204C>T) were 4 (10.52%), the rest - homozygotes for the frequent allele. Heterozygotes according to MMP1 (-1719delG) were 19 (50%) women.

CONCLUSIONS

Homozygotes for the rare MMP3 allele (an unfavorable variant) were 11 (28.9%) women, among the same pregnant women there were early PR with poor outcome and early PE. Heterozygotes for MMP3 (1171dupA (5A / 6A)) were the remaining 27 pregnant women (71.1%), 23 (60.5%) women were heterozygous for MMP9 (836A> G), the rest were homozygotes for the frequent allele. Women with adverse genetic markers. In average, one woman had 5.2 polymorphisms from 9 of these genes.
INTRODUCTION

Congenital glucose–galactose malabsorption (CGGM) represents an extremely rare autosomal-recessive disorder. It is caused by homozygous mutation in the gene encoding the intestinal sodium/glucose transporter (SLC5A1) on the long arm of chromosome 22 (22q12.3). Patients with CGGM present with severe life-threatening watery diarrhea and dehydration within first days of life. Although belonging to a group of extremely rare disorders, CGGM should be considered as the possible cause of a severe diarrheal disorder occurring within the first days of birth.

CLINICAL CASES AND SUMMARY RESULTS

A 12-day-old female newborn was admitted on Neonatology Department University Childrens Hospital Beograd from a regional maternity hospital due to severe hypernatremic dehydration (Na 193 mmol/l, pH 7.04, creatinin 156µmol/l) caused by severe life-threatening watery diarrhea and dehydration within first days of life. Clinical-laboratory tests excluded intestinal and extraintestinal infection as a cause. This severe osmotically diarrheal disorder sustained even after feeding with the infant milk formula in which lactose was replaced by glucose oligomers. Intolerance of this infant milk formula followed by low pH and high stool glucose concentrations, stool normalization with oral suspension and normalization of digestive functions on Galactomin 19 milk formula (Nutricia, Holland) the formula with fructose as the only carbohydrate, clearly indicated CGGM as the basis of the child's problem. The last check in 5 month old showed optimum growth, development and nutrition of the child.

CONCLUSIONS

If the diagnosis is made timely, dietetic treatment based on glucose and galactose replacement by fructose, results in complete recovery. In order to confirm the diagnosis, a month after first symptoms, performed oral glucose tolerance test showed a complete recurrence of the disorder. Isolated DNA for the purpose of CGGM genetic confirmation verification of the type of mutation was sent to a referring foreign institution.
INTRODUCTION

Interleukin 6 (IL-6) is a pro-inflammatory cytokine critical in immunoregulation. Aberrant IL-6 signaling has been implicated in various diseases including inflammation-associated cancer. Anti-IL-6 agents have been sought as therapeutics for many cancer types. SIRTUIN2 (SIRT2) is a cytoplasmic and nuclear member of sirtuin family and plays important roles in the regulation of stress response, and cancer. It plays dual roles as a tumor suppressor and oncogene in various tumors. SIRT2 gene removed mouse develops tumors in many organs, including the liver and breast tissues. SIRT2 has been shown to deacetylate numerous substrates and the mechanisms how SIRT2 decreases inflammation and inflammation associated disorders has been poorly understood up-to-date.

MATERIALS AND METHODS

SIRT2 wild type and knockout MEF cells were maintained in DMEM containing 15% fetal bovine serum (FBS). Immunoprecipitation of SIRT2 and JAK1 HeLa cells were lysed. Total cell extracts were incubated with anti-SIRT2 or anti-JAK1 antibody, followed by the incubation with magnetic beads. Bound proteins were extracted by boiling the samples in the loading buffer, and isolated proteins were resolved via PAGE. PVDF membranes were incubated with anti-STAT3, anti-P-STAT3, anti-SIRT2, anti-a-tubulin primary antibodies. For immunofluorescence, cells seeded on glass coverslips, fixed and incubated with anti-JAK1 or anti-SIRT2 antibodies followed by incubation with goat-rabbit IgG conjugated with Alexa Fluor 488 and 594 secondary antibodies. Cells were mounted and imaged on a fluorescence microscope.

CLINICAL CASES AND SUMMARY RESULTS

To determine if there is a physical interaction between SIRT2 and JAK1 proteins, immunoprecipitation (IP) technique with anti-JAK1 and anti-SIRT2 antibodies along with magnetic beads were used. Presence of JAK1 protein in the immunoprecipitated SIRT2 protein complexes showed a physical interaction between SIRT2 and JAK1. In addition, immunofluorescence was used to determine whether these two proteins colocalized in cancer cells. Immunofluorescence staining showed that these proteins colocalized mainly in the cytoplasm. In SIRT2 KO MEFs, phosphorylation of STAT3 was higher than that of in WT MEFs in response to IL-6, indicating SIRT2 decreased the kinase activity of JAK1. Next, we investigated if the overexpression of SIRT2 decreases JAK1 activity, and consequently reduces the phosphorylation of STAT3 in HeLa cervical cancer cell line. Consistent with the findings in SIRT2 WT and KO MEFs, when SIRT2 was overexpressed, phosphorylation of STAT3 at tyrosine 705 decreased.

CONCLUSIONS

Our results suggest that SIRT2 have an immune response regulatory function through IL-6 in cancer cells. Calorie restriction, resveratrol or other small molecules to increase the activity of SIRT2 may be beneficial to regulation of the immune response, and consequently, to prevent against chronic inflammatory diseases and inflammation-associated carcinogenesis. A sirtuin-based anti-inflammatory therapy should be further investigated with respect to both clinical and veterinary standpoints.
INTRODUCTION

Jaundice is one of the most common problems of the neonatal period. It affects 65–70% of healthy full-term newborns and only in 10% of cases turns to be pathological. Both maternal and infant factors influence on the exchange of bilirubin in newborns. Recent researches show that only 50% of pregnant women have adequately gestational weight gains. Overweight occurs 2–3 times more often than underweight. Some retrospective studies showed that mothers weight before pregnancy, her body mass index (BMI) and gestational weight gain have an effect on the level of the bilirubin in newborns.

MATERIALS AND METHODS

We designed a retrospective study on data from RSPC "Mother and child" database. We included 191 full-term newborns, who were born between 2015 and 2017. Taking into account the calculated pregravidary BMI of mothers and according to the adequate body weight gain for pregnancy, the newborns were divided into 3 groups of observation, where the anthropometric status and hematological parameters (hemoglobin, hematocrit, total bilirubin) at birth and on the 2–5 day of life were analyzed. 1st group – children from mothers who had adequate gestational weight gains due to the initial BMI, 2nd group – who gained more than required gestational weight gain, the third group – who gained less.

CLINICAL CASES AND SUMMARY RESULTS

We found significal differences (p<0.05) in levels of hematocrit on the first day of life in newborns of the observation groups. The highest values were observed in infants of the 2nd group (62.8 (55.4–67.1) %). A positive correlation between hemoglobin and hematocrit on the 1st day of life in infants of the 2nd group and the values of gestational weight gain of their mothers was found (rs=0.47, p=0.039 and rs=0.32, p=0.035, respectively). The total bilirubin of children of the 2nd group on the 2–5 day of life was significantly higher than in the infants of the third group (204.0 (169.0–232.5) μmol/L and 182.0 (115.0–202.0) μmol/L, U=318.0, p=0.042). A positive correlation between the values of gestational weight gain of mothers and the concentration of total serum bilirubin on the 2-5 day of life in infants of the 2nd group (rs=0.61, p=0.022) was found.

CONCLUSIONS

The revealed features of the analyzed hematological parameters in infants born from mothers with inadequate gestational weight gains shows the tension of the adaptation process in the neonatal period in these categories of newborns and justify the advisability of informing women about the recommended individual gestational weight gain, regular observation of pregnant women with medical control of their anthropometric status.
INTRODUCTION

Mitochondrial respiratory chain (MRC) disorders are a large group of genetically determined multisystemic conditions characterized by faulty mitochondrial oxidative phosphorylation. Mitochondrial DNA (mtDNA) depletion syndrome 13 type is a very rare disease associated with mutation in the FBXL4 gene located at the chromosome locus 6q16.1-q16.2. Mutation of FBXL4, which encodes mitochondrial F-box protein, involved in the maintenance of mtDNA, ultimately leading to disruption of mtDNA replication and decreased activity of MRC complexes. It's a reason of abnormalities in clinically affected tissues: muscular system and brain. Clinical symptoms are non-specific, this disease can manifest with various symptoms of brain damage or multiple organ failure, hyperlactatemia, hyperammonemia, and others.

MATERIALS AND METHODS

In Federal State Budget Institution "National medical research center for obstetrics, gynecology and perinatology" Ministry of Healthcare of the Russian Federation in 2013 was born a baby with a neonatal manifestation of mtDNA depletion syndrome 13 type. In addition to standard diagnostic methods, specific studies such as magnetic resonance imaging (MRI) of the brain, tandem mass spectrometry on amino acids and acylcarnitine, fibroblast growth factor (FGF) were carried out. The diagnosis was confirmed by Next Generation Sequencing (NGS) panel analysis of 62 mitochondrial genes.

CLINICAL CASES AND SUMMARY RESULTS

Hydronephrosis, subependimal cysts of the brain and polyhydramnios were diagnosed antenatal. Baby’s condition at birth was satisfactory and worsened dramatically towards the end of the first day of life. Clinical presentation included sepsis-like syndrome, neonatal depression, muscular hypotonia, persistent decompensated lactic acidosis (10.33 ± 3.08 mmol/L), increased FGF in blood 720 pg/ml (N=330). Alanine, Leucine, Ornithine were increased in blood and Lactat, Fumaric acid, 3-Hydroxybutyrate, Pyruvate, Succinate и 4-Hydroxyphenylpyruvate were increased in urine. MRI demonstrated global volume loss. Differential diagnosis was carried out with early onset sepsis, inborn error of amino and organic acids metabolism, β-oxidation defects of fatty acids, MRC disorders and glycogen storage disease. The diagnosis was confirmed by NGS, two compound heterozygote mutations c.A1694G:p.D565G in 8 exon and c.627_633del:p.V209fs in 4 exon were detected in FBXL4 gene.

CONCLUSIONS

In our case the disease manifested in the form of sepsis-like syndrome with depression, muscular hypotonia and severe lactic acidosis. Next Generation Sequencing gene panels test allowed confirming this very rare disorder. Mitochondrial DNA depletion syndrome 13 is a disease with poor prognosis; however, accurate diagnosis is very important for genetic counseling and helps to prevent the re-birth of a sick child in the family.
INTRODUCTION

Neurocutaneous Melanosis (MNC) is a rare congenital disorder with an incidence of 1: 20,000-50,000 live birth. It is characterized by the presence of giant or multiple congenital melanocytic nevi, and pigmentary, benign or malignant leptomeningeal cell tumors. It is assumed that the syndrome occurs as a result of a morphogenesis disorder of the neurocutaneous embryonic ectoderm. During the neonatal period, the pathognomonic is the presence of a giant hairy melanocytic nevus located on trunk and cervical region, bilaterally, with several nevi satellites. The diagnosis should be taken into consideration in neonates with giant pigmentary nevi or in those with more than 3 pigmentary hairy nevi irrespective of their size.

CLINICAL CASES AND SUMMARY RESULTS

We will present the case of a female-born newborn, born via cesarean section, on which immediately after birth a giant melanocytic nevus was seen located at the cervico-dorso-lombar level with multiple nevi satellites disseminated at the anterior thoracic level, abdomen and limbs. Transfontanelary ultrasound revealed the presence of 4 round formations 1-3 cm in the bilateral fronto-parietal cerebral parenchyma. Based on clinical and paraclinical data, a diagnosis of neuro-cutaneous melanosis is performed and the newborn is directed to interdisciplinary consultations that confirm this diagnosis.

CONCLUSIONS

Newborns with neuro-cutaneous melanosis have an increased risk of developing neurological conditions. Neurological complications of neuro-cutaneous melanosis are hydrocephaly, seizures, cranial nerve dysfunctions, spinal cord and medullary dysfunctions. Severe progression with neurological complications and death at 4 years of age.
INTRODUCTION

Trisomy 18 is the second most common autosomal trisomy having a birth frequency of 1: 6000, while the newborn incidence of Klinefelter syndrome (47, XXY) is 1: 600 males. The simultaneous occurrence involving Edwards and Klinefelter syndrome is rare and there are only few published reports. Double trisomy may occur as autosomal and sex chromosomal trisomy or as double autosomal. In cases of double aneuploidy involving autosomes and sex chromosomes, the clinical manifestations of the sex chromosomal abnormality are usually missing such as XXY which does not manifests itself until puberty.

CLINICAL CASES AND SUMMARY RESULTS

The male near term baby, the second child after the birth of the healthy child and one spontaneous abortion was born asphyxiated by Cesarian section and presented with typical features of Edwards syndrome; craniofacial disproportion, large occiput, narrow palpebral fissures, small mandibule, clenched hands, overlapping fingers, hypospadia, undescended testicles, IUGR (birth weight 1800 gr) and polyhydramnion. Tetralogy Fallot, PDA and esophageal atresia with tracheoesophageal fistula were found on heart ultrasound and chest X ray. Laboratory findings showed low platlets, prolonged APTT and INR, increased CRP. On the 8 th. day of life baby died. Chromosomal analysis showed 48, XXY+18 karyotype with no evidence of mosaicism.

CONCLUSIONS

Double aneuploidy results from two nondisjunctual events in meiosis I or II, but also can occur in different stages of cell division or as a single nondisjunctual event in a trisomic zygote. The additional chromosome is in more than 90% of maternal origin in trisomy18 and 50% in XXY. Nondisjunction may be caused by the lack of chiasma formation necessary for the correct orientation of the two homologues within the metaphase plate or by the laxity of chromosomes with increased maternal age.
INTRODUCTION

At present, the concept of intrauterine programming is of current interest in medicine, according to which the health of descendants depends on the features of the antenatal period. However, the nature of the relationship between the problems of reproductive function of the female body and the mass at birth, is not sufficiently studied, although it should be considered within the framework of the phenomenon of fetal programming. The development of ideas about fetal programming makes it possible to explain the origins of a number of extragenital diseases from a perspective of the effects of depletion of the compensatory mechanisms of the body in early stages of ontogenesis.

MATERIALS AND METHODS

220 clinical observations of apparently healthy women of reproductive age were studied, with 98 of them (group I) born with a weight of 2,500 g and less and 120 (group II) with a weight of 4,000 g or more. Characteristics of the menstrual function, a spectrum of gynecological pathology, and the need for therapeutic and surgical intervention were assessed.

CLINICAL CASES AND SUMMARY RESULTS

The groups were congenerous by age, social status, ethnic composition, and economic status. Late menarche was detected in 9.8% of the low birth weight (LBW) women, which was nearly twice as high than the general population frequency (5.7%), and in 7.5% in the group of women who were born large for gestational age (LGA). None of the women under observation reported an early onset of menstruation or the presence of signs of premature puberty. Infertility was noted by 25% in group I and by 15% in group II of the women. 21.5% of the LGA women and 14% of the LBW women reported menstrual disorders. The frequency of gynecological pathology requiring surgical intervention was 23.5% and 18% in groups I and II, respectively.

Thus, as we have shown, deviations from the average parameters at birth correlate with hormonal-metabolic disorders and genital pathology that do not respond to conservative treatment, which is especially important in the case of LBW.

CONCLUSIONS

The obtained data on sexual development retardation and a high incidence of subsequent infertility in LBW women is consistent with the literary data reflecting the parallelism of women’s ability to conceive with mass-growth parameters at birth. Mechanisms for the formation of interrelations need separate research.
INTRODUCTION

While the majority of European abortion law provides justification for abortions that are performed after 24 weeks due to fetal anomalies, this leads to a considerable ethical struggle, particularly in cases where potential disability is considered non-life-threatening. The legal regulation of abortion past 24 weeks’ gestational age is a relatively undertheorized dimension of abortion and human rights, where law must address both conservative religious principles and women’s right to reproductive autonomy.

MATERIALS AND METHODS

The discussion draws upon European case law relating to termination of pregnancy for fetal disability after 24 weeks, as well as critique by eminent ethicists, commentators and legal scholars in the field.

CLINICAL CASES AND SUMMARY RESULTS

Prior case law on abortion past 24 weeks’ gestation suggests that a fetus at and above 24 weeks’ gestation does not have a right to life. However, abortion law often does not offer a clear interpretation of the disabilities which justify termination, which invariably stems from a lack of ethical and political consensus. Although judicial views in appellate courts have had profound implications for guiding abortion in cases of non-lethal fetal disability, working in favour of a pregnant mother’s choice to terminate, a critical analysis of the case law concerning wrongful births and late term abortions show there is still no clear definition of life-threatening versus non-life-threatening disability and the choice, which should belong to a mother-to-be, often lies in the hands of her physician. Practising obstetrician-gynaecologists often hesitate to provide late-term abortions, and one must consider that there is perhaps need for both clarification of the law and willingness of doctors.

CONCLUSIONS

Despite the fact that public bodies often grow concerned that abortions on the ground of foetal disability may be carried out in cases where seriousness is questionable, there is no fixed definition of serious disability in legislation or case law. To respect and protect maternal reproductive autonomy and for benefit of cases where the potential disability is non-life-threatening, a clarification in legislation is unquestionably required.
**INTRODUCTION**

Intervention on cases of suspicion of gender violence during pregnancy aims to protect women and children. During the years 2014-2016, four cases of gender violence were detected at the Parc Taulí Health Corporation. The detection of cases of gender violence was carried out both in emergencies, outpatient consultations, labour room and / or hospitalization. Coordination with social worker was indispensable, who once the situation was assessed, coordinated with basic social services, EAIA (Childhood and Adolescence Support Team) and other resources available to ensure the protection of both the mother and child.

**MATERIALS AND METHODS**

Case Report of a woman with gender violence during pregnancy and in postpartum. The purpose of this communication is to present the situation of gender violence in Parc Taulí Health Corporation and to expose one of the cases of gender violence detected during pregnancy during the period 2014-2016.

**CLINICAL CASES AND SUMMARY RESULTS**

Coordination among all professionals who had contact with the woman was essential in order to be able to cope with the situation of gender violence.

**CONCLUSIONS**

It would be interesting to make a detection as soon as possible in order to improve the short-term and long-term biopsychosocial activities.
Fetal development delayed syndrome (FDD) occurs in 5-18% of pregnant women on the background of chronic placental insufficiency in somatic pathology, occupational hazards, complications of pregnancy in the mother. Traditional therapeutic measures are not effective enough, because in the structure of causes of perinatal mortality, FDD takes 20-25%.

MATERIALS AND METHODS

Watched 158 pregnant women with FDD manifestations of 1 degree (115, 1 group), 11-111 degree (43 women, group 2). All women had burdened data of anamnesis, complications of real pregnancy (autoimmune pathology, preeclampsia, etc.). Efferent therapy (ET) was performed selectively and comprehensively: in the 1st group, the patients received 3-4 sessions of medium-volume membrane plasmapheresis (PA) in combination with intravascular laser irradiation of blood (LIB), 7-10 sessions each day. In the 2nd group of patients course of ET included in alternations plasmaexchange (PE) on cryosorbed autoplasma or on 5% albumin solution, a cascade plasma filtration, hemosorption, PA in combination with 7-10 sessions of LIB.

CLINICAL CASES AND SUMMARY RESULTS

Complications during the ET was not. When examining women in the dynamics on laboratory data was marked detoxication, normal coagulation, anti-inflammatory, antianemic effects of procedures with improve the condition of the fetus in instrumental studies, with prolongation of pregnancy for 2-15 weeks. In one case, the pregnancy ended a late miscarriage, in the remaining 157 cases there were births, premature - in 52 (33.1%), by cesarean section - in 112 (71.4%). Antenataly death of one premature fetus, another of the extremely premature newborn died after a month after birth. All three pregnant women were discharged from the hospital home (2), transferred to another institution (1) with progressive pregnancy and the loss of fetus and newborn occurred in other institutions where ET methods, unfortunately, were not applied.

CONCLUSIONS

1. Total losses of offspring were in three of 158 (1.9%) observations, noted in the 2nd group with a combination of severe autoimmune somatic and obstetric pathology in the mother.
2. ET is safe, should be a method of choice and included in the course of complex therapy of pregnant women with FDD as early as possible.
TOPIC: Fetal disease

ABSTRACT ID: 91

TITLE: A new method for preventing the iatrogenic breaks of fetal membrane and amniotic fluid disposal in fetal surgery and a new amniotic catheter model for its implementation

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INTRODUCTION

The importance and significance of the realization of the problem of iatrogenic ruptures of membranes and the outflow of amniotic fluid during fetal includes the solution of these frequent An increase in the frequency of iatrogenic rupture of membranes and the outflow of amniotic fluid during intrauterine operations requires the development of new methods for sealing the defect of membranes, which is the main objective of this study.

MATERIALS AND METHODS

Fetal membranes are sealed using a new model of the amniotic catheter. After trochar puncture through the anterior abdominal wall, uterus and amniotic membrane, fetal surgery is performed. Then an amniotic catheter is inserted through the trocar to perform the procedure of sealing the trocar hole in the fetal bladder. Through the injection opening, we feed the tissue sealant and slowly withdraw the catheter, gradually adding the sealant through canal in the distal catheter. Germetik concentrates in the puncture channel and around it completely closing the trocar hole. This sealant is full biocompatibility with the tissues of the female body, convenience of use, which can significantly reduce perioperative blood loss, reduce allogeneic transfusions, achieve reliable sealing of the bladder.

CLINICAL CASES AND SUMMARY RESULTS

A new method of hermetic sealing of the bladder with an amniotic catheter was performed initially in isolated amniotic membranes (38 experiments) and then on uterus of pregnant rats (32 experiments) with hermetic sealing of trocar holes in the uterine horns and anterior abdominal wall and on a pregnant sheeps followed by histological examination of the sealing zones. The received data allow to speak about reliable hermetic sealing of trocar holes, and the sealing zones germinate with an extensive network of new blood vessels.

CONCLUSIONS

The result of applying a new method of hermetic sealing of membranes based on the use of a new type of amniotic catheter is an obstacle to the detachment of the membranes and leakage into the uterine cavity of the amniotic fluid in fetal surgery, which reduces the risk of abortion and provides the opportunity to conduct fetoscopy in earlier pregnancy, Survival of the fetus in various pathologies requiring emergency use of fetal surgery.
INTRODUCTION

Congenital diaphragmatic hernia (CDH) is a developmental abnormality of the diaphragm that allows the abdominal viscera to enter the thoracic cavity. Bochdalek hernia is a severe birth defect especially if it occurs on the left side, where it is 5 - 10 times more common. When the abdominal organs are in the chest, there is limited room for the lungs to grow. This prevents the lungs from developing normally, resulting in pulmonary hypoplasia (or underdeveloped lungs). This can cause reduced blood flow to the lungs and pulmonary hypertension (high blood pressure in the pulmonary circulation), as well as asthma, gastrointestinal reflux, feeding disorders and developmental delays. The severity of congenital diaphragmatic hernia (CDH) is largely determined by the position of the liver.

CLINICAL CASES AND SUMMARY RESULTS

A newborn male infant born via spontaneous vaginal delivery, body weight 3500 gr, height 54 cm, head circumference 54 cm and Apgar score 10/9/9. Irregular monitoring during pregnancy. Chest radiograph (Figure 1) confirmed the diagnosis: Hernia diaphragmatica congenita. After the hemodynamic stabilization, the baby was transferred to department of pediatric surgery in the eighth hour of life. At 12th hour of life, operation in performed under general anesthesia. An incision is made just below the baby’s rib cage, the organs in the chest are guided back down into the abdomen and the hole in the diaphragm is sewn closed. After the intervention, the patient was admitted to the intensive care unit where he received mechanical ventilation of CPPV type for a certain period of time. Postoperative course was uneventful, without complications, and the newborn was released home on the fourteenth day after operation.

CONCLUSIONS

Congenital diaphragmatic hernia is characterized by a varying degree of pulmonary hypoplasia with pulmonary circulation disorder and surfactant deficiency, resulting in increased pulmonary vascular resistance. Timely diagnosis, hemodynamic and respiratory stabilization of the newborn increase child's chances for successful operative treatment. Emergency surgery in cases of a properly observed and evaluated condition is a beneficial therapeutic approach.
INTRODUCTION

Patient 27 year old, G1P0. BMI 19. Non consanguineous parents, No alcohol user, non-smoker. No diagnosed genetic diseases in family. Ultrasound in 12w6d showed was normal. Normal NT, present nasal bone. Bi test showed low risk for trisomy 21, 13, 18. Ultrasound at 19 weeks found normal size fetus, normal AFI.

At 21w6d fetus were observed the following features: Macrosomia fetal biometry for 25w1d, fat extremities and neck, macroglossia, hypospadia, thick nuchal fold. Polhydramnios AFI 29 cm. Amniocentesis was performed. Banded chariotype was performed. The pregnancy was interrupted. The fetus weight at 22 weeks was 945g. All the anomalies detected in the ultrasound were confirmed.

Results: 46 XY, arr 6q23.2(131,643,624-132,146,514x3) 21q22.12(36,926,448-37,439,348x3)

MATERIALS AND METHODS

Background: Mutation rates are not constant and are not limited to a single type of mutation, therefore there are many different types of mutations. Duplication is one of the genetic mutations. Diagnosis can be difficult since the number of chromosomes is normal.

CLINICAL CASES AND SUMMARY RESULTS

BN a 27 year old G1P0 white female BMI 19, non consanguineous parents, no alcohol user, non-smoker. No diagnosed genetic diseases in family. has done the prenatal tests that consisted in normal 12 weeks 6 days ultrasound findings with NT 1.35mm, present nasal bone, low risk for trisomies 21, 18, 13. Normal ultrasound findings at 19 weeks. But the morphological ultrasound at 21 weeks 6 days showed a complex of abnormal ultrasound findings that are: Macrosomia fetal biometry for 25w1d, fat extremities and neck, macroglossia, hypospadia. Polhydramnios AFI 29 cm. Amniocentesis was immediately performed. Distended panel was asked. The pregnancy was interrupted. The fetus weight at 22 weeks was 945g. All the anomalies detected in the ultrasound were confirmed.

Interpretation: Male fetal profile with duplication in chromosome 6 in region 6q23.2 and duplication in chromosome 21 in the region 21q22.12.

CONCLUSIONS

In our case the long arms of the chromosomes 6 and 21 were affected. A rare chromosomal disorder involving duplication of the long arm (q) of chromosome 6 which results in various abnormalities depending on the size and location of the portion of duplicated genetic material. Affects males to females 2:1. The fetus phenotype was very similar to the disorders involving the mutation of the chromosome 21.
INTRODUCTION

Goldenhar syndrome is a rare disease (1–9 / 100,000) characterized by the normally unilateral triad, craniofacial microsomy, ocular dermoid cysts and spinal anomalies, sometimes associated with cardiovascular and genitourinary malformations, mandibular hemifacial hypoplasia and other neurological possible alterations. We present a case of suspected Goldenhar syndrome of neonatal diagnosis that was diagnosed with tetralogy of Fallot during pregnancy.

MATERIALS AND METHODS

25 years-old primigravida with mental disability and couple with psychomotor retardation, both with normal karyotype. Pregnancy of physiological course during the first trimester, combined chromosomal abnormalities screening 1/2090 and NT of 1.8 mm, negative serology and normal thyroid profile.

CLINICAL CASES AND SUMMARY RESULTS

During the morphological ultrasound of the second trimester, a cardiac image compatible with tetralogy of Fallot was diagnosed, amniocentesis was performed, resulting normal XY karyotype. Pulmonary stenosis during week 26 + 3 presents a valvular diameter of 3 mm, without regurgitation flow and pulmonary branches of 2.3 and 2.6 mm, which increase to 5 and 6 mm during week 33 + 1 (mild stenosis). During the 33 week control, a 3th percentile fetus is visualized, evolving to type FGR type I in week 37 + 6 (2100 g Pc 1) (physiological PIUA, PIMCA Pc 1, CPI Pc 6, PI ductus venosus Pc 95), so induction of labor is decided. The delivery concludes with forceps for risk of loss of fetal well-being of a male newborn of 2415 g Apgar 8/9 pH 7.12. In the neonatal period, the presence of microtia and atresia of the left external atrial canal, facial asymmetry and percentile microcephaly <1 was observed, clinically Goldenhar’s syndrome, associated with previously diagnosed tetralogy of Fallot.

CONCLUSIONS

The association of detected fetal heart disease with other congenital anomalies, like the rare Goldenhar syndrome, must make us aware to seek after them in order to allow early diagnosis.
INTRODUCTION
The amniotic band syndrome includes a wide range of congenital anomalies expressed in distal amputation of the limbs and phalanges of the fingers and in the formation of strangulation furrows and rings due to the presence of fibrous cords in the amniotic cavity. These symptoms can be accompanied by pathological changes in the skin and internal organs.

MATERIALS AND METHODS
Primagravida was admitted to department of prenatal diagnostics at the gestational age of 31 weeks with signs of amniotic band syndrome. At 22 weeks of gestation was detected traumatic amputation of the distal phalanges of second, third and fourth fingers of left hand, the first finger of the left foot. Blood circulation in the limbs was preserved, edema was not revealed. After 7 weeks with the gestational age of 30 weeks and 5 days, the above findings were confirmed, in addition, there was a presence of a zone of compression of the skin of the lower part of the left tibia. The limb under the zone of compression was nor edematous, the blood was flowing In the vessels above and under the compression.

CLINICAL CASES AND SUMMARY RESULTS
Decision was made to perform fetoscopy and laser coagulation at the gestational age of 31 weeks. There were detected multiple strangulation furrows on the surface of the left hand of the fetus and the distal phalanges of 2, 3 4 fingers were absented. The color of the skin of the left tibia was normal, but the swelling of the tissues below was noted. It was decided to abstain from coagulation, considering the intimate location of amniotic bands to tissues. Given the lack of technical possibilities for antenatal correction and the high risk of traumatic amputation of the left shin, she was delivered by cesarean section at 31 5/7 weeks. Child was born weighting 2110 g, Apgar 8/8. There were noted the syndactity II, III and IV fingers of the left hand, as well as in the region of the left shin and distal phalanges of the I and V fingers of the left foot. Signs of infraction of blood and lymph circulation were not noted from the limb parts located distally to the constriction level.

CONCLUSIONS
This clinical case demonstrates the effectiveness of the joint application of ultrasound and fetoscopy, which allowed timely determination of the term of labour and avoid both the formation of reduction limb defects and the development of severe respiratory disorders of newborn.
INTRODUCTION

According to the world literature, the single umbilical cord (SUA) artery occurs 3.1 per 1000 pregnancies. One third part (31%) of the fetuses with a SUA has structural anomalies. 10% of pregnancies with a SUA were complicated by fetal hypotrophy. In that way, in the foreign literature it is indicated the need to identify the only umbilical artery as a marker of chromosomal pathology, birth defects and adverse pregnancy. The purpose of the study. Determine the frequency of occurrence of a SUA. To evaluate the clinical significance of antenatal diagnosis of a SUA from the standpoint of topography, anatomy and physiology of the umbilical arteries. To evaluate a SUA as a marker of fetal anomalies.

MATERIALS AND METHODS

Methods and materials. In the Department of Perinatal Diagnostics of the Clinical Hospital №9 of Yaroslavl in the period from 2006 to 2017 year were examined 28654 pregnant of 18-41 weeks. 184 women were diagnosed with SUA using ultrasound scanners ALOKA SSD-1700 and Logic P6. Ultrasound examination was performed at 18-22, 23-27, 28-32, 33-37, 38-42 weeks gestation. A retrospective cohort analysis using a prenatal database was performed. The anatomical and physiological features and outcomes for pregnant women with a SUA were compared to those in women with three umbilical cord vessels (TUV).

CLINICAL CASES AND SUMMARY RESULTS

The incidence of pregnant women with SUA accounted for 0.64%. Among pregnant women with SUA 61% were pregnant with the right umbilical artery, 39% with the left umbilical artery. The diameter of the SUA is much larger than in pregnancy with TUA – in 20 weeks at 60%, in 40 weeks at 50%. The weekly rate of increase in the diameter of the umbilical artery in case of single artery is almost twice as much than in the case of TUV. The linear and volumetric velocity of blood flow in the SUA is higher than in the case of TUV in all terms of pregnancy. Pulsation index in 23-27 and 28-32 weeks is significantly lower in the case of SUA. In 6.5% of pregnancies with a SUA fetal weight less than 10 percentile was diagnosed (with TUA – 0.9%) Of the 184 identified cases with SUA in 167 cases was diagnosed isolated umbilical artery. In 17 cases was combination with other malformations. Fetal anomalies in pregnant women with SUA were found in 9.2% of cases (with TUV - 1.9%).

CONCLUSIONS

Conclusions. Frequency of a SUA is 1 pregnant women with SUA per 155 pregnant women with three umbilical cord vessels (TUV). The frequent combination of SUA with congenital malformations (9.2%) requires careful examination of all the organs of the fetus, most importantly the cardio-vascular system. Pregnancy with SUA is associated by high risk of perinatal pathology and requires dynamic observation.
TOPIC: Fetal disease

ABSTRACT ID: 292

TITLE: Neonatal effects of substance abuse during pregnancy

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INTRODUCTION
Drug abuse in pregnancy is not uncommon, and the use of illicit opioids during pregnancy is associated with an increased risk of adverse outcomes. The aim of the study was to assess neonatal outcome of pregnancy with maternal addiction.

MATERIALS AND METHODS
In this cohort study we assessed 100 pregnant women 15 -49 years old. To identify drug exposure was used self-questionnaire (Self-Report). Data on pregnancies complicated by illicit drug abuse (n = 50) were collected during a 2-year period (2014 - 2016) at Hospitals affiliated to Mashhad University of medical sciences. Data on the type of drug, course of gestation and labor, and on neonatal complications outcome were considered. Medical records on all non-dependence pregnancies during the study period were used as a non-exposed group (n = 50). To control possible confounding factor was used of multiple logistic regression model.

CLINICAL CASES AND SUMMARY RESULTS
our results showed The risk of various congenital anomalies was 5-fold in the group of children born to addicted mothers (RR = 5.65, 95% CI: 0.27-114.7). Also RDS (RR=5.1, 95% CI: 1.16-22.3), meconial amniotic fluid (RR=2.26, 95% CI: 0.21-24.1), NICU admission (RR=3.07, 95% CI: 1.93-4.88), neonatal seizure (RR=5.38, 95%CI: 1.97-14.64), neonatal hypoglycemia (RR=2.26, 95% CI: 0.60-8.54) were significantly more common in the group of pregnant addicts.

CONCLUSIONS
Addiction pregnancies must be considered as high-risk pregnancies according to perinatal outcome. We should prepare Appropriate obstetric and neonatal care in these pregnancies.
Staged management of congenital chylothorax with hydrops fetalis and impact on clinical outcomes

R. Lien 1; H.L. Tai 2; D. Mok 3; A.S. Chao 4

INTRODUCTION

Idiopathic congenital chylothorax is a rare disease with variable clinical course. The severe form can result in hydrops fetalis and often cause fetal or neonatal demise. Sequential introduction of treatment strategies highlighted by fetal therapy, intrapartum ex-utero intrapartum treatment (EXIT), postnatal supports, and most recently administration of Somatostatin/Octreotide, has brought about significant improvement in patient outcome. The aim of this study was to describe the clinical courses and the impact of different management strategies in neonates with idiopathic congenital chylothorax treated in our Neonatal Intensive Care Unit (NICU).

MATERIALS AND METHODS

We retrospectively reviewed the medical records of neonates admitted to Chang Gung Memorial Hospital’s NICU between January 2006 to June 2017. Neonates with a diagnosis of congenital chylothorax were identified. Isolated congenital chylothorax without hydrops and those with an identified cause of chylothorax were excluded. Demographic data, prenatal interventions, intrapartum management and postnatal course were obtained and analyzed.

CLINICAL CASES AND SUMMARY RESULTS

There were 28 neonates included in our study. The mean gestational age at birth was 33 weeks (27-36 weeks) and mean birth body weight was 2470 gms. (1430-3608 gms). Gestational age at diagnosis was 31 (18-36) weeks. Prenatal interventions were performed in 40% of the neonates. 22 (78%) of the patients had bilateral chylothorax. The median Apgar score was 4 and 6 at 1 and 5 minutes after birth. Eleven out of the 28 (40%) neonates had pneumothorax on the first day and 50% of them died. Sepsis was documented in 2 patients (7.1%). The overall survival rate was 71.4%. In the past 12 months, EXIT was performed in two neonates and octreotide was given to four neonates. There were no adverse effects recorded in the patients who received octreotide.

CONCLUSIONS

The survival rate of neonates with idiopathic congenital chylothorax associated with hydrops fetalis is 71.4% in this study. Recent advances in the management of these neonates include EXIT and the use of octreotide. Both of them improved the survival but the evidence of impact have yet to be validated.
INTRODUCTION

Hydrops fetalis refers to excessive accumulation of serous fluid in fetal body cavities. Traditionally, diagnosis was made after delivery, on gross examination of a massively edematous neonate, often stillborn. Currently, fetal effusions - pleural, pericardial, ascites - can be easily detected in routine prenatal sonography and subsequent management of pregnancy depends on determination, if possible, of the etiology. The latter is divided into two categories, immune and non-immune. The list of specific congenital and acquired disorders that can lead to non-immune hydrops fetalis is extensive; still no cause is identified neither prenatally nor postnatally in up to 20% of the cases. In the setting of acute, non-immune hydrops fetalis and PPROM, prompt diagnosis before delivery is crucial.

CLINICAL CASES AND SUMMARY RESULTS

A 29 years old primipara presented at 34 weeks GA with PPROM. She had a history of epilepsy under lamotrigine and levetiracetam. Fetal well-being had been confirmed at 32 weeks, by a maternal-fetal expert sonographer. On admission, a basic scan to confirm presentation, surprisingly revealed excessive hydrops with bilateral pleural effusions and ascites. With mother entering active labor, a cesarean was performed. A single dose of 12mg betamethasone was given. A female neonate 2620gr was born with apnea, cyanosis and no muscle tone, requiring extensive resuscitation and intubation. The prognosis given was poor due to severe RDS. Fetal molecular karyotyping was normal. No other immunological or non-immunological cause was identified. The hydrops was characterized idiopathic and resolved spontaneously. After 20 days in the NICU, baby was discharged. 1 year later, on serial clinical and laboratory assessment and imaging, it presents no anatomical, metabolic, neurological or motor deficit.

CONCLUSIONS

Unlike the majority of non-immune hydrops cases, idiopathic hydrops without an identifiable cause despite maternal, fetal and neonatal workup, may have an optimal prognosis, given that it is managed in centers that offer expertise in neonatal intensive care. Cesarean is an option, to diminish intrapartum events. The hypothesis that anticonvulsants, or epilepsy, or even rupture of membranes per se, can be a cause of acute non-immune hydrops, seems reasonable yet further investigation is needed.
INTRODUCTION

Galen vein aneurysm is a rare occurrence involving cerebral vessels and leading to a high output cardiac failure, ultimately resulting in fetal demise. We report a case that highlights the difficulty in the clinical management of this entity.

MATERIALS AND METHODS

A 23-year-old G1P0 spontaneous pregnancy was referred at 28 WA for a Galen Vein aneurysm. The ultrasound finding included a 35 by 14 mm vascular structure with a turbulent flow, occupying the central part of the head (fig1). Biometry was around the 20th percentile. Cardiac overload was evident, with a spherical looking heart, dilated neck vessels, and tricuspid regurgitation. At 33 weeks, IUGR was more obvious, reaching the 10th percentile at all sites. Umbilical artery Doppler then displayed an absent diastolic flow; ductus venosus revealed an abnormal a wave. Mid-cerebral artery Doppler was measurable, despite the aneurysm and remained in the normal range.

CLINICAL CASES AND SUMMARY RESULTS

After 48 hours in-hospital surveillance through non-stress tests twice daily, she had a cesarean section due to a persistent non-reactive fetal heart rate, with absent variability. The baby weighed 1800 g and was doing relatively well, with an Apgar score of 9 at 5 minutes. As the baby was stable for the first 48 hours, occlusion of the aneurysm utilizing interventional radiology was postponed until the weight increase to about 2500 g. This decision was based on literature review—expert opinions from centers having a relatively extensive experience in cases of Galen vein aneurysm—and further based on the preference of our radiology team. Unfortunately, despite a stable state for the first ten days, the baby’s cardiac function deteriorated abruptly on day 11, and the baby died of heart failure.

CONCLUSIONS

This case raises the question regarding the timing of delivery and scheduling the interventional radiology procedure, with both prenatal and postnatal outcomes being at risk for these babies. Ultrasound follow-up is essential to detect signs of fetal cardiac failure which must be weighed against risks of prematurity. This report illustrates the many pitfalls that could impinge upon the final outcome, raising the issue of the proper timing for delivery.
INTRODUCTION

Generalized Arterial Calcification of Infancy (GACI, also known as Idiopathic Infantile Arterial Calcification, IIAC) is characterized by widespread arterial calcification, that can be found in prenatal and postnatal study and even in infancy. The disease results in cardiovascular symptoms like severe hypertension and progressive heart failure, respiratory distress, edema, pleural effusion, sometimes extravascular calcifications (usually periarticular). In the past, diagnosis was made post-mortem at autopsy, recently mutations of the ENPP1 gene were found in affected patients. While mortality in infancy is still high, in recent years survival into adulthood has been reported with or without bisphosphonate treatment.

CLINICAL CASES AND SUMMARY RESULTS

Pregnancy uneventful, admitted at 28 weeks of gestational age due to poor fetal movements; urgent cesarean section was performed for fetal hydrops, polyhydramnios and cardiac insufficiency. At birth: male with shock status, started on antibiotics for suspected sepsis. Despite cardiac failure, severe systemic hypertension, resistant to anti-hypertensive treatments, was found. He developed pleural effusion with the need for thoracic drainage and acute renal failure with high plasma renin activity and aldosterone. Echocardiograms, cranial and abdominal ultrasounds showed significant echo brightness of coronary and major arterial walls. Suspected diagnosis of GACI was made and bisphosphonate treatment started. The baby died at 50 days of life of acute myocardial ischemia. Two heterozygous variation of the ENPP1 gene were detected, one so far not been described in the literature. Post-mortem examination confirmed intimal arterial calcification of aorta, coronary and pulmonary.

CONCLUSIONS

We described a case of a male newborn with GACI, a rare autosomal recessive disease. We suggest to consider this diagnosis in any newborn who develops persistent severe systemic and/or pulmonary hypertension. Furthermore, echo brightness of the arterial walls on prenatal and/or postnatal echo studies (renal, cardiac, cerebral ultrasound) can help the clinicians to perform the diagnosis. Gene ENPP1 study should be considered, moreover genetic counseling is recommended to plan future pregnancy.
INTRODUCTION

Sirenomelia, a rare congenital syndrome characterized by the anomalous development of the caudal region of the body that is often fatal. The incidence is estimated to be 0.8 – 4 in 100000 pregnancies. Males and monozygotic twins are more at risk for this condition. It was first described by Rocheus in 1542 and by Palfyn in 1553.

Two main pathogenic hypotheses have been proposed for sirenomelia. One is defective blastogenesis hypothesis: there sult of a defect in the development of caudal mesoderm during the gastrulation stage occurring in the third week of gestation, and the other is the vascular steal theory: based on the aberrant abdominal and umbilical vascular pattern of affected individuals, postulates a primary vascular defect that leaves the caudal part of the embryo hypoperfused.

CLINICAL CASES AND SUMMARY RESULTS

A 21 year old patient G2 P0 was admitted our perinatology unit at 17 weeks of age. She was not diabetic. She was not exposed to any teratogenic drugs. Ultrasonographic scan revealed live fetus with oligohydramnios. There was hydrocephalus, lemonsign, banana sign, neural tube defect, kyphoscoliosis. The upper limbs were well developed but the right hand was ectrodactyly. There was a left lower limb and right lower limb not seen. There was absence of right kidney and left kidney was observed as pelvic placement. Termination of pregnancy was performed. Fetus showed single lower extremity, toracolumbar neural tube defect and right crab hand. Absent right lower extremity and left fibulae in x-ray examination. We arrived at diagnosis of type VI sirenomelia on the Stocker and Heifetz classification.

This syndrome is rarely with central nervous system anomalies. Genetic sampling resulted in normal karyotype. Sirenomelia, accompanied by pelvic kidney is very rare case in the literature.

CONCLUSIONS

Mermaid syndrome is fatal in most cases due to pulmonary hypoplasia and renal failure resulting from renal agenesis. Very few cases have been reported where a child with sirenomelia survived. The management of the complications associated with this condition proved to be costly and difficult. More emphasis should be laid on proper prenatal diagnosis and care with a possible termination of pregnancy proposed as an option if detected early.
**INTRODUCTION**

Healthy lifestyle during pregnancy is an important topic in the field of perinatology. From all substances of abuse, prenatal alcohol exposure causes the most harmful effects to the developing fetus. Alcohol and its teratogenic effects have been studied extensively. Nevertheless, the pathways leading from the damaging agent to the broad variety of physiological and psychological symptoms are not yet fully understood. The aim of this study is to provide an overview of our current understanding of molecular pathways leading to Fetal Alcohol Spectrum Disorders (FASD).

**MATERIALS AND METHODS**

A systematic literature search on the teratogenic effects of prenatal alcohol exposure was conducted using various databases. The existing knowledge was summarized and gaps of current knowledge have been identified.*


**SUMMARY RESULTS**

The pathways leading from EtOH to FASD start with the metabolisation of EtOH to acetaldehyde. Apart from the toxicity of EtOH and acetaldehyde itself, during this process oxidative stress is generated in form of different oxygen radicals. This does not only deplete radical scavenger mechanisms but also triggers deleterious downstream pathways influencing gene expression and epigenetic imprinting. Examples for pathways involved are SHH pathway, AKT/mTOR, apoptosis, neurotransmitters, retinol signaling, cytoskeleton and cell adhesion, cholesterol homeostasis and DNA damage pathways. Many of these are known to be involved in central nervous system development. The biggest gaps in knowledge at the moment are the lack of a clear (human) dose-consequence relationship, potentially involved susceptibility genes, epigenetic consequences (also in further generations), data driven downstream pathway analysis, and reliable biomarkers to detect both, susceptibility and exposure.

**CONCLUSIONS**

FASD is an important health problem worldwide. Priority should be given to improve our current understanding of the pathophysiology of FASD. A big potential lies in the use of integrated data analysis within metabolites/ metabolomics, gene expression, epigenetics, genetic/genomic, and linked data to overcome this gap.
INTRODUCTION

Congenital uropathy (CU) are quite frequent (0.1 to 1% of pregnancies). Antenatal diagnosis, based mainly on obstetric ultrasound screening, has changed the management of these abnormalities by allowing their early diagnosis and treatment. Thus reduce its morbidity and mortality.

Aim: to provide a developing country’s experience in the prenatal diagnosis of congenital uropathy.

MATERIALS AND METHODS

A retrospective survey on 5 year (January 2010 to December 2014), concerning 35 cases of congenital uropathy collected from the neonatology and radiology departments of Fattouma Bourguiba Teaching Hospital Monastir.

SUMMARY RESULTS

We had 35 cases of malformative uropathy with a hospital incidence of 2.65 ‰. The mean term at diagnosis was 29.6 SA by ultrasound screening and 33.6 SA by MRI. Sex-ratio was 2.5. The MU found in the antenatal ultrasound were: pyelocalicial dilatation in 65.2% of cases, ureteral-pyelocalicial dilation in 13.7% of cases, duplexity of the excretory pathways in 9% of cases, bladder abnormalities in 6% of cases, ureterocele in 4.6% of cases and a posterior urethral valve was suspected in 1.5% of cases (1 case). The mean age of postnatal renal ultrasound was 4 days. It shows pyelocalicial dilatation (38.2%), ureteral-pyelocalicial dilatation (34.5%), duplexity (10.9%), ureterocele (5.5%), bladder abnormalities (3.6%), a posterior urethral valve in 1.8% of cases and was normal in 5.5% of cases. In our study, radiological retrograde ureterocytography was performed for 17 newborns (48.6%). It revealed anomalies in 9 cases. Follow-up was done with MAG3 and DMSA scanning.

CONCLUSIONS

CU are quite common in pediatric population. Antenatal diagnosis is currently the main circumstance of discovery of these abnormalities. The majority is constituted by little or non-complicated forms that had a good prognosis and a favorable evolution either spontaneously or after surgical correction.
INTRODUCTION

Single nuchal cord loop is a common sonographic finding in up to 30% of singleton pregnancies at term and it has not been associated with significant adverse perinatal outcome. On the contrary, true knots of the umbilical cord occur rarely, in 0.04 to 3% of deliveries, and have been correlated to significant perinatal morbidity in 11% of cases, and notably, to a 4-10 fold increase of the risk for intrauterine fetal death and stillbirth. The accumulative risk for IUFD and stillbirth in cases of co-existence of a true umbilical knot and multiple nuchal loops seems reasonable to be considered high, yet there is lack of evidence to guide clinical management in the setting of prematurity, when the condition is detected by current standard sonography early in the 3rd trimester.

CLINICAL CASES

We present a case of a 30 years old pregnant woman, who presented at 29 weeks of gestation at the obstetrical department of our clinic, complaining of reduced fetal movements the last 24 hours. The woman was a smoker, overweight with a BMI of 35, and she had an obstetric history of 2 previous uncomplicated cesarean deliveries at term. She had been attended the clinic’s routine prenatal care visits, with her pregnancy been characterized uncomplicated until then. Her previous ultrasound scan had been conducted at 26 weeks of gestation, with no pathologic findings reported. On admission, ultrasound scan was diagnostic of intrauterine fetal death. A cesarean section was performed and gross examination of the stillborn baby revealed a triple tight nuchal cord entanglement and one tight true umbilical knot. Maternal usual preoperative laboratory tests were normal. No further fetopathological examination was conducted to establish the cause of fetal death.

CONCLUSIONS

Cord entanglement and umbilical true knots have been long identified as possible causes of otherwise unexplained IUFD and stillbirth. In our patient, etiology was considered to be obvious, but this may not be the case in all such incidents. Color-doppler and 3-D imaging can detect these cord abnormalities. Nevertheless, the optimal management, in the absence of maternal reporting of reduced fetal movements, remains unclear, even if the loops and knots have been identified early in 3rd trimester.
INTRODUCTION

Bilateral renal agenesis is a very rare fetal condition, incompatible with life. The prevalence in Europe has been estimated at 1/8,500 fetuses. In most cases, death occurs in utero but in a low percentage of cases (less of 3%) the fetus is born alive and the death occurs immediately after birth, mainly because of pulmonary hypoplasia. The anomaly is associated with other complications such as severe oligohydramnios/anhydramnios, pulmonary hypoplasia and microcephaly. It is a main causative agent of Potter sequence. This rare pathology is usually diagnosed in the second trimester of pregnancy and is usually accompanied by oligohydramnios or anhydramnios, adrenal gland hyperplasia or pulmonary hypoplasia.

CLINICAL CASES

We describe a case of a 37 years old woman, gravida 4, para 4 who presented for the first time in an obstetrical service at 37 weeks of pregnancy. At ultrasound examination, the fetus was severe growth restricted, presenting microcephaly, tachycardia, anhydramnios, thoracic hypoplasia, both kidneys absent, and the urinary bladder unvisualised. Shortly after admission the labor started spontaneously, and the woman gave birth at 1700g male fetus, severely symmetric growth restricted, presenting Potter facies (plate nose, low-set ears, microcephaly), polydactyly and bradycardia, who died immediately postnatal. Postmortem exam confirmed the absence of the kidneys and the pulmonary hypoplasia and also revealed enlarged adrenals glands.

CONCLUSIONS

Bilateral renal agenesis is a rare condition that affects mostly male fetuses. In most cases, the fetus dies antenatal, but in rare cases, fetuses can be born alive and the death occurs immediately after birth, mainly as a result of pulmonary hypoplasia. In the presented case, the fetus lived about 30 minutes after birth. The antenatal diagnosis is possible, especially in the second trimester, from 14 to 16 weeks, when therapeutically termination of the pregnancy is an option.
A rare case of congenital medulloblastoma initially observed by antenatal MRI with postnatal follow-up and treatment is presented. Midline cerebellar lesion was identified in the 31st gestational week fetus on routine MRI. Additionally, quantitative MRI showed a markedly decreased apparent diffusion coefficient (ADC) and increased macromolecular proton fraction (MPF). Postnatal MRI identified obstructive hydrocephalus caused by a large posterior fossa mass. The child was treated by cerebrospinal fluid shunt placement, partial tumor resection, and HIT-SKK chemotherapy. The pathological diagnosis was desmoplastic/nodular medulloblastoma (SHH subtype). Follow-up MRI demonstrated complete treatment response. Our observations also highlight the added diagnostic value of ADC and MPF mapping.

MATERIALS AND METHODS

MRI were performed on 1.5T scanners (Philips, Siemens, and General Electric) in different institutions with quantitative data acquired using a Philips unit. ADC data were acquired using a single-shot echo-planar imaging (EPI) diffusion-weighted sequence (TR/TE=2450/64 ms) with 0, 125, 250, 375, and 500 s/mm2 b-values. The fast 3D MPF mapping protocol was implemented according to the single-point method using a gradient-echo sequence with a magnetization transfer pulse and multi-shot EPI readout. MRI was performed on the 31st week of gestation, before and after partial resection of the tumor at the patient’s age of 5.5 months, and after completion of chemotherapy. Identification of the molecular subgroup of medulloblastoma was performed by matrix RNA profiling using the nanoString assay.

SUMMARY RESULTS

On fetal brain MRI (Fig. 1a) symmetric ventriculomegaly and fourth ventricle compression was observed. Midline cerebellar lesion was barely visible on T2- and T1-weighted images with slight hypo- and hyperintensity, respectively. MPF maps showed it sharply hyperintense (MPF=4.8%) compared to the unmyelinated cerebellum (MPF=2.5%) and nearly isointense to the brainstem (MPF=4.4%). ADC values in the lesion, intact cerebellar tissue, and brainstem were 0.63, 0.98, and 0.87 x10^-3 mm2/s, respectively. On the follow-up postnatal MRI (Fig. 1b,c), the tumor size substantially increased. Tumor tissue appeared slightly hypointense on the ADC and MPF maps (0.67x10^-3 mm2/s and 4.9%) relative to surrounded cerebellar tissue (0.75x10^-3 mm2/s and 6.1%). MRI performed after debulking surgery (Fig. 1d) demonstrated the removal of the caudal portion of the tumor. After completion of three chemotherapy cycles at the age of 12.5 months, MRI showed the absence of a contrast-enhancing mass (Fig. 1e).

CONCLUSIONS

We present an extremely rare case of fetal medulloblastoma with successful delivery and postnatal treatment. Good response to chemotherapy can be attributed to favorable prognostic factors, such as desmoplastic histology and SHH subgroup. MRI observations illustrate evolution of the tumor tissue contrast during pre- and postnatal brain development, highlight the added value of quantitative MPF and ADC mapping, and support further evaluation of these methods in fetal and neonatal neuroradiology.
Amniotic Band Syndrome is a complex set of congenital malformations of unknown etiology and controversial pathogenesis. It mainly interests the limbs, the cranio-facial region, as well as the thoraco-abdominal axis. These malformations have the characteristics of being asymmetrical, polymorphic, and not respecting any embryological systematization.

Three main objectives are targeted: the antenatal diagnosis of the disease, the neonatal screening of the various lesions and the place of restorative treatment.

Our objective is to analyze the variability of clinical expression of Amniotic Band Syndrome through 09 observations of newborns treated at birth collected over a period of 2 years (2016 - 2018).

Nine cases out of 24,000 births are registered (0.3 ‰ NV). The clinical aspects are very varied and can be classified into 3 groups:

Group 1 (3 patients): It is presented only by cutaneous fissures of necking, of variable depth: The cutaneous grooves of necking sit on the limbs in almost all cases, in order of decreasing frequency fingers toes, hands, feet and legs.

Group 2 (5 patients): with amputations that are asymmetrical and reach the distal end or the entire amputation of a segment of limb (forearm and leg).

Group 3 (1 patient): With pseudo-syndactyly that partially fuses several asymmetrical fingers or toes, but still respects the proximal part of the interdigital space (unlike syndactilies of genetic origin, which are most often proximal and symmetrical).

None of our patients had craniofacial or thoracoabdominal anomalies.

Amniotic Band Syndrome is rare. With current advances in antenatal diagnosis methods, ultrasound can diagnose the condition by highlighting amniotic bands and associated malformations. Its screening must be systematic during the neonatal period. Therapeutic management is required in the neonatal period, when the bands are responsible for distal ischemia, otherwise it is postponed (after the age of 06 months) depending on the type of lesion.
INTRODUCTION

The frequency of ovarian cysts in neonates is 1 in 2,625 live birth girls. Ovarian cysts in fetus are the most often diagnosed in the third trimester of pregnancy. The complications are torsion of the ovarian cyst pedicle up to 71% and ileus up to 3%. Torsion of the ovarian cyst pedicle can spontaneously regress but can cause such complications as self-amputation of the uterine adnexa and migration from the various parts of the abdominal cavity, ileus, edema of the labia on the side of the ovarian torsion, respiratory disorders and cause sudden death of the newborn. Indications for surgical treatment are: cyst size more than 4 cm, signs of torsion, migrating cyst. The choice of a surgical method of treatment is based on the preservation of the ovarian reserve and minimally invasive.

MATERIALS AND METHODS

Our study included 15 girls: 12 newborns and 3 infants in the Perinatal Center (PC) of the St. Petersburg State Pediatric Medical University, Ministry of Healthcare of the Russian Federation for the period 2013-2018. The examination of the girls included the anamnesis, general clinical studies, ultrasound of the pelvis and abdominal cavity, histological examination of the operating material. 7 girls born in the Perinatal Center had a screening ultrasound in the third trimester of pregnancy and then dynamic ultrasound observation of the fetus to assess the change in size and structure of mass during the remaining gestation period and after the birth of the child. Operative treatment was conducted for all patients.

SUMMARY RESULTS

In 10 girls born in the Perinatal Center the ovarian cyst was diagnosed in the third trimester of pregnancy, gestation period from 34 to 36 weeks, 6 girls had complex cysts, they can be classified as type B and C, 2 simple cysts type A, size more than 4 cm. There were no indications for operative delivery from the fetus, surgical deliveries were carried out only from obstetric indications. In 5 girls ovarian cysts were diagnosed during the newborn period in 2 complex cysts type B and C, in 2 simple cysts type A. In all cases, the course was asymptomatic. About 70% of newborns had vivid manifestations of the hormonal crisis of newborns. Surgical treatment was performed by a hybrid method through the umbilical incision, this technique is minimally invasive and has all the advantages of laparoscopy. 8 girls underwent tubovarioectomy, 7 girls were performed ovariocystectomy. Histologically: the follicular cyst was in 10 cases, serous cyst was in 4 cases.

CONCLUSIONS

Patients with identified ovarian cysts intrauterine require observation of the gynecologist from the time the cyst is diagnosed. Newborns with vivid manifestations of hormonal crisis should be examined by a gynecologist with the decision of the question of performing an ultrasound examination of the abdominal cavity. The hybrid method of cyst removal has a good diagnostic potential and allows obtaining a good cosmetic result.
INTRODUCTION

With the development of ultrasound diagnosis of the fetus, the frequency of detection of intrauterine ovarian cysts in the fetus of the female and newborns is increasing. In literature the term intradominal cystic masses of the abdominal cavity appears from all these formations, ovarian cysts are the most common cysts of the abdominal cavity in neonatal girls. Specificity of the fetus and the neonatal period requires minimizing the harmful effects of X-rays, the effects of narcotic sleep and the overall duration of the diagnostic process. Ultrasound is optimal for diagnosing ovarian cysts in this category of patients. Frequency of ovarian cysts is 1 per 2500 girls born. Ovarian cysts in the fetus are most often diagnosed in the third trimester of pregnancy.

MATERIALS AND METHODS

Our study included 15 girls: 12 newborns and 3 infants in the Perinatal Center (PC) of the St. Petersburg State Pediatric Medical University, Ministry of Healthcare of the Russian Federation for the period 2013-2018. The examination of the girls included the anamnesis, general clinical studies, ultrasound of the pelvis and abdominal cavity, histological examination of the operating material. 7 girls born in the Perinatal Center had a screening ultrasound in the third trimester of pregnancy and then dynamic ultrasound observation of the fetus to assess the change in size and structure of mass during the remaining gestation period and after the birth of the child. Operative treatment was conducted for all patients.

SUMMARY RESULTS

In 6 girls born in the Perinatal Center the ovarian cyst was diagnosed in the third trimester of pregnancy, gestation period from 34 to 36 weeks, 4 girls had complex cysts, they can be classified as type B and C, 2 simple cysts type A, size more than 4 cm. Girls born in other medical institutions also had an established diagnosis of an ovarian cyst in utero in the third trimester of pregnancy. In 5 girls ovarian cysts were diagnosed during the newborn period. In all cases, the course was asymptomatic. 8 girls underwent tubovarioectomy because of necrotic changes of adnexa with the consequence of torsion. On ultrasound it was confirmed by the presence of an echogenic sediment with the level of separation of the liquid part and suspension, thin septa, calcification. 7-ovariocystectomy, the echographic pattern was a simple thin-walled rounded cyst, in 2 cases with a parietal component. Histologically: the follicular cyst was in 10 cases, serous cyst was in 4 cases.

CONCLUSIONS

Despite the rapid development of ultrasound diagnosis, ovarian cysts are not perinatally diagnosed and are already diagnosed with intrauterine complications such as torsion. Earlier ultrasound diagnosis of ovarian formations will enable dynamic ultrasound observation and select treatment tactics for the possible prevention of intrauterine torsion.
Multiple fractures of the long bones can be seen in the intrauterine period as a result of skeletal dysplasias or maternal trauma, but spontaneous fracture of the femur is a rare condition, since there are only 5 cases published worldwide, four of them in males and all affecting the right femur. Detailed workup is needed to rule out trauma, myoma, diabetes mellitus or familial genetic disorders. On the contrary, clubfoot is one of the most common birth defects (1-3/1,000 live births), more frequent in males and bilateral in 30-60% of cases. It can be classified as congenital, syndromic, or positional. The most common form is talipes equinovarus. Prenatal management should include offering patients an amniocentesis for karyotype analysis given the increased risk of aneuploidy of 1.7–3.6%.

CONCLUSIONS

Prenatal diagnosis of both skeletal anomalies allows us to rule out associated genetic disorders. Early and accurate diagnosis is crucial in terms of prognosis, explaining the status to the parents. It also allows preparing parents for birth and planning postnatal care.
INTRODUCTION

The frequency of pleural effusion is not accurately established. Researchers report about 1 case on 10,000-15,000 pregnancies. The causes of hydrothorax to the end are not known. It is assumed that the basis for formation of hydrothorax is a viral infection, malformations, chromosomal abnormalities, increased production of lymph, a violation of its outflow, but in most cases the cause is not established. According to the literature, in some cases, hydrothorax can be resolved by itself, that is a favorable prognosis for the fetus.

MATERIALS AND METHODS

During the last 2 years, 5 cases of isolated fetal hydrothorax were treated in the perinatal center. In all cases thoracocentesis were performed several times in different gestation age. In one case, special shunt was fixed in the left side of the fetal thorax. The results, prognosis, and outcomes in the neonatal period were different.

2 basic tactics in fetal hydrothorax

• Conservative dynamic observation (non-progressive hydrothorax)
• Surgical - transabdominal fetal thoracocentesis, shunt setting (progressive hydrothorax)

SUMMARY RESULTS

Prenatal diagnosis of pleural effusion is based on the detection of fluid accumulation between lungs and walls of the chest cavity. The contents of the effusion (chylothorax or hydrothorax) can’t be accurately established by ultrasound research, because the echographic image in both cases is the same.

Prenatal’s tactic of pregnancy is determined by the period of detection of pathology, hydrops of the fetus and associated developmental abnormalities.

At 22 weeks - cordocentesis and cytogenetic examination in all cases were performed.

RESULTS OF LABORATORY STUDY OF THE PLEURAL LIQUID

Cytological examination of the pleural fluid:
Mature lymphocytes
Erythrocytes
No other cellular elements

Molecular Biological Research (PCR) of pleural fluid:
Parvovirus B19 - negative
Mycoplasma hominis - negative
Ureaplasma urealyticum/parvum - negative
Epstein-Barr virus (EBV) - negative
Cytomegalovirus (CMV) - negative
Human herpesvirus type 6 (HHV6) - negative

CONCLUSIONS

Adverse factors increasing perinatal mortality:
1) Early gestation at the time of diagnosis
2) Combination hydrops of the fetus with ascites, polyhydramnios
3) The presence of hydrothorax from both sides
TOPIC: Fetal disease

ABSTRACT ID: 557

TITLE: congenital pleural effusion in a neonate: a rare case report

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INTRODUCTION

Pleural effusions are rare in the neonate and may be associated to several clinical conditions. Only a few cases of pleural effusions in the fetus and newborn are described in the literature. Pleural effusions are congenital and acquired. Congenital pleural effusions usually occur as hydrops or congenital chylothorax. Traumatic (iatrogenic) are the most frequent acquired pleural effusions in a tertiary NICU. It has generally a favorable prognosis, except in neonates with hydrops fetalis. Congenital isolated pleural effusion is a rare condition with an incidence of about 1 in 12,000 to 1 in 15,000 pregnancies. It is usually chylous.

CLINICAL CASES

We present a case of a nonchylous congenital pleural effusion that was managed successfully. A pleural effusion was diagnosed antenatally at 34 weeks gestation. Maternal age was 39 years, gravida II, para II. A male neonate was born by elective caesarean section at 36+1 weeks, with a birth weight of 3.580 gr. The neonate presented severe respiratory distress at birth requiring intubation. The chest X-ray revealed a pleural effusion on the right side. Needle aspiration was performed and a total of 400 ml were aspirated. According to the Light’s criteria for pleural fluid classification, the fluid was found to be exudative. The neonate presented with multiple additional problems such as respiratory distress syndrome, pneumothorax and pulmonary hypertension. TORCH, VDRL and the Karyotype were normal. A thoracic Computed Tomography (CT) was performed at 46 days of life, which was normal. A diagnosis of idiopathic unilateral nonchylous pleural effusion was made.

CONCLUSIONS

The infant was started on feeds on day 8. He recovered fully with no recurrence of pleural effusion and was discharged on day 48 of life. Pleural effusion in the newborn frequently presents with respiratory distress ranging from mild to severe. Congenital pleural effusions are rare in the neonate and may be associated to non identifiable clinical conditions. Further research is required to establish the underlying cause of such cases.
INTRODUCTION
To determine the incidence, etiology and postnatal outcome of antenatally detected hydronephrosis in our patient population.

MATERIALS AND METHODS
During the study period between July 2013 and June 2016, all cases of antenatally detected hydronephrosis (HN) or hydroureteronephrosis (HUN) with renal pelvis diameter (RPD) ≥4 mm in second trimester scan and ≥7 mm in third trimester scan were enrolled. All were followed postnatally for 6 months to assess the outcome.

SUMMARY RESULTS
During study period, 32,443 women underwent antenatal scan and hydronephrosis was detected in 269 cases (Incidence: 0.83%). 250 were followed postnatally (19 lost to follow up). Overall in 62.4% (n=156), hydronephrosis was transient. 35.6% with hydronephrosis in third trimester scan showed resolution in the first postnatal scan. Left sided hydronephrosis was more common than right (1.3:1). Postnatal pathology is seen in 86.9% of hydronephrosis with RPD >10mm and 27.3% with RPD 7-10mm in third-trimester scan.

Among those with persistent hydronephrosis in postnatal period (n=94), 40(16%) had UPJ obstruction, 22(8.8%) had PUV, 18(7.2%) had primary VUR, 4 had VUJ obstruction and 2 had VUR with contralateral UPJ obstruction. Surgical intervention was required in 76 cases (30.4%). Most common indication for surgery was UPJ obstruction (n=40) followed by PUV (n=22). Surgical intervention was required in 57% with RPD >10mm and in 11% with RPD 7-10mm in third-trimester scan.

CONCLUSIONS
The resolution rate of antenatally detected hydronephrosis was 62.4%. With RPD > 10mm in third-trimester scan, 86.9% cases had postnatal renal pathology and 57% required surgical intervention. Most common indication for surgery was pelviureteric junction obstruction followed by posterior urethral valves.
**INTRODUCTION**

Hydrops fetalis (fetal hydrops) is a clinical condition in which excessive fluid accumulation in the extravascular compartment of the fetus leads to widespread soft tissue edema and/or the collection of fluid in the fetal body cavities like ascites, pericardial or/and pleural effusion. The mortality rate is high and depends on the underlying etiology and gestational age at the time of occurrence. Fetal Hydrops is divided into Immune Hydrops Foetalis (IHF, 12.7% of cases), associated with antigenantibody mediated red cell haemolysis, and Non-Immune Hydrops Foetalis (NIHF, 87.3% of cases), associated with a wide range of aetiological factors.

**CLINICAL CASES**

We present a case of nonimmune fetal hydrops with unknown etiology. A 30-year-old woman, gravida II, para II presented at 30 weeks of gestation with unexplained fetal hydrops. Prenatal ultrasound and MRI scans indicated fetal cardiomegaly with pericardial effusion, hepatosplenomegaly, choroid plexus cysts and slight lateral ventriles dilatation. A female neonate of 2.470 gr with skin edema and ascites was born. The neonate presented multiple problems such as respiratory distress syndrome, leukocytosis, thrombocytopenia, electrolyte imbalance, conjugated hyperbilirubinemia, kidney and liver failure. TORCH, VDRL and the Karyotype were normal. Maternal serological test indicated a possible Parvo B19 infection, but PCR in neonatal blood for Parvo, echo, coxsackie and adenovirus were negative. Neonatal death occurred at 5th day due to cardiac arrest. The etiology of fetal hydrops remained unknown, as all tests performed were negative and parents declined post mortem examination.

**CONCLUSIONS**

Due to the elaborate list of possible aetiologies leading to hydrops foetalis, a structured approach is needed for the evaluation and diagnosis. Hydrops foetalis is a challenging entity for both the obstetrician and the neonatologist and diagnosis is not always possible. Early diagnosis and treatment greatly improves perinatal outcome.
TOPIC: Fetal disease

ABSTRACT ID: 574

TITLE: Nonimmune fetal hydrops in a neonate due to syphilis infection: a rare case report

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INTRODUCTION

An increased prevalence of syphilis has been observed in many developed countries over the last decade. Congenital syphilis occurs when the spirochete Treponema pallidum is transmitted from a pregnant woman to her fetus and the infection can result in stillbirth, prematurity, or a wide spectrum of nonspecific clinical manifestations such as erythematous maculopapular rash, intrauterine growth retardation, microcephaly, ascites, hepatosplenomegaly, dilated and echogenic bowel, and, uncommonly, fetal hydrops. Congenital syphilis also is associated with hematologic abnormalities such as anemia, thrombocytopenia, leucopenia or leukocytosis.

CLINICAL CASES

We present a case of nonimmune fetal hydrops with anemia related to syphilis infection. A 32-year-old refugee from Iraq, gravida IV, para IV presented at 30+1 weeks of gestation for unexplained fetal hydrops with severe fetal anemia. The fetus received intrauterine blood transfusion and a course of prepartum corticosteroids were given 4 days prior to delivery. Due to a non-reassuring NST, an elective caesarean section was performed at 30+5 weeks and a male neonate was born with birth weight 1.920 gr. The neonate had anasarca and was intubated at birth, while chest and abdominal paracentesis by needle was applied, due to the presence of right hydrothorax and ascites. The neonate presented multiple additional problems during hospital stay such as respiratory distress syndrome, severe anemia, hypoglycemia, electrolyte imbalance, oliguria. Diagnosis was confirmed by a maternal and neonatal serological test. Neonatal death occurred at 4th day of life due to cardiac arrest.

CONCLUSIONS

Congenital syphilis represents a rare case of nonimmune fetal hydrops. The presentation of fetal hydrops with severe anemia is mostly related to parvovirus B19 and syphilis etiology is poorly mentioned. However, syphilis infection during pregnancy still presents a world-wide public health problem. Preconception serological tests for syphilis could assist in reduction of the incidence of congenital syphilis and clinicians should remain alert to the various presentations of congenital syphilis.
INTRODUCTION

Fetal tachyarrhythmias are defined as fetal cardiac rhythm disturbances with fetal heart rates (FHR) >180 bpm. The two most common are supraventricular tachycardia and atrial flutter (AF). AF usually appears at late gestational age. It is characterized by high atrial rates (400-500 bpm). There are varying degrees of atrioventricular block, so the ventricular rate can be variable from below normal to 250 bpm. If ventricular rate exceed 200 bpm, there is a significant risk of fetal hydrops. Maternal administration of antiarrhythmic agents that cross the placenta can reverse the tachyarrhythmia. According to Van Der Heijden et al., FHR was converted to normal in 51%, 64% and 66% of fetuses treated with digoxin, flecainide and sotalol, respectively. The neonatal survival rate is > 90%.

CLINICAL CASES

We report the case of a primigravida at 37+5 weeks of gestation without important antecedents who comes to our hospital because it has been detected a FHR >200 bpm in a routine control. It is performed a fetal ultrasound, where it is detected atrial and ventricular rate of 426 bpm and 230 bpm respectively, without signs of heart failure. The diagnosis was compatible with sustained AF. We decided to reverse the tachyarrhythmia with sotalol (40 mg q. 12 h.) and, at the same time, to start the induction of labour. 3 hours after the administration of the first dose of sotalol, FHR became to normal range with a baseline between 130 and 140 bpm. As the Bishop index was unfavorable, we performed a sequential induction with cervical ripening balloon, vaginal dinoprostone and oxytocin. She delivered vaginally without complications. The result was a male newborn of 3240 g with an Apgar of 10/10 and normal heart rate at birth. Neonatal studies were performed, with normal results until now.

CONCLUSIONS

In conclusion, according with published studies, fetal tachyarrhythmia can be successfully treated with antiarrhythmic agents administered orally to the mother. In cases like this, if there are no signs of fetal heart failure, we can perform a sequential induction as usual. If necessary, so it shouldn’t be managed as an obstetric emergency. Given that the situation is likely to be stressful for the mother, she must be correctly informed about the high rates neonatal survival (>90%).
Limb body wall complex (LBWC) is a rare polymalformative syndrome that associates a coelosome with abnormalities of the brain, spine and limbs. Our objective is to discuss the complexity and variability of the manifestations of this syndrome through this case study, and highlight the value of ultrasound in the early antenatal diagnosis of LBWC.

CLINICAL CASES

Ms. L.B., 38 years old, G4 P3, referred by her attending physician for the discovery of an omphalocele on a 23-week amenorrhea pregnancy. The diagnosis of complex polymalformative syndrome was retained before the visualization on ultrasound of a defect of closure of the abdominal and thoracic anterior wall: the heart and the abdominal viscera seem to be covered by a thin membrane (figure 1). The lumbosacral spine appeared curved. The sacrum was presumably absent. The two lower limbs were present but discarded abnormally and not very mobile. A clubfoot was observed on one side. The heart appeared morphologically normal but low located. The umbilical artery was unique. Cephalic pole was intact, and biometry was conform to the term. The etiological survey was negative. A therapeutic interruption of the pregnancy was decided collegially and in agreement with the couple. The foetopathological exam concluded with a "Limb body wall complex" of phenotype with placental-abdominal attachment.

CONCLUSIONS

Limb body wall complex is a rare but serious complex polymalformative syndrome. Its pejorative prognosis prompts us to establish an early prenatal diagnosis through ultrasound as early as the twelfth week of gestation.
INTRODUCTION

Fetal neurosurgery is a successfully developing direction at the junction of obstetrics and gynecology, neurosurgery, genetics, anesthesiology, neonatology and neuroradiology. The first operations were performed in the late 80's of the XX century in USA. Nowadays, fetal surgery is performed in the US, Brazil, Peru, France, Switzerland, Poland (general and cardiological), Russian Federation.

In Ukraine, the first experience of fetal neurosurgery was held on 09.10.2015: Woman 27y.o., pregnancy and 26 weeks, congenital malformation of the central nervous system. Obesity of the third degree. He was hospitalized on 10/07/2015. Fetal correction is open. 10/09/2015. Cesarean section 19.10.2015p (failure of the integrity of the amniotic membranes, the passage of amniotic fluid).

MATERIALS AND METHODS

The boy is 1030g, 35cm., 6 points on the Apgar scale, the full consistency of the operating wound, the regression of hydrocephalus, the absence of sphincter disorders. 10/20/2015 move on to the city perinatal center, extubated on 3rd day of life, 11th day exitus.

The fifth experience - 21.08.17r.: woman 23y.o., Pregnancy 24 weeks, congenital malformation of CNS, completely corresponded to standards and reports. Fetal open correction on 19.10.17., Cesarean section 35 w, boy 2100gr, 40 cm, 7 Apgar scores, the full consistency of the operating wound, regression of neurological deficits, absence of sphincter disorders.

SUMMARY RESULTS

At the age of 3 months, there developed a communicative resorbive hydrocephalus, an implantation of the adjustable shunt was performed. In the postoperative period, it grows and develops satisfactorily.

At present, we are at the stage of accumulation of experience, 5 surgical interventions have been performed, and an analysis has been carried out.
INTRODUCTION

Tumors of the PCF are mainly diagnosed in children and young people. Among these tumors are gliomas – astrocytomas, embryonic tumors – medulloblastomas and ependymal tumors – ependymomas.

Every year, 15±3,52 patients undergo surgical treatment for tumors of the PCF in the CCNC. When tumor growth was infiltrative, surgical removal was performed with intraoperative neurophysiological support.

Goal: evaluation of postoperative neurological deficiency and survival.

MATERIALS AND METHODS

The study included patients with tumors of the cerebella's vermis, IV ventricles, excluded patients with primary tumor of the brain stem, did not use intraoperative neurophysiological monitoring (IOM) in patients with tumors of hemisphere of the cerebellum. This accounted for 46% of all patients in the center with tumors of the PCF. In the preoperative period in the neurological status, dominated the symptoms of intracranial hypertension (IH). The tumors histological consisted of: diffuse infiltrative astrocytoma (G III) 52%, medulloblastoma (G IV) 35%, anaplastic ependymoma (GIII) 13%. For IOM, protocol was used: SEP from the upper and lower extremities nerves, MEP, bipolar probe, run-EMG with monitoring of CN function and muscles of the hand and lower extremities.

SUMMARY RESULTS

In the postoperative period, there was no shortage of innervation of V, VII, IX, XI, XII pairs of CN, paresis of extremities. Observed: transient ataxia of 80%, adiadochokinesis of one of the extremities, transient neurological deficiencies of innervation of VI pairs of CN, due to symptoms of IH. All patients were adjuvant therapy, according to the genetic profile of tumors, degree of anaplasia, aggressiveness of growth and modern protocols.

The smallest survival rate was 12 months (2 children), followed by 3.5 years 9 patients, 4-5 years survival rate in 6 patients.

CONCLUSIONS

using IOM when removing tumors prevents damage to the nervous system during surgery, reduces the term of postoperative recovery, accelerates the onset of adjuvant therapy.
INTRODUCTION

Dandy-Walker Syndrome (DW) is a rare brain malformation that occurs between the 7th and 12th weeks of gestation and affects 25000 to 35000 pregnancies. Dandy-Walker syndrome (DW) is characterized by three signs:

1. a cystic dilation of the IV ventricle in front of the choroid plexus
2. total or partial agenesis of vermis
3. an enlargement of the posterior fossa with elevation of the tent of the cerebellum

Prenatal hydrocephalus is present in more than half of the cases. This syndrome is frequently accompanied by other central nervous system (CNS) malformations or extra-cranial abnormalities. The diagnosis is usually made during routine ultrasonographic examination done during pregnancy which will be supplemented by fetal MRI.

MATERIALS AND METHODS

The aim of this work is to present the DW syndrome, to report the morphological aspects in antenatal imaging (ultrasound and MRI) that allow to make a precise prenatal diagnosis in order to give a prognosis for the fetus and to plan the pre and postnatal care. We report two cases of 2 patients in whom DW syndrome was diagnosed prenatally. Antenatal ultrasound was performed in both cases, supplemented by cerebral MRI.

CLINICAL CASES AND SUMMARY RESULTS

Case (1):
This was a 29-year-old patient. She had morphologic ultrasound at 22 amenorrhea weeks (AW), which demonstrated cystic dilatation of V4, vermian agenesis, and hydrocephalus affecting the four ventricles without other associated malformations. Complement with fetal MRI was performed (Fig).

Delivery was by caesarean at 42 AW. Birth weight was 3100 gr and cranial perimeter was 39 cm. Neurological examination was strictly normal and there were no morphological abnormalities. Postnatal MRI confirmed diagnosis. Abdominal and cardiac ultrasound returned normal.

Case (2):
This was a 40-year-old patient, having two unscheduled abortions in the 4th and 2nd months. 3rd pregnancy was normal with cesarean delivery of a baby in good health. Pregnancy in question was poorly followed. His first ultrasound was done at 37 weeks of amenorrhea, and reported cystic dilatation of the 4th ventricle with moderate hydrocephalus, interventricular communication, ascites and right pyelectasia.

CONCLUSIONS

Dandy-Walker syndrome is a very rare congenital anomaly of the posterior fossa. Diagnosis is usually made during routine ultrasonographic examinations done during pregnancy because of the presence of hydrocephalus, enlargement of the posterior fossa and associated malformations. MRI can better characterize brain abnormalities and eliminate differential diagnosis.
INTRODUCTION

Tracheal atresia is an exceptional malformation of the respiratory tract. Its pathogenesis is still unknown. There are two classifications: Floyd et al distinguish three types, whereas Faro et al describe seven types. It is usually discovered just after birth characterized with respiratory distress, lack of cry at birth, or at whom intubation is difficult or impossible. The prognosis is extremely poor. Surgical reconstruction attempts are most of the time unsuccessful. The first case was reported by Payne in 1900, and since then 91 cases have been published.

MATERIALS AND METHODS

We report a case of tracheal atresia collected at the Gynecology-Obstetrics Department of Sousse, Tunisia in August 2016.

SUMMARY RESULTS

A 34 years-old parturient had an ultrasound at 27 weeks of amenorrhea having shown highlighted hypertrophied and hyperechoic lungs, flattened diaphragm and ascite. An obstacle on the laryngotracheal airways was suspected. Decision was to complete the etiological assessment but patient refused. An ultrasound at 36 weeks of amenorrhea showed an increase in the pulmonary volume, disappearance of ascites with a shrunken abdomen containing fluid images with preserved growth and normal Doppler. The onset of labor was scheduled at 39 weeks. She gived birth to a male baby with a birth weight 3500 gr with absence of cry at birth. Tracheal agenesie was confirmed at birth. His APGAR score at 1 minute and 5 minutes was 5 and 3 respectively. Intubation was very difficult which leads to the death of the new born. We present the difficulties of antenatal diagnosis and the management of this pathology through this observation and a review of the literature.

CONCLUSIONS

Tracheal agenesis is a rare congenital malformation in which the trachea may be totally absent; it must be suspected in all newborns with respiratory distress, absence of cry at birth, or in whom intubation is impossible. The prognosis is very poor. Antenatal diagnosis, which is sometimes difficult will allow early diagnosis for better maternal and fetal management.
INTRODUCTION

The frequency of immunological congenial atrioventricular block range between 1/15 000 and 20 000 to 1/10 000 life birth. It is defined by the Association with maternal affections (lupus, Gougerot-Sjögren). Antibodies anti SSA / Ro and / or SSB are often positive.

CLINICAL CASES

A 27 years old, primipara, presented for at 22 weeks scan. On examination, she was normotensive with normal vital parameters and she had no pedal oedema. The ultrasound examination showed a congenial atrioventricular block, which was well tolerated and had no underlying heart disease or anasarca fetal. The patient was addressed for further exploration. Her antenatal biochemical and haematological parameters were within normal limits. However on immunological tests we found antibodies anti-Ro / SSA Ac positive at 260U / ml. Maternal echocardiography was normal and patient was not put on treatment. Pregnancy was regularly monitored by ultrasonography every 15 days up to 39 when she gave birth to a male baby. The heart rate at birth was 65 beats/minute and APGAR score at 1 minute and 5 minutes was 9 and 10 respectively; The baby was supported by the neonatal team in collaboration with the cardiologist. A cardiac electrostimulation was performed successfully.

CONCLUSIONS

Congenial atrioventricular can reveal an underlying maternal disease and can manifest at any given time before or after birth. It has been recognized that the association and prognosis of CAVB differ depending on whether the block is identified in the fetus, newborn, or older child. The prognosis of the "immunological" blocks remains severe, because of a risk of cardiomyopathy. Current advances in cardiac stimulation make it possible to offer a satisfactory treatment.
INTRODUCTION

Arnold Chiari syndrome is rare congenital malformation syndrome affecting cervico-occipital hinge. It is characterized by ectopic localization "hemia" of structures of posterior fossa through the occipital fossa. Arnold Chiari syndrome type II consists of an ectopia of bulbary, cerebellar tonsils and vermis with associated myelomeningocele.

CLINICAL CASES

This was a primiparous patient, whose pregnancy was not followed and no ultrasound was done. She was referred by a midwife for an advanced term at 41 weeks of amenorrhea. An ultrasound performed in our department found:
- progressive pregnancy of 36 weeks of amenorrhea,
- Arnold Chiari type II syndrome with absence of the corpus callosum and unilateral ventricular dilation (Figure 1),
- cervicothoracic myelomeningocele extending over 5 cm with a deflected head (Figure 2),
- no abnormality in the thoracic, abdominal organs (Figure 3) and in limbs.

Caesarean section was performed. Examination at birth finds a boy weighing 2450 g and who presents:
- cervicothoracic myelomeningocele,
- absence of neck with head completely deflected,
- and facial dysmorphism.

The newborn was admitted to neonatology, and died on the fifth day of life.

CONCLUSIONS

Recognition of Arnold Chiari malformation involves a detailed examination of the cephalic pole and the spine for direct and indirect signs of myelomeningocele and gravity factors. The diagnosis must be early and the decision must be multidisciplinary.
INTRODUCTION

Pentalogy of Cantrell (POC) is a rare and usually lethal fetal syndrome with ectopia cordis and omphalocele as hallmarks. Defects of lower sternum, diaphragmatic pericardium and anterior diaphragm can be present. The etiology is still unknown and is probably related to a developmental alteration of the mesoderm or resulting from a disruption in normal development of the primordial mesenchymal structures. Cyclopia (alobar holoprosencephaly) is an uncommon and lethal complex human malformation, resulting from incomplete cleavage of prosencephalon. It refers to a single midline orbit that contains ocular structures. Most cases are sporadic. POC was associated with congenital central nervous system and craniofacial malformations but never with cyclopia.

CLINICAL CASES

A 32-year-old pregnant woman was referred to our hospital with dichorionic diamniotic twin pregnancy. No history of drug ingestion, febrile illnesses or diabetes during pregnancy. The first fetal ultrasound showed two embryos with different biometries, the first with 8 weeks and 6 days and the second with 10 weeks and 2 days. Subsequent evaluations revealed ectopia cordis, omphalocele, cyclopia of the first fetus and echocardiogram added a univentricular heart with aortic hypoplasia. Karyotype and arrays showed no alterations. All exams of the second twin were normal. Although informed, parents refused to interrupt the pregnancy or feticide. Polimalformed fetus died naturally at 29 weeks gestational age. Spontaneous delivery occurred one week later, 30 weeks and 4 days. Stillborn had 615g; since parents denied autopsy and no magnetic resonance imaging was performed we could not be sure of anomalies extensions. The second born twin had 1640g, Apgar score 7/8/9 and no malformations.

CONCLUSIONS

In the presence of ectopia cordis and omphalocele the diagnosis of POC is evident. Prenatal diagnosis is extremely important as POC as cyclopia cases have poor prognosis, parents should be able to decide to interrupt the pregnancy. Presentation of cyclopia is not fully exposed and new cycloian syndromes still can appear. Although POC and cyclopia represent defects of the middle line, this is the first case describing this association.
INTRODUCTION

The term volvulus refers to an abnormal twisting of the intestine. Intrauterine intestinal volvulus is a potentially life-threatening fetal condition. Impairment of intestinal blood flow can lead to gangrene, intestinal obstruction, perforation of the intestine, and peritonitis. Rotation anomalies of the bowel during fetal development can predispose to volvulus. Prevelance of midgut volvulus prenatally is quite rare, and few cases of surviving infants have been reported in the literature.

CLINICAL CASES

A 31-year-old G1P0 woman was admitted to the local hospital with the complaint of decreased fetal movement at 31 weeks of gestation. She was referred to our perinatology clinic due to fetal abdominal pathology. In our ultrasound examination fetal abdominal ascites, dilated small bowel loops with a maximal diameter of 18 mm, with the appearance of whirlpool sign which is characteristic for volvulus were detected (Figure 1). Fetus had no movement during the examination. Emergency cesarean section was performed with the diagnosis of fetal volvulus. A 1630 g female infant was delivered with Apgar scores of 4 at 1 min and 7 at 5 min. An emergent laparotomy was carried out 2 hours after cesarean. On exploration, jejunoileal volvulus with malrotation causing necrosis of the small bowel was found. The necrotic bowel segment was resected, and a jejunoileostomy was performed. Infant was discharged from NICU two months after cesarean.

CONCLUSIONS

The amount of intestine that is compromised by the volvulus and the gestational age at the time of the event are the most important factors that affect the prognosis. Intrauterine volvulus may cause fetal distress, premature labor, and in serious cases intrauterine fetal death. In cases with a high suspicion for the diagnosis, preterm delivery may be considered, followed by prompt surgical intervention, in an attempt to avoid intrauterine demise.
INTRODUCTION

Cleft lip and palate is the most common congenital anomaly of the face. It diagnosis is mainly done during the morphological ultrasound of the second trimester. The prenatal detection rate is currently improved by the new imaging means, in particular 3D/4D ultrasound. We propose to appreciate the role of 2D and 3D/4D obstetric ultrasound in the diagnosis of cleft lip and palate, and to describe the signs that can be used to diagnose this malformation.

MATERIALS AND METHODS

We have collected the observations of patients with a fetal cleft lip and palate during the last two years and taken care of in our maternity and neonatology center of the Farhat Hached Teaching Hospital of Sousse, Tunisia.

SUMMARY RESULTS

We have collected five observations. The mean age of prenatal diagnosis was 23 weeks of amenorrhea. In all cases, diagnosis of the cleft lip and palate was made by two-dimensional ultrasound. The 3D ultrasound allowed us to visualize fetal face, lips, palate and to make the diagnosis of defective structures. Of the diagnostic cases, 4 clefts were unilateral and 3 were isolated. We found one case of trisomy 18, and another case of hernia of the diaphragmatic dome in the context of a polymalformative syndrome. The 3 cases of isolated cleft palate were completed, delivered normally and had prosthesis.

CONCLUSIONS

Parents whose fetus is diagnosed with an isolated cleft lip with or without cleft palate often choose to carry the pregnancy to term, and with the advice and support that is offered to them, are better prepared when the birth of their child. Clefts lip and palate have been diagnosed as antenatal for more than 25 years. 3D/4D ultrasound has improved diagnostic performance and improved management.
INTRODUCTION

Listeria monocytogenes is a bacterium widely distributed in nature which has been isolated from several animals and is capable of producing disease in humans, especially when there are predisposing factors as pregnancy, foetuses, elderly people or immunosuppression. Listeriosis during pregnancy can cause intrauterine infection resulting in severe complications such as miscarriage, preterm deliveries and neonatal infections, resulting in high morbidity and mortality. The fact of presenting very nonspecific symptoms makes early diagnosis difficult, so prevention is essential.

We present a case report of a 34-years-old patient with a 24-week pregnancy diagnosed of listeriosis, who presented fetal doppler and monitoring disorders.

CLINICAL CASES

A 34-year-old woman, in her second pregnancy in week 24, was admitted to our hospital. Six days before admission, the patient presented fever and orange urine. In a blood test the leucocyte count was 13,620/μl (N 76%), haemoglobin was 12.4g/dl and platelets count was 93,000/μl. Total bilirubin was 3.05 mg/dL (direct 1.94 and indirect 1.11). The C-reactive protein was 31.19 mg/dL. The sFlt-1/PlGF ratio and peripheral blood study were normal. Foetal monitoring showed tachycardia and decelerations coinciding with slight elevations of the uterine tone and the foetal Doppler study showed cerebral vasodilation and increased of peak systolic velocity. At 25 weeks of pregnancy the blood culture was positive for Listeria monocytogenes. During admission, sFlt-1/PlGF ratio became pathological. Ten days after admission, the patient presented deterioration of the Doppler and foetal monitoring so we decided to finalize the pregnancy by cesarean section, borning a male of 830 grams, Apgar 7-8-8.

CONCLUSIONS

The possibility of infection by Listeria Monocytogenes in the differential diagnosis of a pregnant woman with fever or flu-like symptoms should be taken into account, because the early initiation of antibiotic therapy is fundamental for foetal viability. In the same way, it is also important to avoid infection in pregnant women through preventive measures based on good information on hygienic-dieta
INTRODUCTION

Omphalocele, extrophy of cloaca or bladder, imperforate anus, and spinal defect complex (OEIS) is a clinical entity first described by Carey et al. in 1978. We propose to analyze the different manifestations of this syndrome through two observations and recent review of literature.

CLINICAL CASES

OBSERVATION (1):
Ms. I.J, 34 years old, presented at 32 weeks of amenorrhea for an obstetrical ultrasound scan. This showed an omphalocele, a short and narrow thorax, lumbar and sacral vertebral abnormalities associated with myelomeningocele, deformity of the lower limbs with no visualization of the bladder.

OBSERVATION (2):
Mrs. S.T, 28 years old, was referred for the discovery of an omphalocele on a 23 week pregnancy of amenorrhea. Ultrasound showed an important omphalocele containing liver, spleen, gastrointestinal tract and heart. The bladder was visualized. Kidneys were normal but there was significant bilateral dilation of the urinary tract. Amniotic fluid was in diminished quantity. There was myelomeningocele with abnormalities of the lumbar and sacral vertebrae. Both pelvic limbs were deformed in equinovarus varus foot.

CONCLUSIONS

Poor prognosis and very disappointing results of postnatal surgical treatment should indicate detailed genetic counseling and good awareness in perinatal management.
Sirenomelia is a very rare syndrome with incidence of 1 in 60,000-100,000 pregnancies. It is lethal with half of these resulting in stillbirth. It is characterised by lower fusion resembling a fish tail, urogenital and lower gastrointestinal tract malformation and single umbilical artery. The associated anorectal defects, defects of urinary tracts, pelvis and external genital anomalies have extremely unfavourable prognosis and usually result in very significant disability or death. They usually die due to renal anomalies, severe oligohydramnios and lung hypoplasia. Only few cases have been reported to date. We are presenting three cases which presented to our hospital.

CLINICAL CASES

First case was a 34 year old Gravida 1 Para 1 who presented at 25 weeks with no foetal movement ever felt. Second case was a 27 year old Gravida 6 Para 4+1 who presented at the booking clinic at 12 weeks and scan revealed a prominent cystic area in the pelvis and one lower limb noted. Third case was a 35 year old Gravida 5 Para 2+2 at 36 weeks, an induced labour for anhydramnios and Potter’s sequence.

CONCLUSIONS

Mermaids are real. Sirenomelia is very rare syndrome with various degrees of vascular involvement. Sirenomelia is fatal due to renal genesis and pulmonary hypoplasia. It is easier to diagnose in the first trimester. Pregnancy termination is an option, because it is lethal. First trimester diagnosis results in less traumatic consequences.
An unusual case of tracheal agenesis diagnosed at birth in a neonate suspected for aortic coarctation.

INTRODUCTION

An unusual case of tracheal agenesis (TA) is presented. Prenatal diagnosis was not provided because of a tracheoesophageal fistula not allowing the development of a congenital high airways obstruction syndrome. Aortic coarctation was suspected, instead, because a fibrous band connecting the proximal and distal tracheal branches compressed the first portion of the descendent thoracic aorta. Tracheal intubation was unsuccessful at birth, tracheostomy was attempted. Post-mortem examination confirmed the diagnosis of tracheal agenesis associated with tracheoesophageal fistula and revealed no cardiologic malformations. TA is usually diagnosed prenatally, but in some cases it presents at birth when the baby shows severe respiratory distress and orotracheal intubation procedures are unsuccessful.

CLINICAL CASES

A 2280 g female neonate was born at 35 GA. Aortic coarctation was suspected at the 22 week GA. Pregnancy was complicated by polyhydramnios, treated at 35 week GA with amnioreduction. After this procedure, the ultrasound showed an hyperechogenicity of the right lung diagnosed as a cystic adenomatous malformation. An emergency cesarean section was performed because of a premature rupture of membranes. The baby showed respiratory distress with gasps, with no audible cry and hypotonia. Positive pressure mask ventilation and several attempts of intubation were performed, but the tube did not progress beyond the vocal cords. APGAR score was 2,5,5, respectively at 1,5 and 10 minutes. Umbilical venous blood sample showed severe respiratory acidosis. Bradycardia occurred, resuscitation was performed, consisting in thoracic compression and the administration of repeated doses of IV adrenalin (0,1 ml/kg 1:10.000). Despite sustained resuscitative efforts the baby died at 150 minutes of life.

CONCLUSIONS

Post-mortem examination showed findings consistent with a D variant of Faro classification of TA. TA has an incidence of about 1:50.000 births. When tracheoesophageal fistula is present, unexpected polyhydramnios and lung hyperechogenicity, can be a marker of potential tracheal anomalies. A fetal MRI might establish a prenatal diagnosis Once a diagnosis is provided, the mother should be transferred to selected centers where an ex utero intrapartum procedure can be attempted.
Fetal disease

Spinal muscular atrophy, type 0

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INTRODUCTION

Spinal muscular atrophy (SMA) is an autosomal recessive neuromuscular disease that affects approximately 1 in 10,000 live births with a carrier frequency of 1 in 50. SMA is the most common genetic cause of infant mortality and is characterized by the degeneration of the motor neurons in the anterior horn cells in the spinal cord. It leads to progressive muscle weakness and atrophy. For the majority of parents, the diagnosis of SMA in their child remains the most common way that they got to know their carrier status. The diagnosis is often the first case in the family’s history. Babies diagnosed with SMA type 0 or I have a significantly shortened lifespan. SMA type 0 diagnostic delay is still common as SMA symptoms can vary widely in onset and severity and resemble other diseases.

CLINICAL CASES

A girl was born at 38 weeks of gestation with weight 2720 g. At week 12 of gestation nuchal translucency (NT) thickness increase was found. Chorionic villus cells cytology and micro-matrix analysis revealed no pathology. Karyotype was normal. No history of neuromuscular disorders in either parent’s family. Fetal movements reduced since gestation week 20. Independent lung ventilation was started after birth. All the extubating attempts failed. The following symptoms were observed: severe muscle hypotonia, short neck, crying aphonía, frequent tongue fasciculation, areflexia, rare low amplitude movements of fingers, elbow joint contractures, nuchal, foot and arms edema. Blinking, eye movements were preserved. Tandem MS revealed no signs of metabolic hereditary abnormalities. Brain MRI showed no structural pathology. Interventricular septum defect was found. EMG revealed neuronal anterior horn lesion. Genetic tests showed homozygous deletion in SMN1 gene exon 7-8. Death in 4 months.

CONCLUSIONS

Early debut of SMA can lead to immobilization and joint contractures formation antenatally. In infants congenital distress syndrome with above described signs and normal karyotype should be differentiated with SMA. Antenatal increased NT thicknesses with reduced fetal movements even though absence of chromosomal abnormalities can serve as early sign of SMA and require further genetic testing. It will allow to save time for postnatal diagnosis and to help the affected families to plan the future.
Fetal diastematomyelia. Case report

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Introduction

Diastematomyelia or split spinal cord malformation is a rare congenital anomaly characterized by complete or incomplete separation of vertebral canal and the spinal cord resulting in two hemicords. Septum may consist of fibrous, bony or cartilaginous tissue. There are two forms of split cord malformation: type I or diastematomyelia - two hemicords in their own dural sacs separated by extradural bone or cartilaginous septum and type II or diplomyelia – two hemicords are located in a single dural sac. Associated spinal malformations are common. Antenatal detection of cord malformations by US can be challenging. Therefore it is advisable to perform MRI to reveal malformation in these cases.

Clinical Cases

Routine US in 32 weeks pregnant woman were suspicious for the vertebrae arches diastasis of lumbosacral region. To establish diagnosis MRI in 36 weeks pregnancy were recommended. MR imaging in 35 weeks pregnancy revealed spina bifida in lumbosacral region up to 3.0 cm in length partly covered by skin. Defect of 1.9 cm in length, up to 0.6 cm in width defined in sacral region forming meningocele measuring 2.0x2.2x1.5 cm. Spinal cord was displaced dorsally. Two hemicords were defined at the L1-L4 level. The conus ended at the L4 level. It was type II with a bony spur at the L1.

At birth moderately grave condition was seen. In the upper part of lumbar spine there was dense-elastic mass approximately 1.0x1.0 cm covered with skin. At the base of lesion defect of vertebrae arches was defined. In the sacral region along the midline there was soft-elastic mass measuring 4.0x4.0x3.0 cm.

Postnatal MRI revealed spina bifida with meningocele in sacral region and two hemicords at the L1-L2 level.

Conclusions

Complex fetal examination including US and MRI allows accurately determine spine defect features and compound malformation of the spinal cord.
TITLE: Changes in the protein composition of plasma membranes of the placenta and the activity of membrane transport processes in fetal growth restriction

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INTRODUCTION

Among the factors complicating pregnancy an important place is occupied by fetal growth restriction (FGR). The development of FGR on the background of placental insufficiency can be associated with a change in the physico-chemical properties of plasma membranes of the placenta that control many intra- and intercellular processes (active transport, contact interactions, reception of bioactive compounds and signaling molecules). Disorder of the functional activity of membranes of the placenta can worsen not only the metabolism in the organ itself, but also the entire fetoplacental exchange, and the supply of the fetus with the necessary substances.

The aim – to study the protein component of syncytiotrophoblast membranes and the nature of membrane transport processes in the placenta in FGR.

MATERIALS AND METHODS

Full term placentas were obtained after delivery from women with physiological pregnancy (n=35) and with FGR (n=29). Membranes of syncytiotrophoblast microvillus were isolated from placenta tissue by the method of ultracentrifugation. Membrane proteins were separated by the method of one-dimensional electrophoresis after solubilization with detergents. Quantitative evaluation of electrophoregrams was performed densitometrically. The state of membrane transport processes was judged by the intensity of the production of proteins that regulate these processes (annexin A1 and A2, vimentin, Na+,K+-ATPase).

Proteomic analysis of placental membranes was performed using two-dimensional electrophoresis and MALDI-TOF mass spectrometry and Mascot program and SWISS-Prot/NCBI data bases.

SUMMARY RESULTS

At FGR the total number of membrane proteins is significantly reduced. In addition, the ratio between the levels of proteins solubilized by different detergents is changing: the amount of proteins extracted by the Triton X-100 is increased, compared to solubilized DDS-Na. This indicates a modification of hydrophobic interactions in protein-lipid membrane complexes. The level of high-molecular proteins by Triton and DDS-Na extracts decreases, and the number of proteins with the highest anodic activity increases in contrast with the disaggregation of protein associates. Some protein fractions increase the electrophoretic mobility, which indicates a modification of their properties. At FGR the expression of proteins that affect the interrelationships of different cell compartments, transmembrane processes and the permeability of plasma membranes, annexin A2 and A4 decreases. Violation of synthesis is also characteristic for vimentin and Na+, K+-ATPase, regulating membrane transport too.

CONCLUSIONS

Summarizing the obtained data, it can be concluded that the development of FGR occurs against the background of deep disorders in the protein composition of the microvilli membranes of syncytiotrophoblast, including reduction of proteins production that regulate membrane transport processes. The revealed changes in the placenta membranes can be important links in common chain of molecular damage in FGR.
TOPIC: Fetal Growth Restriction

ABSTRACT ID: 159

TITLE: Intrauterine growth restriction in the most numerous maternity hospital in Bosnia and Hercegovina in 2017

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INTRODUCTION

The high perinatal morbidity and mortality in intrauterine growth restriction is one of the leading problems of modern perinatology. Intrauterine growth restriction is defined as a condition of poor growth in a fetus whose growth potential is bigger than the one measured. The prevalence of intrauterine growth restriction is between 3% and 7%. The aim of this study was to assess the prevalence of intrauterine growth restriction in the most numerous maternity hospital in Bosnia and Hercegovina, gestational age, delivery type, as well as the age of the childbearing woman, her education, number of examinations during the pregnancy and also the body weight, sex and the Apgar score of the newborns. This is a retrospective study.

MATERIALS AND METHODS

We performed a retrospective analysis of the intrauterine growth restriction prevalence in 2017 at the Department of perinatology in the Clinic of gynecology and obstetrics University clinical center Tuzla, that included 3720 childbirths. The childbearing women were classified in categories considering age, education, number of examinations during the pregnancy (ultrasound, cardiotocographic, physical examination), childbirth type, while the newborns were classified by gestational age at childbirth, fetal weight, sex and Apgar score.

SUMMARY RESULTS

59 of 3270 newborns had IUGR (1,80%).
34 women were primiparae (57,62%), 18 were secundiparae (30,50%) and 7 multiparae (11,86%).
1,69% of them were younger than 18, 96,61% were between 18 and 35 years old and 1,69% were older than 35.
There were 2 unexamined pregnancies (3,38), 1 (1,69%) was examined 3 times and 56 (94,9%) were examined 4 - 10 times.
Vaginal delivery was performed in 32 (54,24%) and Cesarean section in 27 (47,36%) women.
46 (77,96%) women finished a high school education and 13 (22,04%) had a college degree.
The gestational age at childbirth between 24 and 34 had 3 newborns (5,08%), 35 - 37 11 (18,64%), 38 - 41 45 (76,27%).
The fetal weight of 1499g and less was measured in 5 (8,47%) newborns, 1500g - 1999g in 12 (20%), 2000g - 2499g in 41 (68,3%) and over 2500g was measured in 1 (1,66%) newborn.
21 (35,6%) newborns were male and 39 (64,4%) were female.
The Apgar score of 0 - 3 was given to 3 (5,08%) newborns, 4 - 7 to 15 (25,42%), 8 - 10 to 38 (64,4%). 4 were stillborn children.

CONCLUSIONS

Surveilling the fetal growth using physical methods and the ultrasound is necessary in every pregnancy, while the optimal supervision of an endangered fetus is impossible without the biophysical profile and the Doppler ultrasound, as well as the cardiotocography. Diagnosing IUGR requires a precisely determined gestational age. The adequate decision considering the least risky time and childbirth type are essential for a positive perinatal outcome.
TOPIC: Fetal Growth Restriction

ABSTRACT ID: 181

TITLE: Early and Late Onset Intrauterine Growth Retardation

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INTRODUCTION

Our aim is to demonstrate a "gestational week cut-off" value for better neonatal outcomes in intrauterine growth retarded fetuses.

MATERIALS AND METHODS

This study is consisted of 83 singleton pregnancies (83/≈2715, 3.06 %) who gave birth to low birthweight neonates (<10 percentile) in between January 2017 to April 2018. All patients were retrospectively evaluated and their obstetrical histories, personal medical recordings, family health informations, antenatal care program registrations, drug intakes, date of their first examinations, laboratory findings, and the frequency and timing of medical/ultrasonographic examinations were recorded for further evaluation.

SUMMARY RESULTS

Pregnancies with known risk factors for impaired intrauterine perfusion and the cases with the suspicion of small fetuses (by routine physical examination or during the course of routine ultrasonographic examinations at 8-10th, 11-14th, ≈20th 24-28th, 32th and 34-37th gestational weeks) were recorded. Once the growth retardation is detected, then the frequency of ultrasonographic examination is increased at a special antenatal care program. The risk factors for preterm delivery and impaired intrauterine perfusion were also recorded for further evaluation. We have demonstrated the "gestational week cut-off" value for better neonatal outcomes is 30 weeks and 3 days.

CONCLUSIONS

Delivering intrauterine growth retarded fetuses after 30 weeks and 3 days seems to be associated with better neonatal outcomes.
"Fetal growth restriction" (FGR) is a condition that occurs in a fetus that, following a pathological event occurring in utero, does not reach its growth potential. Fetuses with late onset FR show a specific pattern in the waveform of blood flow velocity in different vascular beds: there is an increase in vascular resistance in the umbilical artery and a decrease in the same in the middle cerebral artery. This phenomenon, called brain-sparing, is a compensatory mechanism in fetuses with late-onset GR caused by placental insufficiency and is aimed at promoting coronary and cerebral flow and therefore the perfusion of vital organs (heart and brain) rather than splanchnic organs.

MATERIALS AND METHODS

The umbilical artery fluximetry, middle cerebral artery and uterine arteries serve both as early indicators of growth retardation and for the establishment of the phenomenon of centralization of the circle. It can be useful for monitoring of the compensatory mechanisms implemented by the fetus.

In the case of GR, the centralization of the circle causes an increase in the resistances for which, the flow towards the heart is first reduced and then inverted in the final part (wave a) of ductus venous. The venous duct is the last parameter that is altered in the growth delay and is indicative of a very high probability of an adverse event (death in uterus or perinatal mortality). Its monitoring gives indications on the timing of the delivery of the birth.

CONCLUSIONS

Fetuses with growth restriction show a decrease of the peak velocity of aortic and pulmonary flow and of the left and right output. These data are also directly proportional to the umbilical arterial pH at birth. The left flow and the average velocity of the left flow increase while the right throw and the right average velocity decrease, ultimately determining a right-to-left impairment. From the available data, a progressive deterioration of cardiac function emerges with advancing pregnancy.
INTRODUCTION
Tuberculosis is an acute problem of the modern world community and today it is recognized by the World Health Organization (WHO) as a disease requiring the development and implementation of active and urgent actions to prevent its spread. In 2016, 10.4 million people became ill with tuberculosis. The high incidence of tuberculosis among the reproductive age population determines the need to study the interaction of tuberculosis and pregnancy. The purpose of this work was to study the structural features of the placenta in pregnant women with tuberculosis, paying attention on account the above factors

MATERIALS AND METHODS
We analyzed the morphological features of the afterbirth in 254 pregnant women and the state of 203 newborns. The main group, (group 1) comprised 174 pregnant women suffering from pulmonary tuberculosis in active form, 104 pregnant women were treated with antimycobacterial drugs and 19 women refused treatment - subgroup 1A and 1B, respectively. In order to compare the data obtained, similar parameters were studied in 30 pregnant women with a full term pregnancy, whose pregnancy was complicated by severe preeclampsia group 2 in 20 somatically healthy pregnant women, whose pregnancy ended in childbirth group 3. In addition to a standard histological study of the placenta, a placental morphometric study was performed.

SUMMARY RESULTS
The average body length of newborns in group 1B was 48 ± 1.4 cm and was significantly less than in the newborns of the group of healthy pregnant women (p = 0.04). Thus, it can be seen from the study that therapy in pregnant women with respiratory tuberculosis significantly reduces the risk of decompensation of placental insufficiency. In placentas of patients with tuberculosis statistically significant increased (by 2.46 times) the density of avascular villi. Reduction in the volume density of vascular terminal villi is the result of angiogenesis disorders in the placenta of women with tuberculosis. In the placenta of women with tuberculosis, the volume density of paracentral capillaries was significantly increased, 1.86 times in comparison with those of healthy women p = 0.0005. There is a direct correlation between the disease of tuberculosis in pregnant women and a decrease in the volume density of vascular terminal villi of the placenta (strong, reliable, rxy = +0.82, p <0.01).

CONCLUSIONS
Chronic placental insufficiency in patients with ungenerous tuberculosis, morphologically characterized by abnormal immaturity of villi with predominance of an intermediate differentiated type violation of angiogenesis of villi, an increase in the number of avascular vorsals and a share of paracentral capillaries of terminal villi; changes in the placenta. The treatment of tuberculosis started as early as it possible, can decrease the risk of placental insufficiency.
INTRODUCTION

The Fetal growth is a dynamic process. We usually use transversal measurements at a certain time to detect fetal growth restriction. In this study we use a dynamic marker –the abdominal circumference growth velocity- to assess the lineal relationship between this velocity as an independent predictor of small for gestational age fetuses (SGA) and the adverse perinatal outcomes (APO) in these fetuses.

MATERIALS AND METHODS

We studied a cohort of 1890 fetuses. Ultrasound fetal biometry of the abdominal circumference was performed for each fetus. The AC growth velocity, defined as the AC difference in centimeters between 28 and 36 weeks scans divided by the interval in days between the two ultrasound examinations, was calculated. The SGA fetuses were defined as birthweight < 5th percentil. A composite APO was defined as one of the following: emergency c-section, umbilical artery pH < 7.10, 5 min Apgar score < 7, admission to NICU and perinatal death.

A multivariate logistic regression analysis was performed to evaluate the association between the AC growth velocity and the prediction of SGA fetuses and the risk for APO.

SUMMARY RESULTS

Out of 1890, 85 fetuses had a fetal weight < p 5 (4.5%) and 1796 > 5th (99.5%) percentile. The abdominal circumference growth velocity was 1,39 vs 1,1 cm respectively (p< 0,001). The AC growth velocity was shown as an independent predictor of SGA fetuses (95% CI: 0.2-0.3 p< 0,001). The area under the curve was 0.761. We found a sensitivity of 45% for a false positive rate of 15%. We reported 369 fetuses with APO (20,9%) and 1494 (79%) with no APO. The differences in the AC growth velocity in both groups were not statistically significant (1,38 vs 1,35 p=0,067).

CONCLUSIONS

The abdominal circumference growth velocity can be a useful tool in the detection of SGA fetuses. However, in our study a decrease of the AC growth velocity was no correlated with APO in these fetuses. Further studies are needed to evaluate the clinical application of these findings.
INTRODUCTION

Gestational diabetes mellitus (GDM) is one of the most common medical complications of pregnancy and substantially influence the development of offspring during fetal life and postnatally. In D.O.Ott Research Institute of Obstetric and Gynecology the incidence of newborns from mothers with GDM increased up to 24% of all newborns born in 2017 year. The aim of the present study was to investigate the early and long-term offspring outcomes of maternal GDM.

MATERIALS AND METHODS

The study population included 678 newborns from mothers with GDM. During the study period all women underwent GDM screening and management in accordance with the risk-based protocol. Pregnant women with GDM were advised about using diet control and/or insulin therapy to maintain normal their fasting and 2-hour postprandial blood glucose levels. Baseline characteristics of the study population, including maternal age, weight, the health and course of pregnancy, were recorded. The primary outcome was the incidence of macrosomia, defined as a birth weight heavier than the 90th percentile for each gestational age.

Secondary outcomes included rates of morbidity in neonatal period and after one year of life.

SUMMARY RESULTS

We found that rate of premature newborns is 10%. The main role in this pathology is mother’s obesity, preeclampsia and poor control of glucose levels. Respiratory distress syndrome was diagnosed in 24% newborns which were born on 34-36 weeks of pregnancy. Macrosomia was revealed in 38,8% premature and 11,6% in full term newborns. It was in newborns from mothers with poor control of glucose levels and did not depended from maternal weight, maternal weight gain in pregnancy and using diet control and/or insulin therapy. Macrosomia associated with several metabolic disorders, implicating lipid metabolism and antioxidant status. Cardiomiopathy also associated in13% newborns, hypoglycemia in 19.6%, transient hypocalcemia in 4%. Changes of brain structure (cysts of vessels plexuses, asymmetry of side ventricles of the brain, broadening of brain liquor space) and cerebral ischemia were revealed in 18,4% newborns from mothers with GDM.

CONCLUSIONS

Poor maternal glycemic control, vasculopathy and pregnancy-induced hypertension are factors associated with poor perinatal outcome. Successful managements of infants of diabetic mothers must based on prevention or early recognition combined with treatment of these complications.
This audit draws on the recommendation standards from RCOG Green top Guideline 31 on management of the small for gestational age (SGA) baby. SGA in this guideline is defined as an infant born with a birth weight <10th centile.

The RCOG considers low PAPP-A as a major risk factor for SGA and a uterine artery Doppler is advocated at 20–24 weeks of pregnancy where it is stated to have moderate predictive value for a severely SGA neonate.

Many centres in the UK including ours do not offer the uterine artery Doppler as the expertise is not available. Rather, these patients are offered serial scans 3-weekly from 28 weeks until delivery.

This audit seeks to find out how many of the women with low PAPP-A who go through our local protocol go on to develop SGA or other adverse pregnancy outcomes.

MATERIALS AND METHODS

- **Inclusion Criteria**: All women delivered at Doncaster Royal Infirmary and Bassetlaw district general hospital from 01/01/2018 until present time with known PAPP-A MoM < 0.415 at first trimester screening.
- **Data collection**: Retrospectively from K2 electronic notes. 100 patients are the planned target sample size. At the time of abstract submission 53 were included and by the close of the audit it is expected to be over 100.
- **Time frame**: 6 months retrospectively.
- **Limitations**: The success of the data collection will depend on the availability of proper documentation on the electronic K2 system. The audit sample size could restrict generalisation of the findings.
- **Analysis**: The data will be analysed numerically and compared with set standards as applicable.

SUMMARY RESULTS

The sample size at the time of sending the abstract is 53 after exclusions. Women aged 35 and over were only 13.2% (7/53). Nulliparous women comprised a third of this cohort (33.9%, 18/53). More than half of the women had other risk factors for SGA such as age, BMI, smoking or previous SGA (62.2%, 33/53) (Group A for the purposes of the audit). 4 of the 53 women had high risk for Down's syndrome on combined screening. 20 out of the 53 women (37.7%) had no additional risk factors for SGA (Group B).

In Group A, 9 (27.2%) were antenatally diagnosed as SGA while only 3 (15%) in Group B. The number of women induced for suspected SGA or growth restriction was 14 (42.4%) in Group A vs 5 (25%) in Group B. There were 12 (36.3%) emergency caesarean sections in Group A as compared to none in group B. There were 5 admissions in Group A as compared to none in group B. The false positive rate in Group A for detection of SGA was 20% while it was 11.1% in group B.

CONCLUSIONS

From our preliminary data collection there appears to be higher association of SGA in women with low PAPP-A in the presence of additional risk factors compared with those that don't. The ultrasound detection rate also improves with absence of risk factors. Hence, careful
interpretation of national guidance and modifications locally prior to implementation appears appropriate, however the sample size is not a large one and further data is awaited before final conclusions can be drawn.
INTRODUCTION

Wnt signaling pathway plays an important role in the development of the placenta and differentiation of trophoblast. Dishevelled proteins (DVL) are central mediators in this pathway which enable its fine regulation. Unsuccessful trophoblast invasion has been observed in placentas of fetuses with intrauterine growth restriction (IUGR). Since Dishevelled proteins act as positive regulators of the Wnt signaling pathway, the aim of this study was to examine the expression of DVL1, DVL2 and DVL3 proteins in term placentas with IUGR.

MATERIALS AND METHODS

Twenty-four term placentas were analyzed of which 15 were from pregnancies with IUGR and 9, serving as controls, were from normal pregnancies. Primary antibodies used in immunohistochemical analyses were all mouse monoclonal anti-human (Santa Cruz Biotechnology): anti-DVL1 (cat. #sc-8025, 1:100 dilution), anti-DVL2 (cat. #sc-13974, 1:200 dilution) and anti-DVL-3 (cat. #271295, 1:200 dilution). Protein expression was analyzed by measuring stereologically the volume density variable (Vv, mm0) using the Weibel multipurpose test system.

CLINICAL CASES AND SUMMARY RESULTS

The following clinical variables were observed: age, blood pressure, body weight and height of pregnant women; body weight gain and body mass index before gestation and at time of delivery; fetal, body weight and length; placental mass and fetal/placental weight ratio. As expected, statistically smaller fetal weight and length, as well as placental mass, were found in children born following IUGR pregnancies (Student t-test, p<0.05). The average age of pregnant women with IUGR was 32, and healthy ones 28 years.

Expression of all three Dishevelled proteins was detected in cytoplasm of both trophoblast cells and stromal cells of the placental villi. Statistically significant lower expressions of DVL1, DVL2 and DVL3 were detected in term placentas with IUGR compared to healthy term placentas (Mann Whitney; p<0,05).

CONCLUSIONS

The results show the importance of Dishevelled proteins in the placenta formation and IUGR development but also support the hypothesis that shallow invasion is a factor in the pathogenesis of IUGR.
INTRODUCTION

Intrauterine growth restriction (IUGR) represents an important cause of morbidity and mortality for the fetal and neonatal population and its diagnostic pertains to the obstetrician. The objectives of this study were to assess the prenatal diagnostic of IUGR, to evaluate the difference between IUGR and small for gestational age (SGA) infants and to incriminate potential risk factors.

MATERIALS AND METHODS

This is a retrospective study over 5 years (2013-2017) on 936 infants, out of which 814 presented as SGA infants and 122 were diagnosed prenatally with IUGR as ascertained by placement on Lubchenco's intrauterine growth curves. The following parameters were evaluated: follow-up of pregnancy, prenatal diagnostic, gestational age, birth weight, mode of delivery, risk factors, complications and outcome during hospitalization. There are significant statistical differences between gestational ages in IUGR infants versus SGA newborns: those with prenatal diagnosis of IUGR have an increased frequency of gestational ages below 29 weeks (4.1%) versus SGA infants that were discovered after birth (1.9%).

SUMMARY RESULTS

The incidence of IUGR/SGA infants during the studied period was 2.95%, with a 75% overlap between the two categories when placed on the growth curves. The newborns had a mean birth weight of 2327.6 gr and a mean gestational age of 36.8 weeks, and most of the cases (69.2%) were term pregnancies. Also, the frequency of term infants is significantly lower among IUGR (55.7%) compared to SGA (71.2%) (p=0.001). There is an increased incidence of caesarean section among IUGR infants versus SGA (68.9% vs. 55%, p=0.003). While all IUGR infants had some form of prenatal care, only 44.5% of SGA neonates came from followed pregnancies. The multivariate analysis showed that low social and economic status of mothers is the most important factor for IUGR/SGA infants overall (OR=4.35), followed by extremes of mothers’ ages (OR=3.24) and genetic conditions (OR=3.15).

CONCLUSIONS

IUGR is one of the most common complications of pregnancy and substantially increases the potential for adverse effects. The best way to improve the pregnancy outcome is correct all-throughout follow-up from the first trimester, close monitoring of the IUGR pregnancy and avoidance of untimely Caesarian sections.
TOPIC: Fetal Growth Restriction

ABSTRACT ID: 556

TITLE: The role of the type of intrauterine growth restriction in the changes of “growth hormone – insulin-like growth factor-1” axis and insulin sensitivity in infants from birth to the age of six months.

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INTRODUCTION
The majority infants with intrauterine growth retardation (IUGR) show early “catch-up” growth. It is associated with increased risk of insulin resistance, type 2 diabetes and obesity in later life. In contrast, IUGR children without catch-up growth have a high risk of short stature, impaired insulin secretion and insulin resistance as well. The pathophysiological mechanisms underlying the postnatal growth and later development of endocrine disorders in IUGR infants are still remain unclear. Our study aimed to evaluate changes in “growth hormone (GH) - insulin-like growth factor -1(IGF-1)” axis and insulin sensitivity in infants with asymmetrical and symmetrical IUGR in association with postnatal growth velocity.

MATERIALS AND METHODS
The prospective study included 40 infants with IUGR (birth weight < 10th percentile): 24 with asymmetrical and 16 with symmetrical type and 17 appropriate for gestational age (AGA) infants. All infants were followed for 6 months after birth. The fasting GH, IGF-1, insulin and glucose serum levels were measured at 3 and 6 months of age. Insulin sensitivity was evaluated by homeostasis model assessment (HOMA-IR). Body weight and length were measured at birth, at 3 and 6 months of age. “Catch-up” growth was determined as a weight and/or length gain from less than 10th percentile to 50th percentile during months 0 to 3 or months 3 to 6. Results are shown as Me (25-75%).

SUMMARY RESULTS
“Catch – up” postnatal growth was observed in majority of infants with asymmetrical (72.8%) and symmetrical (62.5%) IUGR during first 3 months after birth. At 3 months of age, symmetrical IUGR infants with “catch – up” growth had higher IGF-1 (128.0(102.5-131.5) ng/mL), and GH (9.0(4.76-11.5) ng/mL) levels compared to asymmetrical IUGR infants with “catch – up” growth (64.0(51.5-110.0) ng/mL, 1.97(1.3-4.2) ng/mL, p<0.05, resp.) and controls (75.0(52.0-101.0) ng/mL, 3.15(1.9-4.3) ng/mL, p<0.05, resp.). HOMA-IR was higher in symmetrical IUGR infants than in controls (1.09(0.9-1.6) vs 0.8(0.4-0.9), p<0.05). At 6 months of age, the IGF-1, GH levels and HOMA-IR in symmetrical IUGR infants decreased compared to those obtained at 3 months (60.7(41.4-126.2) ng/mL, 3.0(2.5-4.2) ng/mL, 0.57(0.3-0.7), p<0.05, resp.). Asymmetrical IUGR infants with “catch – up” growth did not differ in IGF-1, GH levels and HOMA-IR at 3 and 6 months of age.

CONCLUSIONS
The higher GH, IGF-1 levels and HOMA-IR at 3 months of age in symmetrical IUGR infants with “catch – up” growth are associated with more intensive growth velocity (weight and length gain). In our study early catch-up growth occurs as a compensatory process without adverse metabolic changes.
INTRODUCTION

The syncytiotrophoblasts are a specialized layer of epithelial cells that cover the entire surface of villous trees. They are in direct contact with maternal blood. Mechanisms of cell adhesion is of particular interest in the research of intrauterine growth restriction. The cell adhesion molecule E-cadherin (named for "calcium-dependent adhesion") with molecular weight 120-kDa is important for maintaining epithelial intercellular adhesion. Soluble form (80-kDa) consist of Ca-dependent proteolysis and can reduce cell adhesion. The aim of our study was to study the levels of soluble (80-kDa) and transmembrane (120-kDa) forms of E-cadherin in placentas from pregnancies with intrauterine growth restriction.

MATERIALS AND METHODS

The study was done on 38 placentas: main group included 18 samples from pregnancies with intrauterine growth restriction and control group included 20 samples from normal pregnancies. Levels of soluble and transmembrane E-cadherin in placentas were determined by Western blotting. Measurement of E-cadherin gene expression were made by real-time polymerase chain reaction CFX96 («Bio Rad», USA). The statistical analysis was performed with programs AtteStat и OriginPro 8.1.

SUMMARY RESULTS

In the group with intrauterine growth restriction the level of the transmembrane form of E-cadherin was reduced by 2.5 times, and the soluble form by 4.8 times (p <0.05). Their ratio was of 1.6 in the group with intrauterine growth restriction, and of 0.8 in control group (in both cases p <0.05). The absence of significant differences indicates the possibility of post-translational modification of E-cadherin.

CONCLUSIONS

The low level of soluble E-cadherin in the placenta leads to a decrease in proliferation and mobility of trophoblast cells, which may be the cause of placental insufficiency and, as a consequence, intrauterine growth restriction.
INTRODUCTION

IUGR is associated with increased morbidity and mortality, both antepartum and postpartum. In prematurely born infants IUGR essentially worsen the prognosis. Association of IUGR with folate pathway genes polymorphisms (MTHFR, MTR, MTRR) and thrombophilic mutations (F V Leiden, F II prothrombin, F VII proconvertin) well shown in different studies, although most data refers to maternal genotype. Role of neonate's genome in IUGR development is not well explored. Objective of this research was to evaluate association of genetic polymorphisms with IUGR development in premature newborns.

MATERIALS AND METHODS

Retrospective analysis of 109 pairs of premature newborns and their mothers was made. 25 cases were classified to IUGR group. Blood samples of both mother and child were analyzed with real-time PCR for polymorphisms of 21 genes (8 genes of coagulation factors, 4 genes of folate pathway, 9 genes associated with blood pressure regulation). Correlation analysis and Decision Trees algorithm were applied to determine combinations of polymorphisms and clinical/laboratory parameters (obtained during antenatal period) strongly associated with IUGR.

SUMMARY RESULTS

IUGR was strongly associated with maternal MTHFR polymorphisms (alike other studies). Among infant’s genes strongest association with IUGR showed fibrinogen (FGB, G 455 A) gene polymorphism in combination with increased pulsatility index in umbilical (UA PI) and uterine arteries (UtA PI). Placental dysfunction (increased UA PI and UtA PI) and MTHFR mutations are well known factors of IUGR, but infant’s FGB gene polymorphism wasn’t referred to growth restriction syndrome before. It is known that FGB gene (G 455 A) mutation leads to increased concentration of plasma fibrinogen, which rises risk of thrombotic events.

CONCLUSIONS

Results of our study demonstrate association of neonate’s FGB gene (G 455 A) polymorphism with IUGR. This corresponds to some earlier studies demonstrated hyperfibrinogenemia in fetal lambs with intrauterine growth retardation. Thus, the premature neonates with IUGR should be suspected for FGB (G 455 A) gene mutation and referred to the risk group of thrombotic complications.
INTRODUCTION

According to modern scientific concepts, a key role in the initiation of labor belongs to factors and placental factors. Currently, it is believed that delivery begins with the activation of the hypothalamic-pituitary-adrenal system of the mature fetus, which in turn leads to a change in the placenta, which causes a chain of successive labor events.

It is assumed that in pregnancy, complicated by placental insufficiency, the cascade of endocrine changes is launched ahead of schedule and leads to premature birth. It is known that multiple pregnancy is a classical model of placental insufficiency, and premature birth is the most frequent complication. Therefore, the study of the role of placental insufficiency in the development of preterm labor in multiple pregnancies is an important task.

MATERIALS AND METHODS

To analyze the course of multiple pregnancies complicated by placental insufficiency, intrauterine growth restriction and evaluation of their relationship with the development of premature births, we included in the study 237 cases of dichorial twins that occurred in the Institute of Aging and R. Ott during the period from 2011 to 2017.

SUMMARY RESULTS

Placental insufficiency was diagnosed in 135 patients (56.9%) based on ultrasound and Doppler studies. A hemodynamic disturbances (HD) of fetuses was found in 40.1% (55) of cases: 1 stage - 65.5%, 2 stage 18.2%, 3 stage - 16.3%. In 2 pregnant women due to lack of blood flow, diagnosed antenatal death of second fetuses. Ultrasonic signs of intrauterine growth restriction (IUGR), when size at least one of the fetus was less than 10 ‰ of normative, detected in 60 women: first fetus - 55%, second fetus - 45%, and both fetuses 25%.

More than 50% of multiple pregnancies (124) completed early. In this case, spontaneous premature birth occurred in 61 women, which amounted to 49% of their total number. Placental insufficiency complicated during 39.3% of these pregnancies. In this case, a statistically significant correlation between the presence of placental insufficiency and the development of premature births in our study was not established, which may be due to a small number of samples.

CONCLUSIONS

Disruption of placental function is one of the most frequent syndromes in multiple pregnancies. It is necessary to continue the study of the role of placental insufficiency in the development of complications of multiple gestation, including premature delivery, which will expand understanding of the mechanisms of their development and improve approaches to conducting multiple pregnancies.
**INTRODUCTION**

Pregnancy is defined as a condition of increased oxidative stress. 

**Aims:** The goal of this research was to determine the intensity of pro-oxidative processes (LPx), antioxidative enzymes (SOD, CAT, GSH-Px) and TAS in patients with spontaneous abortions.

**MATERIALS AND METHODS**

A total of 85 patients in the first trimester of pregnancy were involved in the research. The patients were divided into two groups: 35 patients with missed abortion (group M) and a control group of 50 healthy pregnancies (group N). The intensity of lipid peroxidation (LPx) was determined with a modified thiobarbituric acid method. Antioxidative parameters were measured with: SOD method with xanthine oxidase using commercial RANSOD sets, CAT method by Aebi, the enzyme activity was measured by monitoring the decomposition of H2O2 at 240 nm and the activity of GSH-Px was determined using hydrogen peroxide as a substrate. The total antioxidative status (TAS) was determined using the FRAP method.

**CLINICAL CASES AND SUMMARY RESULTS**

The average value of LPx in group M was 44.57 pmol/mg Hgb and in group N was 26.06 pmol/mg Hgb (p<0.001). Also, there is a statistically highly significant difference (p<0.001) in CAT, SOD and TAS content between patients with missed abortion and the control group: CAT; M-21.46 and N 30.94 nmol/mg Hgb; (SOD; M-1211.66 and N-1116.36 IU/g Hgb); (TAS; M-277.66 and N-452.12 µmol/L). ANOVA testing show statistically significant difference (p<0.05) in SOD and GSH-Px content between patients of examined groups (GSH-Px; M-1091.57 and N-1291.38 nmol/mg Hgb). A statistically significant (p<0.05, r=0.37) positive correlation between LPx and CAT in the group of patients with missed abortion was also noted.

**CONCLUSIONS**

Determination of the value of pro-oxidative, antioxidative parameters in patients with spontaneous abortion can indicated the condition of fetoplacental unit and investigated level changes may be useful indicators for a miscarriage prevention.
INTRODUCTION

First trimester fetal sex determination is essential especially for X-linked deseasees. Measuring anogenital distance (AGD) and genital tubercle length (GTL) which differ depending on fetal sex and fetal hormone levels, is a new, non invasive method for determining fetal sex. In the current study, by measuring AGD and GTL in the first trimester our aim is to show the difference between the genders in the fetus, to evaluate the success of gender prediction and the relation of these measurements with maternal androgen levels.

MATERIALS AND METHODS

217 pregnant women aged between 18-49 years and pregnant between 11 weeks and 13 weeks 6 days were included. AGD and GTL were measured transabdominally during the first trimester USG in the midsagittal plan of the fetus and at the moment maternal serum androgens (free testosterone, total testosterone, dehydroepiandrosterone, androstenedione) levels were measured.

SUMMARY RESULTS

GTL was inefficient for determining gender (p>0.05); AGD was significantly different between genders (p<0.001). For AGD; the cut-off value was 5.02 mm by ROC (AUC:0.85; %95 GA:0.79-0.91) analysis. There was no significant difference between the genders at 11th gestational week, beyond 11th gestational week, if AGD was measured ≥ 5.02 mm all fetuses were male (PPV %100). Beyond 12th gestational week, there was an increase in prediction success of gender with AGD. The method had 66% sensitivity, 79% specificity, 73% accuracy but beyond 12th gestational week, the sensitivity increased to 77%, the specificity was 76% and the accuracy was 76%. Maternal serum androgen levels did not differ according to fetal sex in the first trimester. However, when female and male fetuses are evaluated in themselves; a moderate correlation was found between AGD and maternal androstenedione levels at 12th gestational week. This correlation was positive in female fetuses while negative in males.

CONCLUSIONS

This technique could be a new method for determining fetal sex in first trimester. It may be useful to determine fetal gender at 12 and 13th gestational week where as it was not reliable at 11th gestational week. It requires larger series to make the method available.
INTRODUCTION
This study assessed the external validity of all published first trimester prediction models for the risk of pre-eclampsia (PE) based on routinely collected maternal predictors. Moreover, the potential utility of the best performing models in clinical practice was evaluated.

MATERIALS AND METHODS
Ten prediction models were systematically selected from the literature. We performed a multicenter prospective cohort study in The Netherlands between July 1, 2013 and December 31, 2015. Eligible pregnant women completed a web-based questionnaire before 16 weeks’ gestation. The outcome PE was established using postpartum questionnaires and medical records. Predictive performance of each model was assessed by means of the c-statistic and a calibration plot. Clinical usefulness was evaluated by means of decision curve analysis and by calculating the potential impact at different risk thresholds.

SUMMARY RESULTS
The validation cohort contained 2614 women of whom 76 developed PE (2.9%). Five models showed moderate discriminative performance with c-statistics ranging from 0.73 to 0.77. Adequate calibration was obtained after refitting. The best models were clinically useful over a small range of predicted probabilities.

CONCLUSIONS
Five of the ten included first trimester prediction models for PE showed moderate predictive performance. The best models may provide more benefit compared to risk selection as used in current guidelines.
INTRODUCTION

Preeclampsia is one of the leading causes of maternal mortality, leading to 50000-60000 deaths each year worldwide, and its prevalence in the world is 5-8%. Regardless of the time of onset of preeclampsia is often characterized by the relative well-being of the pregnant woman until the development of pre-eclampsia severe. Of particular interest is the balance of Pro-angiogenic (PIGF) and antiangiogenic (sFlt) growth factors at different period of pregnancy, a correct interpretation of sFlt/PIGF balance and correlation with the data of anamnesis allows to expand the criteria for the prevention of pre-eclampsia and offers the prospect of optimization of obstetric tactics in the III trimester of pregnancy.

MATERIALS AND METHODS

To search for the most prognostically accurate and informative markers of preeclampsia, a wide range of biochemical parameters was investigated. Maternal serum markers - PAPP-A and PIGF are two biochemical indicators that are actively researched and demonstrate high predictive value for early prediction of pre-eclampsia. Thus, when assessing only history and instrumental studies (PI and SBP), 90% of early preeclampsia was detected and only 57% of all pre-eclampsia cases with a false-positive rate of 10%. When screening for early preeclampsia and a certain false positive rate of 10%, the sensitivity was: 50%, if only historical data were taken into account, 90% had an anamnesis + PI + SBP, 75% had an anamnesis + PIGF + PAPP-A, more than 95% had data history + PI + SAD + PIGF + PAPP-A.

SUMMARY RESULTS

In this regard, special attention should be paid to the proposed two-stage strategy for the detection of pregnancies of high risk of pre-eclampsia. The first stage, at 11-13 weeks - the main goal is to identify early pre-eclampsia (preterm delivery up to 34 weeks). The prevalence of this pathology can be significantly reduced by prophylactic administration of low dosages of aspirin, started before the 16th week of pregnancy. The second stage, at the time of 30-33 weeks, is an assessment of the risk of late preeclampsia, including evaluation of the history of the disease, the features of the pregnancy course, the mean BP, the pulsation index in the arteries and the determination of the ratio sFlt-1 / PIGF during these gestation terms. Thorough monitoring of the condition of this group of pregnant women and early diagnosis of the clinical symptoms of this disease can potentially improve perinatal outcomes by prescribing / correcting antihypertensive therapy or early delivery.

CONCLUSIONS

sFLT-1 increases with the gestation period and the mother's age and decreases with excess weight of the mother, increased during pregnancy, resulting from the use of ART; are also lower in those who give birth than in the first-mother women. Recent studies have shown that the ratio of soluble fms-like tyrosine kinase-1 (sFLT-1) to the placental growth factor PIGF is very accurate in determining a high-risk group for developing pre-eclampsia in the next 1-4 weeks.
INTRODUCTION

Approximately 2 billion people are deficient in microelements, according to WHO resolution. Recent works emphasize the importance of non-classical roles of vitamin D in pregnancy, suggest important roles for the VDR (vitamin D-receptor) and VDR signaling pathways in the placenta. Placental trophoblasts express the VDR encoded by the CYP27B1 and CYP24A1 genes, produce and respond to 1,25(OH)2D. This vitamin induces decidualization, limits production of proinflammatory cytokines what can help in normalizing process of implantation in early pregnancy. The purpose of this study is to compare level of vitamin D, determine the VDR expression in chorionic villous and define the polymorphism VDR(rs731236-TaqI) among 2 groups: with the threat of miscarriage and normal pregnancy.

MATERIALS AND METHODS

The study included 150 pregnant women between 6-14 weeks of gestation. The state of vitamin D was based on the concentration of 25(OH)D, determined by enzyme immunoassay in the mother's serum and the genotyping of polymorphism VDR(rs731236-TaqI) was carried out by direct sequencing also in women's serum. Serum concentrations of 25(OH)D: severe deficient (30ng/ml). Also there was immunohistochemical study of VDR expression in chorionic villous from abortion material from the same women. The abortion material was extracted from spontaneous miscarriage and from medical abortion. Exclusion criteria: twins, HIV, parathyroid, kidney or liver diseases, malabsorption syndromes, age under 18 and after age 40, drug or alcohol abuse, since they can alter the metabolism of vitamin D.

SUMMARY RESULTS

There were high negative correlation in group with threatening miscarriage between the level of vitamin D and homocysteine, the level of vitamin D, BMI. After immunohistochemical study of chorionic villous from abortion material there was higher VDR expression from the group of patients with the threat of miscarriage in comparison with women with normal pregnancy. In the group of women with a threatening miscarriage the polymorphism VDR(rs731236-TaqI) was most common in the heterozygous or recessive homozygous state (mutant variant) which has the influence on the rate of the 25(OH)D in serum. Serum levels of 25(OH)D among Russian pregnant women, especially with a threatening miscarriage in the first trimester, are low. Deficiency of Vitamin D may be associated with pregnancy complications as a spontaneous abortion and in the midst of women with severe deficient of 25(OH)D (<10ng/ml) the rate of miscarriages in anamnesis significantly higher.

CONCLUSIONS

Adequate vitamin D intake is important for successful prolongation of pregnancy, essential for maternal and fetal health during pregnancy. Correction of vitamin D deficiency among pregnant women with threatening miscarriage can be a perspective method in complex therapy of pregnancy loss.
INTRODUCTION

Pyelonephritis is a very frequent complication of pregnancy. To diagnose it, a wide range of tests is used, including general urine and blood tests, culture tests of urine, and ultrasound diagnostics. So far, ultrasound methods have been used as ancillary, since no specific signs of pyelonephritis have been found. That’s why we tried to find such specific method using Doppler sonography. The main goal of our study was to evaluate the change in the intrarenal blood flow with the help of a dopplerometric study of pregnant women with a urinary tract infection. According to our ideas, this will help to obtain new data for differential diagnosis and evaluation of the dynamics of treatment of pyelonephritis.

MATERIALS AND METHODS

The study included 40 pregnant women from 20 to 40 years with a gestation period of 22-38 weeks with urinary tract infection and 20 patients of control group. All pregnant women were underwent ultrasound examination of the kidneys. Ultrasound scans measured the size of the right and left kidneys, the thickness of their parenchyma, the echogenicity of the pyelo-complex and the thickness of its walls, and also performed a Doppler evaluation of the blood flow in the renal and interlobar arteries. Resistance indices in these vessels were analyzed and all ultrasound data were compared with the presence of a urinary tract infection in 2 group pregnant women. All the studies were carried out on the basis of the Research Institute of Obstetrics, Gynecology and Reproductology named by D.O.Ott

SUMMARY RESULTS

When analyzing all the echographic parameters received during the study of the kidneys, significant differences were obtained only when performing comparative analyzes of indices of resistance to blood flow in the renal and interstitial arteries of pregnant women in the main group and control group. Given the absence of difference in the statistical values of the blood flow in the right and left arteries, their mean values were taken. The average indices of resistance to blood flow in the renal and interlobar arteries were, 0,68±0,01 и 0,66±0,01, respectively. Indices of resistance of blood flow in the examined arteries proved to be significantly higher in pregnant women with pyelonephritis than in the comparison group. (p <0.0003, p <0.02)

CONCLUSIONS

Our data have confirmed that most echographic criteria have low informativity for the diagnosis of inflammatory diseases of the kidneys. Dopplerometric evaluation of renal blood flow can be used to diagnose and evaluate the results of treatment in pregnant women with pyelonephritis. The change in blood flow in the interlobar arteries of the kidneys is of greater reliability and diagnostic significance than changes in the blood flow in the renal arteries.
INTRODUCTION

To determine the PPV and NPV of the chromosomal fetal abnormalities by NIPT.

MATERIALS AND METHODS

A total of 5076 women (4484 of single and 592 twin pregnancies) were tested. NIPT was performed from 9 to 34 gestation weeks. Invasive diagnostic procedure was performed in the high-risk pregnancies according to the results of NIPT and/or abnormal ultrasound examination. We evaluated the reliability of the results by compared with the cytogenetic data on the karyotype of a fetus, molecular methods (FISH, aCGH) or a newborn examination.

SUMMARY RESULTS

In a total of 5076 NIPT results increased risk was obtained in 144 cases (89-trisomy 21, 14 – trisomy 18, 10 – trisomy 13, 3 – triploidy and 25 cases of sex chromosome abnormalities). We have found 112 true positive (2,2%) and 29 false positive (0,57%) aneuploidies, 3 pregnancies were terminated because of fetal malformation without karyotyping. PPV was 79,4%, NPV - 99,9%.

CONCLUSIONS

Nipt shows accurate results of the NIPT for chromosomal aneuploidies. NIPT can be used both as a screening and as a second stage in a high-risk group. This work was supported by the grant of the Russian Foundation for Basic Research No. 18-013-01175.
INTRODUCTION

Acrania is a developmental fetal CNS anomaly characterized by a complete (partial) absence of the calvarium, with abnormal development of brain tissue results from a failure of brain tissue mesenchymal migration (normally occurs at the beginning of the fourth week of pregnancy). The malformation is rare, usually consistent with amniotic band syndrome. In spite of the fact that cerebral tissue is completely absent some remnant of the cranial vault in most lesions can be detected.

Objective: to present prenatal diagnosis of acrania in 12th wks gestation as part of first trimester midsaggital view diagnostic concept 11 in 1 and to introduce the role of 3D image as reliable diagnostic tool in detection of fetal CNS anomalies.

MATERIALS AND METHODS

First trimester pregnancy. Presentation of longitudinal scan of the cephalic structure of a fetus: the calvarium is absent, the brain tissue is covered by a thin membrane.

SUMMARY RESULTS

The calvarian defect was identified at 12th week of gestation, during the routine ultrasound first trimester screening, Crown rump length measured 58 mm, with anterior uterine wall trofoblast insertion. Three D image identify brain tissue floating in the free amniotic space, absent the calvarian bones of the skull and dura mater, anomalous hemispheres are covered by a thin membrane.

CONCLUSIONS

Acrania is lethal anomaly, cerebral tissue is completely absent, cerebral hemispheres are surrounded by a fragile membrane. Volume ultrasound is identify as reliable diagnostic tool in detection CNS anomalies in first trimester gestation. Due to lethal prognosis pregnancy termination is offered any time the condition is diagnosed.
TOPIC: First Trimester Screening and prevention strategies

ABSTRACT ID: 667

TITLE: Screening for preeclampsia in the first trimester of pregnancy: preliminary study of 92 cases

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INTRODUCTION

Preeclampsia is a common pathology in the world and in Tunisia. Its complications are serious, and can be fatal. A prediction strategy is needed.

We propose to develop and evaluate a model prediction of preeclampsia during the first trimester of pregnancy associating clinical markers, biological (Pregnancy-Associated Plasma Protein-A = PAPP-A and Placental Growth Factor = PIGF) and biophysics: blood pressure and Doppler uterine arteries.

MATERIALS AND METHODS

It is a prospective cohort study conducted at the Maternity and Neonatology Center of the Farhat Hached University Hospital in Sousse, Tunisia, over a period of 8 months (from December 2015 to June 2016).

The study collected 92 parturients in whom uterine arterial Doppler and blood sampling were performed between 11 and 14 weeks of amenorrhea and clinical data were collected.

SUMMARY RESULTS

Clinical predictive model associating the following parameters: age, diabetes, arterial hypertension, personal history of preeclampsia and family history of preeclampsia, BMI and autoimmune disease has an Area under the curve AUR = 0.932.

Model combining clinical parameters with the PLGF assay is the most efficient, followed by the PLGF and mean arterial pressure model with a non-significant difference between the two models.

The study of parameters 3 to 3 found that the model associating PAPPA, PLGF and clinical is even more efficient with an area under the curve of 0.986.

Clinical + PLGF association is as sensitive as the general model and can be proposed for screening for preeclampsia in our country where our health system lacks resources.

Three pregnancies were complicated by preeclampsia (3.2%), including 1 early (1%) and 2 severe (1.8%). The best predictive model of early preeclampsia was that associating clinical markers, PAPP-A, PIGF and Doppler uterine arteries.

CONCLUSIONS

The combination of clinical, biological markers (PIGF and PAPP-A) and bilateral uterine Doppler in the 1st trimester allows an efficient screening of preeclampsia.
INTRODUCTION

At present, prenatal screening based on ultrasound and biochemical indicators (PAPP-a and β-HGT) is mainly used in Russia. However, even with strict observance of the terms of the examination, ultrasound methodology and biochemical study, only about 80% of pregnant women with a fetus with Down syndrome fall into the high-risk group.

International clinical studies have shown the high clinical efficacy of non-invasive prenatal tests based on the isolation of fetal cell-free DNA. In Russia, NIPS has been in use for several years. However, until recently, biological material for the study was sent to laboratories in the US and Europe. But at present there is an opportunity to conduct research in Russia. In our study, we decided to assess the effectiveness of the Russian NIPS.

MATERIALS AND METHODS

The study was conducted in the "Genomed" Medical Genetics Center. Patients were enrolled in the study, who performed Russian non-invasive prenatal screening (NIPS) between 1.05.17 and 1.05.18. Total number of patients was 1240. The use of the Russian NIPS is preferable in Russia, since it shortens the time from the collecting if sample to the report date.

Only 100 patients (12.4%) decided to be tested by NIPS before the decreed term of prenatal screening for 1 trimester, and 340 patients (30.6%) in the term of screening for the first trimester. This shows that active work should be done to inform doctors and patients about the possibility of conducting non-invasive prenatal screening at an earlier time (from 10 weeks of pregnancy).

SUMMARY RESULTS

In 107 cases there was an insufficient amount of fetal DNA and a redraw was suggested. 83.1% among them obtained a result on a second specimen. 16.8% required 2-3 repeated specimens. One patient refused further testing.

Patients with a body weight less than 50 kg were significantly more likely to be found among those with a sufficient amount of fetal fraction. Patients weighing more than 90 kg had a much greater risk of getting into the group of those who need a redraw.

A high risk of chromosomal abnormalities in the fetus was identified in 43 samples (3.4%) - 29 cases of trisomy 21, 9 cases of trisomy 18 and 5 cases of monosomy X. Among patients who had low fetal fraction in the first specimen, chromosomal abnormalities were identified in 5 cases (4.7%). So if a redraw is suggested, patient should be informed that she may be at slightly higher risk to be carrying a fetus with a chromosome abnormality. There were no reports of false-negative and false-positive results.

CONCLUSIONS

The frequency of chromosomal abnormalities in the study group is higher than the general population value. At present in Russia NIPS is used usually as a second-line test, after standard combined prenatal screening has revealed an increased risk. We are convinced that more use of NIPS as a first-line test is needed.

When determining a low fetal fraction, a second study should be recommended to the patient. At repeated low level of fetal DNA, the option of further evaluation should be discussed.
INTRODUCTION

Nuchal translucency (NT) is widely recognized as the principal ultrasound marker for chromosomal abnormalities. The diffusion of non-invasive prenatal screening test could lead to a reduced use of first trimester ultrasound scan, due to its high sensitivity and specificity. However, an increased NT has also been associated to structural abnormalities, genetic syndromes and neurodevelopmental delay and it is important to inform parents that even, if a chromosomal abnormality has been excluded, other adverse perinatal events can occur. Our study aims at evaluating the outcome of fetuses with a NT above 95th centile and normal karyotype in our series, in order to better orientate the parental counseling in this condition.

MATERIALS AND METHODS

This is a retrospective observational study conducted at Department of Neurosciences, Reproductive sciences and Dentistry of Federico II University of Naples. All the pregnant women undergoing a prenatal diagnosis due to the presence of a fetal NT above 95th centile, from January 2010 to January 2018, were included. The included patients were divided into two groups: group 1: NT between 95th an 99th centile; group 2: NT>99th centile. Percentage of chromosomal abnormalities and adverse perinatal outcome were assessed in both groups. Outcome were collected after pediatric assessment or telephonic interview.

SUMMARY RESULTS

During the study period, we performed 386 invasive procedures due to a NT >95th centile; among these, 272 (70.4%) were chorionic villous samplings and 114 (29.6%) were amniocentesis. 50 (13%) (23 trisomy 21, 10 trisomy 18, 3 trisomy 13, 7 Turner syndrome, 7 other aneuploidies) and 85 (22%)(42 trisomy 21, 20 trisomy 18, 6 trisomy 13, 9 Turner syndrome, 8 other aneuploidies) chromosomal abnormalities were found in group 1 and 2, respectively. Karyotype was normal in 145 (74.3%) in Group 1 and 106(55.4%) in Group 2. Among patients with normal karyotype, 78(31%) were lost to follow up. In Group 1 we had 12 miscarriages, 3 IUD, 7 malformations, 4 syndromes, and 5 neurodevelopmental delays and 19 TOP. In the second group we had 5 miscarriages, 2 IUD, 10 malformations, 7 syndromes, and 3 neurodevelopmental delays and 10 TOP. 95 (65%) and 69 (65%) had a completely normal outcome in Group 1 and 2, respectively.

CONCLUSIONS

Fetuses with increased NT are at increased risk of adverse perinatal outcome. Parents should be informed that, if the karyotype is normal, there is a possibility of around 65% that outcome can be completely normal, but follow up scans and additional genetic investigations and neonatal tests should be performed to acknowledge cases at risk of adverse outcome. To report data related to our experience is fundamental to help parents in taking the best informed decision.
TOPIC: Induction of labour

ABSTRACT ID: 47

TITLE: Effects of synthetic oxytocin on the birth process and some of the labor hormones

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INTRODUCTION

Most people are aware of the synthetic form of oxytocin, which increases the pain of birth or is often used in patients who stop or prevent postpartum haemorrhage. However, women are less likely to know that their own bodies have the ability to secrete oxytocin and that this endogenous oxytocin does not just cause uterine contractions. But it is related to love, trust, gratitude, interest and curiosity. In this study, effects of synthetic oxytocin application on the labor process and the birth hormones of rats were investigated.

MATERIALS AND METHODS

Pregnant Sprague Dawley rats (n=18) were divided into three groups including control group, synthetic oxytocin injected group and physiological saline solution injected group. Synthetic oxytocin was injected on 20th and 21th days of gestation. All rats were subjected to open field test for 5 minutes at the last trimester. Blood samples were taken from the tail vein at the beginning of birth to measure ten different parameters (including corticotropin-releasing hormone, oxytocin, endorphin, epinephrine, norepinephrine, prolactin, estrogen, progesterone, vasopressin and Brain-Derived Neurotrophic Factor) that are involved in the labor process. Kruskal Wallis, Mann Whitney U and Spearman’s rho correlation analysis were used

SUMMARY RESULTS

In one of the animals injected synthetic oxytocin, a cardiac defect was detected. However, this result was statistically insignificant, since it was the only case in the experimental group. Levels of progesterone and BDNF were significantly (p<0.05) different between synthetic oxytocin and physiological saline solution injected groups. As shown in table 1 the mean oxytocin level was the lowest in the synthetic oxytocin injected group; the mean endorphin level was the highest in the control group.

CONCLUSIONS

These hormonal changes were not affected the physiology of birth. However, the application of synthetic oxytocin suppressed the production of endogenous oxytocin. This once again showed that routine interventions should be avoided as much as possible.
INTRODUCTION

Induction of labour (IOL) is an intervention that is increasing. The majority of IOL occur with prostaglandins which have the known side effect of hyperstimulation and foetal heart rate changes. These take place on an inpatient basis due to the increased need for monitoring. Outpatient IOL has been gaining favour which reduces staff workload, increases patient satisfaction and reduces cost due to reduction in length of stay. However, the use of prostaglandins commits women to delivery on the labour ward, restricting birth options, and has the risk of hyperstimulation. Mechanical IOL has been shown to reduce the incidence of hyperstimulation without increasing Caesarean section rates, and reduces monitoring intensity therefore an ideal IOL modality for an outpatient pilot.

MATERIALS AND METHODS

The pilot was developed with matrons, consultant obstetricians and maternity voice partnership and NHS improvement group. An extensive training programme was developed for midwives and doctors on how to safely insert the CRB and which cases were appropriate. A strict criteria was developed to ensure only appropriate women were selected for the pilot, but also aimed to expand the number of eligible women. Examples included GDM in diet without macrosomia and small for gestational age (on, not below the 10th centile) with normal dopplers. New guidelines were developed to assist with implementation. A daily review of all outpatient IOL was conducted to assess for safety and adverse outcomes as well as data collection. Patient experience was gained by survey post-delivery.

SUMMARY RESULTS

100 women were recruited in to the pilot. 69% were primips and 31% multips. The modal age was 26-30 whilst 28% had a BMI >35. 70% of women had a postdates IOL. 77% women were suitable for ARM when they re-presented whilst 23% required further prostaglandins. 54% required syntocinon augmentation. 20% delivered on the birth centre, previously this would have been 0 patients. The average time from insertion to delivery was between 36 to 48 hours. Approximately 50% of this time was spent at home rather than in hospital. The Caesarean section (CS) rate was 22%, instrumental rate 28% and spontaneous vaginal delivery rate was 50%. This is improved compared to our previous outpatient IOL CS rate which was 30%. 6% of women had a major obstetric haemorrhage of which 2/3 were at CS. There were 2 3rd degree tears following forceps deliveries. There was only 1 admission to the neonatal unit. A patient satisfaction survey suggested high acceptability of the balloon and the outpatient process.

CONCLUSIONS

The results from the pilot are promising: a higher vaginal delivery rate compared to previously used medical agents for IOL, significant reduction in length of stay resulting in 50% cost reduction, increased utilisation of birth centre alongside good maternal and neonatal outcomes. Using the CRB for outpatient IOL has improved the capacity of the Unit without impacting on safety and improved patients’ experience. We recommend ongoing usage of the CRB in this capacity.
INTRODUCTION

Adaptation after the delivery occurs through processes in the prenatal and postnatal period. These periods are full of physiological changes. Many factors initiate breathing (umbilical cord clamping, tactile stimulation, hyperoxia, and cooling of the skin). Neonates' autonomic nervous systems react to environmental factors differently than adults. The benefits of labor augmentation and induction may increase the likelihood of neonatal complications, or not. When we have spontaneous uterine contractions, augmentation of labor is necessary when there is a failure of cervical dilatation or fetal descent. Induction of labor is necessary when we have diabetes, pregnancy-related hypertension, and post-term pregnancies. The way of delivery plays an important role in the newborn's adaptation.

MATERIALS AND METHODS

A retrospective study describes 60 neonates with prolonged after birth adaptation as the only diagnosis for admission in NICU. Following parameters were analyzed: mother's chronic and acute illnesses connected with pregnancy (gestational diabetes mellitus, preeclampsia), other chronic mothers' illnesses, previous complicated pregnancies (IVF or abortions), complications during labor, gender, order of pregnancy, birth weight, duration of oxygen therapy, and length of hospitalization. Clinical symptoms of neonates were described. We point out factors connected with prolonged after birth adaptation. Statistical analysis was performed using SPSS software system, along with the chosen level of significance of p=0.05. Comparison of variables was tested by X2 test with Yates's correction.

SUMMARY RESULTS

Prolonged after birth adaptation had 26.3% neonates among all admitted in NICU in a year, and 3% among all live born neonates. The percentage has been 4 times higher in male newborns (p<0.05). Difference has not been found between newborns with and without complications in mothers during pregnancy and in labor. Mode of delivery has been found as an important factor in the newborns' adaptation (p<0.05). The risk for those born spontaneously or by the caesarean section has been almost equal and low, and bigger has been for those born with augmentation and induction of labor. The main symptoms among affected neonates were: plethora, cyanotic crises, dystony, irritability, jaundice, bradicardy, and respiratory distress. Plethora was the most often symptom, it happened more often than others (p<0.05). Those neonates (83.3%), needed oxygen in the prolonged period, majority of them for 6–10 days (p<0.05). Most of them were hospitalized for 6 to 10 days (p<0.05).

CONCLUSIONS

Mode of delivery is connected with prolonged after birth adaptation of the newborn. Inducted or augmented labor may cause plethora. This can stimulate bar receptors and cause bradicardy of the neonate. She/he can be irritable with oscillating tonus and can have cyanotic crises and jaundice. He/she can develop respiratory distress. Oxygen must be introduced. These neonates need a longer period of hospitalization. Additional risk factors are male gender and low and high weight for gestation.
TITLE: Induction of labour due to late-term pregnancy. Method of delivery and perinatal outcomes

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INTRODUCTION

Postterm pregnancy has been shown to be associated with increased perinatal morbidity and mortality. In an attempt to avoid it, it is indicated to finish the pregnancy before exceeding 294 days. This strategy, apart from improving the perinatal outcomes, may increase the cesarean section rate. For this reason, we propose to analyze the inductions of labour in case of late-term pregnancy and its perinatal outcomes.

MATERIALS AND METHODS

A retrospective analysis of the last 116,000 deliveries from the "Virgen de las Nieves" University Hospital in Granada was made by members of this hospital. 3470 cases of induction of labour due to late-term pregnancy were selected and a descriptive analysis of the obstetric results were performed in this population.

SUMMARY RESULTS

A spontaneously delivery ended was observed in 1746 cases (50.3%), whereas an ended by cesarean section was found in 906 cases (26.1%), and as operative vaginal delivery in 818 cases (23.6%) (234 Thierry spatulas, 253 fórceps and 331 obstetric ventouses). Cord blood pH was available in 2364 cases, corresponding to the last years analyzed, There were 13 (0.54%) newborns with pH lower than 7 and 104 (4.34%) with arterial pH less than 7.10.

CONCLUSIONS

Although the neonatal results are good, just if we value the pH from birth, we cannot accept that the inducion of delivery in these cases has no impact on the rate of cesarean deliveries, since we obtained higher rates of cesarean section and operative vaginal deliveries than in the general population.
INTRODUCTION

Breech delivery, with incidence ranging from 3 to 4% in term gestations, is the second most common delivery presentation. For long time and even today, the best mode of delivery in this presentation remains, therefore, controversial. We propose to evaluate the neonatal prognosis according to the mode of delivery in primiparous parturients having breech presentation.

MATERIALS AND METHODS

Retrospective study including term deliveries for primiparous women at our maternity at the Farhat Hached University Hospital in Sousse, Tunisia, during the period from January 2, 2009 to December 31, 2017. Perinatal mortality and morbidity were compared between the cesarean delivery group (whether prophylactic or emergency during labor), and the group of parturients who gave birth vaginally.

SUMMARY RESULTS

Five hundred and thirty-six files were selected for analysis:
- Elective caesarean section was planned in 307 cases,
- Dynamic seat trial was decided for 232 parturients. Of these, 194 gave birth vaginally (84%) and a caesarean section during labor was performed in 38 parturients (16.4%). Newborns with an Apgar score <7 at 5mn were more often extracted vaginally 13.4% versus 1.6% in the elective caesarean section and 8.5% in the caesarean section during labor, (p <0.01).

Ten neonatal deaths were reported in birth vaginally group, versus no cases in the caesarean section. These deaths were attributed to severe hypoxia during obstructed labor. The neonatal transfer rate was significantly higher in birth vaginally group than in caesarean group (11.5% versus 3%, p <0.01).

CONCLUSIONS

Vaginal delivery of the breech presentation in primiparous women is associated with high morbidity and neonatal mortality.
INTRODUCTION

Premature rupture of membranes (PROM) is one of the main causes of labor induction in developed countries. In the Alicante General Hospital is the main cause (44.42% of total inductions). We start induction with oxytocin if the Bishop’s test is greater than 6 and with prostaglandins if it’s less or equal than 6. Traditionally, dinoprostone had been the most used prostaglandin until misoprostol was introduced in our hospital in 2013, in a pioneer way in our country. Since then, both prostaglandins are used interchangeably for induction of labor from any cause, including the PROM, as there are no conclusive quality studies that have shown superiority in this indication. For this reason, our center is ideal to carry out a comparative study between both drugs.

MATERIALS AND METHODS

Retrospective observational analytical study in which singleton gestations beyond 36 weeks with PROM and an unfavorable cervix (Bishop test ≤6) from 2011 to 2015 at Alicante General Hospital were reviewed. Patients with a personal history of caesarean section, stained amniotic fluid or chorioamnionitis were excluded. Dinoprostone was administered as a 10 mg vaginal insert for <24 hours and misoprostol was administered vaginally as a 25 μg tablet /4 hours (maximum 6 doses). Times to active labor, complete dilation, delivery and incidence of adverse outcomes (tachysystole, hypertonia, intrapartum fever, fetal heart rate abnormalities) were compared. The costs of both treatments were also compared according to the patient’s length of stay, the cost of the induction drug and other treatments.

SUMMARY RESULTS

Three hundred and four women were recruited, 157 treated with misoprostol and 147 with dinoprostone. 222 (73%) were primigesta. The characteristics between the groups (maternal age, race, gestational age, body mass index, initial Bishop, parity) were not different. In the misoprostol group, 59.8% had active labor and 35.7% occurred in the first 12 hours compared to 37.4% (p 0.000) and 21% (p 0.009) in the dinoprostone group. In the misoprostol group, 84% of the patients had vaginal delivery compared to 74.83% in the dinoprostone group (p 0.0046). There was no difference in the incidence of adverse and neonatal outcomes. In fact, hypertonia and tachysystolia were more frequent with dinoprostone than misoprostol. There were no differences in the percentage of emergency caesarean sections (4.5% with misoprostol and 7.5% with dinoprostone p 0.134) or in the indications for caesarean section (p 0.182). Misoprostol was cheaper and the cost of induction of labor was lower (p = 0.000).

CONCLUSIONS

Vaginal misoprostol is more cost-effective than dinoprostone for induction in PROM without increasing the incidence of adverse outcomes. According to these, we could be facing a more effective drug, just as safely and cheaper. This should invite the reflection of the obstetrician and of the health resource managers. The main limitation of this study is its retrospective design. It would be advisable to carry out a clinical trial that could elucidate these results in terms of efficacy and safety.
Premature rupture of membranes (PRM) before term places parturient and fetus in a high risk situation. Main complications are prematurity and infection, which are associated with significant maternal and perinatal mortality and morbidity. From 34 weeks of amenorrhea (WA), opinions are controversial regarding the management of these pregnancies. We thus proposed to evaluate neonatal and maternal results of an interventionist strategy consisting in giving birth to 34 WA compared to that of the expectation up to 36 WA for parturients who had PRM and who are at a gestational age between 34 and 36 weeks.

This is a randomized prospective study conducted at the Maternity and Neonatology Center of Farhat Hached Teaching Hospital of Sousse, Tunisia, over a period of one year. Included were patients who had PRM between 26 and 34 WA and have not yet given birth at 34 WA, or those with PRM between 34 and 36 WA and not having started labor within 24 hours, having a single evolutionary or twin pregnancy regardless of the presentation and having a normal temperature, after informed consent. Patients were randomized according to a pre-computerized randomization list, in one of two groups:
- Labor induction group: triggering at 34 WA.
- Expectation group: trigger at 36 WA.

We identified 269 cases of PRM between 26WA and 36WA (frequency of 2.43%). Both groups were comparable in terms of their socio-demographic characteristics, medical-surgical history and obstetric gynecology, as well as for characteristics of ongoing pregnancy and PRM. Duration of maternal hospitalization was longer in induction group at 36WS compared with induction group at 34WS, with significant difference (p=0.041). Caesarean section rate was similar in both expectancy and onset groups. These is more chorioamnionitis in expectant group with 16.2% of patients versus 5.2% in induction group at 34 SA with a significant difference (p=0.034). No cases of severe maternal sepsis or endometritis were noted. We found no significant difference in perinatal mortality between expectative group and induction group (p=0.2). On the other hand, the rate of neonatal infections was higher in the expectant group: 21.6% versus 8.1% in the 34 WA induction group, this difference was significant (p=0.031).

In light of the results of our study and those of recent literature we recommend for pregnant women with PRM after 26WA and not having given birth to 34WA or having PRM between 34 and 36 WA, subject to close collaboration with the neonatology team, an induction of labor from 34 WA, with the risk of an increase in the incidence of moderate neonatal respiratory distress.
MRSA screening in a pregnant population attending a birth clinic, is installed in many centers in Belgium. Is there any evidence to introduce this screening?

**MATERIALS AND METHODS**

Prospective cohort study over one year on prevalence of MRSA in an obstetric population, association with maternal streptococcus agalactiae colonisation and neonatal and maternal outcomes.

**SUMMARY RESULTS**

Prevalence of MRSA in a pregnant population is low, there is no evidence of association with other neonatal infections maternal and neonatal outcomes are not different compared to control group

**CONCLUSIONS**

There is no evidence to screen for MRSA in a pregnant population
Guillain-Barre syndrome (GBS) is a rare but serious autoimmune disorder which affects peripheral nerve tissue. The reported incidences of GBS in pregnancy are 1.2-1.9 cases per 100,000. The most common form of the disease is an acute inflammatory demyelinating polyradiculoneuropathy (AIDP), which presents as progressive motor weakness, usually beginning in the legs and advancing proximally. It is associated with significant morbidity as 3% of patients die secondary to respiratory failure.

We present a 30 year old nulliparous female who developed rapid onset distal paresthesia at 20 weeks gestation. Two weeks prior to the onset, she reported having had the influenza vaccination. During admission, the patient underwent investigations including lumbar puncture, MRI brain and spine, blood tests including electrolytes, thyroid function and autoimmune antibody screen, all of which were normal. A nerve conduction study confirmed demyelination of the peripheral nerves. The patient was commenced on intravenous immunoglobulin therapy (IVIG). However, as forced vital lung capacity (FVC) declined and also clinical deterioration, she was transferred to our intensive care unit (ITU). She completed 5 cycles of IVG therapy and underwent physiotherapy daily. She was transferred to a tertiary neuro-rehabilitation centre at 30 weeks gestation. Throughout the pregnancy serial growth scans revealed a healthy fetus. She was induced at 39+2 weeks and had a normal vaginal delivery.

GBS in pregnancy can increase the risk of pre-term labour. The approach to management in pregnancy is multi-disciplinary. One has to consider mechanical ventilation, treatment of underlying infection, fetal monitoring and decision for timing and mode of delivery. The primary treatment is with IVIG or plasmapheresis, which is associated with an outcome of full recovery in 70-80% of patients. A high index of suspicion for early diagnosis can improve the prognosis for both mother and the fetus.
Inflammation at the maternal-fetal interface has been known to involve in the pathogenesis of premature rupture of membrane (PROM) and many inflammatory mediators have been proposed to be related. Toll like receptors (TLR) plays a key role in the innate immune system while MCP-1 is one of the main chemokines that regulate the migration of monocytes/macrophages. In this study, we aimed to determine impacts of these proteins on PROM.

MATERIALS AND METHODS

We consecutively recruit 98 PROM patients and 40 intact membrane patients from September 2017 to January 2018. The PROM patients were subdivided by 52 term PROM patients (tPROM group) and 46 preterm PROM patients (pPROM group). And pPROM group was also subdivided into chorioamnionitis positive group (pPROM1) and chorioamnionitis negative group (pPROM2) by histologic evaluation. After delivery placetas were subjected to H&E staining and immunochemical analysis for Toll like Receptor-2, 4 (TLR-2, 4). Cord blood samples were obtained to perform ELISA for monocyte chemoattractant protein-1 (MCP-1). Factors affecting PROM along with placental TLR-2, 4 and cord blood MCP-1 were analyzed.

SUMMARY RESULTS

Among many precipitating factors, postpartum hemorrhage, puerperal infection, fetal distress and histological chorioamnionitis were found to be associated with PROM. The placental TLR-2, 4 expressions in pPROM group and tPROM group were higher than those of normal control group (P<0.05). The placental TLR-2 expression and cord blood MCP-1 in pPROM1 group is significantly higher than those of pPROM2 group (P<0.05). Moreover there has been a positive correlation between placental TLR-2 expression and cord blood MCP-1 in pPROM1 group.

CONCLUSIONS

The placental TLR-2, 4 expressions as well as cord blood MCP-1 are increased in PROM patients. However, more studies are required to determine the role of TLRs in pregnancy immunology and to establish its relationship with PROM.
INTRODUCTION

The pregnant women were more prone to both asymptomatic and symptomatic urinary tract infection (UTI) due to significant structural and functional changes like dilation of the urinary tract, decreased smooth muscle tonus, urethral sphincter relaxation, compression of bladder by enlarged uterus, urinary stasis, pregnancy associated biochemical changes in urine including the increase of pH value that all together support bacterial colonization and growth. If untreated it could cause serious complications for both mother and the fetus leading to increased risk of pre-eclampsia, premature birth and low neonatal birth weight.

MATERIALS AND METHODS

A retrospective study was conducted on pregnant women reported to the Center during the last two years in order to correlate the pregnancy outcome with the presence/absence of urinary tract and lower genital tract infections. The results of physico-chemical and microscopic analysis of urine, urine culture as well as the cervical swabs to U. urealyticum, M. hominis, C. trachomatis, G. vaginalis and Candida sp. of 493 pregnant women with age range between 19 and 37 years were assessed. Basic statistic and multiple regression analysis were applied for data evaluation using STATISTICA 12.0 software package. Statistical significance was set to p<0.05.

SUMMARY RESULTS

Among the participants 3.65% of them had positive urine culture while 2.03% of them had positive swabs to one or multiple genital pathogens. Among the isolated pathogens in the urine culture GBS prevailed (55.56%) followed by E. coli (27.78%) and Enterobacter (16.66%). Both, positive urine culture and cervical swabs were found in 1.27% of the patients. All the patients with positive urine culture with or without positive swabs had premature delivery as well as the patients with negative urine culture and positive swabs to U. urealyticum. Multiple regression analysis revealed excellent, statistically significant correlation (R=0.98; p<0.0131) among the urine test parameters and the cervical swabs as the predictor variables and the pregnancy outcome. Among the predictor variables only the results of urine culture and the cervical swabs had statistically significant contribution (p<0.0124 and p<0.0111, respectively).

CONCLUSIONS

The study confirmed a statistically significant influence of both UTI and the presence of lower genital tract pathogens especially U. urealyticum to the pregnancy outcome.
INTRODUCTION

Maternal sepsis remains one of the leading causes of direct and indirect maternal mortality both in high- and low-income environments. In the last two decades, systems biology approaches, based on ‘-omics’ technologies, have started revolutionizing the diagnosis and management of the septic syndrome. However, the level of awareness, from the side of health practitioners remains low. Our purpose is to present an overview of the basic ‘-omics’ technologies, exemplified by cases relevant to maternal sepsis.

MATERIALS AND METHODS

We conducted a thorough review of the literature regarding the use of the new ‘-omics’ technologies for the diagnosis of maternal sepsis. We classified the ‘-omics’ technologies in 4 main subgroups, namely genomics, transcriptomics, proteomics and metabolomics and we discussed their advantages and limitations.

SUMMARY RESULTS

Systems biology approaches that employ new ‘-omics’ technologies are becoming invaluable in the diagnosis of maternal sepsis. However, the limitations of single-omics approaches prompt the adoption of integrated ‘-omics’ approaches that comprise data generated not only within, but also across the different ‘-omics’ layers. This is especially relevant for maternal sepsis where evolutionary aspects need also be taken into consideration.

CONCLUSIONS

Systems biology approaches based on integrated ‘-omics’ are revolutionizing the research and clinical landscape in maternal sepsis. There is a need for increased awareness, from the side of health practitioners, as a requirement for the effective implementation of the new technologies in the research and clinical practice in maternal sepsis.
INTRODUCTION

Genital herpes is a dangerous obstetrical-neonatal disease. Transmission can occur intrauterine, perinatal and postnatal. The infection can be presented as a primary, non-primary first episode and recurrent episode. Primary maternal HSV infection has higher risk of complications than recurrent episodes. A high titer of maternal neutralizing antibodies is associated with a lower risk of neonatal infection. Seroprevalence among pregnant women varies between 7 and 33%. Transplacentally acquired HSV infection before 20th week of pregnancy causes an increasing percentage of miscarriages or multiple malformations.

CLINICAL CASES

The first pregnancy of a 30 year old, at the time who had a genital herpes in the early stage of her pregnancy ended by medically indicated abortion after 23 weeks of pregnancy because of multiple fetal malformations. Given the patient's fear of the uncertainty of future pregnancies, detailed advising encouraged the pregnancy that followed after 3 and 5 years. The pregnancies were intensively monitored clinically and serologically. Considering the HSV IgM + and prodromal symptoms at the end of the second pregnancy it was completed by Caesarean section given the child's best interest. In the third pregnancy, the patient was seronegative to HSV infection. From birth, 9/2015, the patient three times has developed clinically manifested herpes infection of the genital area.

CONCLUSIONS

The decision to complete the pregnancy by Caesarean section to prevent vertical transmission at the pregnant woman who had symptoms of genital herpes, has resulted in a birth of a healthy child.

The guidelines recommend such a manner of childbirth also in those who have prodromal symptoms with genital herpes in history. Pregnant women with a history of recurrent genital herpes, from 37 weeks of pregnancy should be administered antiviral prophylaxis.
**INTRODUCTION**

Periodontal diseases and other infectious diseases of the oral cavity affect negatively the course of pregnancy and its outcome. The main problems were the lack of women's health education in terms of preparing for pregnancy and sanitation of foci of infection in the oral cavity both before pregnancy and at the time, as well as poor access to the dentist and not receiving proper prevention and, if necessary, treatment of oral diseases. Based on the data available in the literature, to conduct a study on the effect of dental diseases on the course of pregnancy and outcome; mainly, the impact of periodontal disease on the low birth weight of the newborn and premature birth. The goal was to study the materials of foreign and domestic research, found in the databases of Pubmed and Elibrary.

**MATERIALS AND METHODS**

The researches allow to draw a conclusion that the majority of pregnant women who are not receiving proper dental examination and suffering from those or other diseases of the oral cavity have an unfavorable outcome of pregnancy, including premature birth and ELBW. The role of the chronic effect of oral microorganisms P. gingivalis and Fusobacterium nucleatum, as well as local increase in prostaglandin E2 (PGE2) and tumor necrosis factor (TNF-α), in the implementation of the inflammatory reaction leading to a decrease in the weight of the fetus by 15-18%. Periodontal disease is an infectious disease caused by anaerobic gram-negative bacteria. These bacteria were previously divided into two main clusters or complexes of microorganisms, namely the "red" and "orange" complexes.

**SUMMARY RESULTS**

Microbial products such as endotoxin will initiate an immune response of the host, causing inflammation and activation of proinflammatory mediators such as interleukin-1, TNF-α and MMP, which in turn can cross the placental barrier and have a damaging effect of the fetus resulting in PB and the birth of children with LBW. A study of 203 pregnant women was also conducted estimated from the depth of the periodontal pocket (PPD) or the degree of dental plaque (CAL), significantly increases the risk of subsequent premature birth PB and / or LBW. However, PPD and CAL do not always reflect the current inflammation of periodontal tissues. Informative assessment of bleeding by the sounding index (BOP) and the indicator of periodontal inflammation. The fetal length of the fetus is antenatal, as well as the height and weight in newborns from mothers with a low degree of periodontal inflammation were significantly higher than in mothers with high periodontal inflammation (p <0.05).

**CONCLUSIONS**

This led to the conclusion that periodontal inflammation is correlated with the length of the fetus, the body weight at birth and the gestation period at the time of delivery. The main problems were the lack of women's health education in terms of preparing for pregnancy and sanitation of foci of infection in the oral cavity both before pregnancy and at the time, as well as poor access to the dentist and not receiving proper prevention and, if necessary, treatment of oral diseases.
INTRODUCTION

Pelvic infection is the second most common complication of oocyte retrieval ending up with tuboovarian abscess (TOA) in 0.38% of the cases (1). TOA during pregnancy is extremely rare in the literature and there are only few cases resulting with delivery of healthy infants (2). Herein we reported a pregnant case with TOA overlapping severe endometriosis and managed conservatively resulting with delivery of a healthy infant.

CLINICAL CASES

35 year old G1, 15-week pregnant woman who had history of laparoscopy for severe (Stage 4) endometriosis, was admitted with fever. Physical examination revealed bilateral lower quadrant tenderness. CRP was 138 mg/L and WBC was 19 500. Ultrasound examination confirmed a healthy fetus in the 15th gestational week, and a 113x68 mm multiloculated mass with heterogeneous content consistent with a TOA possibly overlapping an endometrioma. The clinical and laboratory parameters did not improve despite antibiotic therapy. The mass was drained transvaginally via ultrasonography guidance. Culture obtained from the content of the abscess was negative. The patient was observed under parenteral antibiotherapy. The clinical and laboratory symptoms and findings improved after the drainage of the pelvic abscess and the patient was discharged uneventfully. In follow up, the patient delivered a healthy 3060 gr fetus with 9/10 apgar by cesarean section.

CONCLUSIONS

Laparotomy, laparoscopy and USG guided drainage are alternative management strategies in such cases. The treatment modality is usually selected according to the clinical situation of the pregnant woman and viability of the fetus. Conservative management was the choice of treatment in the current case and USG guided drainage was successful enough to let the pregnancy go on and end up with delivery of a healthy neonate.
INTRODUCTION

Cytomegalovirus infection (CMVI) is one of the principal causes of mortality, morbidity of newborn babies and infant mortality.

Objective: to study costimulatory molecules (CD28, CD40) on lymphocytes of the peripheral blood in newborn babies with CMVI and to determine prognostic indices of the cerebral pathology outcome by the end of the first year of life in newborn babies, who had CMVI. Study of immune status indices in newborns in cases of late detection of cytomegalovirus (CMV) DNA in blood and urine.

MATERIALS AND METHODS

122 newborns were studied.
In 102 newborns CMVI has been confirmed by the positive result of PCR, while in 20 newborns the negative result was obtained. In 20 three-month old babies, who had a negative result following DNA diagnostics in the first month of their life, CMV in blood and urine have been found, which allowed to diagnose CMVI.

Then we examined 114 children, who had CMVI during neonatal period. In 37 children neurological symptoms remained by the end of the first year of life. The content of lymphocytes, expressing CD28, CD40, CD3+, CD4+, CD28+, CD20+, was determined using laser flow cytofluorometer "Beckman COULTER" Epics XL II (USA) by means of monoclonal antibodies to the clusters of differentiation CD3+, CD20+, CD4+, CD28+, CD40+ of IMMUNOTECH Company (France).

SUMMARY RESULTS

Analysis of multidimensional non-linear relationships using PolyAnalyst 3.5 Pro package revealed factors which are significant for the diagnosis of CMVI, namely CD3+, CD3+CD28+, CD40. The following formula reflecting the dependence of CMVI on CD3+, CD3+CD28+, CD40 content in newborns having non-specific clinical symptoms in cases of late detection of CMV DNA has been offered: CD3+ < 69.3. In case the inequality is valid then (CD3+CD28+*0.008*CD40 - 0.08*CD3+CD28+ +0.726)/(CD40-0.733). In the reverse case then (0.086*CD40-0.131) / (CD40-7,333). If the result of calculation is more 0.4671 we can prognosticate the presence of CMVI. Accuracy 87%. If the result of calculation is less 0.4671 we can prognosticate the absence of CMVI. Accuracy 89%. p < 0.00001. Sensitivity – 87%, specificity – 89.

If the result of the calculation according to the formula is > 0.39, than a child will have brain damages by the end of the first year of life. Sensitivity – 71.43%, specificity – 88.89%. The likelihood ratio of the positive result is 13.5.

CONCLUSIONS

The above first formula is an early marker of CMVI in newborns.

In case of severe CMVI, there was an increased level of the relative number of cells without costimulatory markers CD3+CD28- and an expressed decrease of the number of cells with the markers CD3+CD28+. High significance of the determination of the increased content of B-cells,
expressing receptors (CD20+CD40+) on their surface, reflects the importance of the direct contact between T- and B-cells performed through this molecule.
INTRODUCTION

Among adverse pregnancy outcomes, late miscarriage and preterm birth are believed to be largely associated with microbial invasion and subsequent infection of amniotic cavity. Intra-amniotic infection can be caused by both pathogenic and commensal microorganisms, but the vast majority of cases are thought to be associated with the indigenous microflora of different body sites, primarily, the vagina. We hypothesized that some types of the indigenous vaginal microbiota predisposing to adverse pregnancy outcomes might persist over time thus exerting a risk on sequential pregnancies. In this study, we sought to evaluate first trimester vaginal microflora in women having a history of late miscarriage and preterm birth compared to that in women without any history of adverse pregnancy outcomes.

MATERIALS AND METHODS

In total, 78 pregnant women aged 21-38 years (mean 28 years) were enrolled in the study at their first prenatal visits at 5-15 weeks of gestation (mean 9 weeks). Vaginal discharge samples from the women were tested for pH and analyzed using microscopy, culture and quantitative real-time PCR (Femoflor-16 test, DNA-Technology, Russia) designed for measuring abundance of Lactobacillus spp, aerobic bacteria (enterobacteria, streptococci, staphylococci), anaerobic bacteria (Gardnerella vaginalis, Prevotella bivia, Porphyromonas spp, Eubacterium spp, Sneathia spp, Leptotrichia spp, Fusobacterium spp, Megasphaera spp, Veillonella spp, Dialister spp, Lachnobacterium spp, Clostridium spp, Peptostreptococcus spp, Atopobium vaginae), Candida spp, Mycoplasma hominis and Ureaplasma spp.

SUMMARY RESULTS

Of the women enrolled, 7 had a history of late miscarriage and 13 – preterm birth. The control group comprised 58 women without a history of adverse pregnancy outcomes. The women with a history of late miscarriage and preterm birth, as compared with the control group, had significantly higher values of vaginal pH and significantly higher rates of microscopic signs of inflammation in the vagina (Table). Microscopically, 95% samples from the control women showed Lactobacillus spp. prevalence over other microorganisms, which was significantly more common than in women with a history of late miscarriage and preterm birth. The number of isolated non-Lactobacillus species (which can be considered as a proxy for bacterial diversity), the abundance of aerobes, anaerobes and M. hominis were significantly higher in the women with late miscarriage and preterm birth than in the control group. There was no difference between the groups in the abundance of Candida spp and Ureaplasma spp.

CONCLUSIONS

The results of our study are indicative of significant differences between the vaginal microbiota of pregnant women with a history of late miscarriage and preterm birth compared to women without a history of adverse pregnancy outcomes. The vaginal microflora characterized by diversity of non-Lactobacillus microorganisms, increased vaginal pH and inflammation may persist over time in some women potentially exerting a negative effect on each pregnancy course and outcome.
INTRODUCTION

Pediatric HIV infection has considerable morbidity and mortality. Mother-to-child HIV transmission (MTCT) has significantly decreased in the past years due to universal HIV screening and antiretroviral treatment (ART) during pregnancy, delivery planning, neonatal prophylaxis and avoidance of breastfeeding. The aim of this study was to describe the prevalence of MTCT and other neonatal adverse outcomes found in a Portuguese pediatric centre.

MATERIALS AND METHODS

We retrospectively reviewed all HIV-infected mother and respective infants born between 1 July 2004 and 31 March 2018 in a level-II hospital in Portugal. A total of 103 patients were enrolled. All reported P values are two-tailed with a P value of 0.05 indicating statistical significance.

SUMMARY RESULTS

The mean age of HIV infected mothers was 29.6 years. HIV diagnosis was performed prior to pregnancy in 64.1% of cases whereas 2.9% of HIV diagnosis were made postpartum. We found only one HIV-infected infant in this series. The mother was diagnosed postpartum and therefore the initiation of ART was delayed. The MTCT rate was 0.9%. All children were exclusively fed with artificial milk. There was excellent compliance with prophylaxis. Adverse effects included anemia in one infant not requiring prophylaxis suspension. Risk behavior such as smoking was observed in 53.4% (55) of cases, alcohol consumption 9.7% (10) and substance abuse 16.5% (17). Prematurity rate was 16.5%. Maternal CD4, HIV viral load and ART in pregnancy were not significantly associated with prematurity. However an association between prematurity and risk behavior such as alcohol (P=.007), smoking (P=.01) and substance abuse (P=.03) was found. Referral to child protective services was observed in 12% of cases (10).

CONCLUSIONS

Infants born to HIV-positive mothers are more susceptible to adverse family environments therefore close clinical and social follow-up are essential. More studies are needed to determine long term effects related to ART exposure in newborns.
INTRODUCTION

Neonatal herpes simplex virus (HSV) infections are transmitted from an infected mother, usually vertically, during delivery. Long-term complications such as seizures, psychomotor retardation, spasticity, blindness, and learning disabilities are often seen in survivors.

Aims: The authors intend to assess the grades of severity and the neurological complications associated with Herpes Simplex Virus infection and to establish by means of standardized clinical criteria and specific investigations (cranial ultrasonography - CU, EEG, cerebral CT and MRI) the neurodevelopment outcome.

MATERIALS AND METHODS

A 2-year retrospective study (2016 – 2017) performed in the Preterms and Neonatology Department, „L. Turcanu” Emergency Hospital for Children, Timisoara on infants with confirmed infection with HSV. The diagnosis was made by antibody titration. Was performed serial cerebral ultrasonography to follow the neurological damage. All the patients were treated with Acyclovir.

SUMMARY RESULTS

The study included 14 infants. Clinically two (14,3%) cases had a disseminated form of the disease, 2 (14,3%) symptoms mainly in the skin and 10 (71,4%) seizures. Four infants with seizures had also chorioretinitis (28,6%). Was performed serial cranial ultrasound in the first week of admission and after a month. At first ultrasound examination only 4 cases (cases with disseminated form and 2 with seizures) presented signs of encephalitis and the rest of them had normal cranial ultrasound. After a month all the patients (n – 10) with seizures had multicystic encephalomalacia and 3 of them associated hydrocephaly needed ventriculoperitoneal shunt. The cases with skin symptoms had no ultrasound modifications and cases with disseminated form died in the first two weeks of life. MRI was performed to follow the evolution of central nervous system lesions. All the infants with central nervous system lesions had severe neurological symptoms later during their illness.

CONCLUSIONS

Although ultrasonography is a rapid and simple diagnostic method, has certain advantages compared to other types of imagistic methods in current medical practice, cerebral MRI or CT are necessary to follow the evolution of central nervous system lesions. Tough survival has improved, neurological disabilities due to infection with HSV are still high.
INTRODUCTION

Active tuberculosis has a negative impact on the condition of the newborn, which is characterized by an increased incidence of perinatal morbidity and fetal distress. Fetal cardiac assessment is an accessible and accurate functional criterion used to assess the fetus's intrauterine status. Computerized fetal heart rate monitoring (CTG) has definite advantages in tracking labor compared to fetal heart auscultation, especially where the risk of fetal distress is increased. The purpose of the study was to evaluate the correlation between different CTG traces recorded during labor in patients with active tuberculosis of respiratory organs.

MATERIALS AND METHODS

The study included 116 women aged 18 to 41 (mean age 25.94 ± 0.4 years). The general study group was divided into 2 subgroups: the baseline group (BG) - 58 pregnant women with active tuberculosis of respiratory organs aged 19-41 years (average age 25.48 ± 0.7 years) and the control group (CG) - 58 healthy pregnant women aged 18-35 years (average age 26.4 ± 0.5 years). CTG recording was performed over 30-60 minutes in various states of calm and activity of the fetus. CTG parameters were evaluated according to the NICE 2010 score by assessing basal rhythm, amplitude of oscillations, presence or absence of accelerations and decelerations. Depending on the values of the recorded parameters, the cardiotocography was classified as normal, suspected or pathological.

SUMMARY RESULTS

By term delivery 54-93.1 ± 3% cases were finished in BG and 58-100.0% cases in CG. The normal cardiotocographic trace was statistic significantly more frequent in CG than in BG (54-93.1 ± 3.3% cases and 41-74.5 ± 5.7% cases, respectively; p<0.01); the suspicious cardiotocographic trace was statistic significantly more frequent in BG than in CG (13-23.6 ± 5.6% cases and 4-6.9 ± 3.3% cases, respectively; p >0.05), and in CG with suspected cardiotocographic trace the frequency of this indicator was lower (61.5 ± 6.4% of cases in BG and 50.0 ± 6.6% of cases in CG (p> 0.05).

CONCLUSIONS

Thus, we can once again ascertain the importance of strictly intrauterine monitoring of the fetus in cases of active tuberculosis of the respiratory organs and the use of cardiotocography as one of the most simple, modern, non-invasive and reliable methods of assessing the fetus state, which satisfies entirely the requirements, provided it is properly recorded and interpreted.
TITLE: Risk factors of central line-associated bloodstream infection (CLABSI) with percutaneous inserted central catheters in low birth weight infants.

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INTRODUCTION

Nosocomial infection, and specifically central line-associated bloodstream infection (CLABSI), is a leading cause of sepsis in the NICU. Infected percutaneous inserted central venous catheters (PICCs) cause problems in hospitalized neonates in NICUs. The reported rates of CLABSI range from 4.8−16.5 per 1000 catheter-days in NICU, with the most immature infants being at the greatest risk. Prevention of CLABSI is one of the priorities of NICUs for better quality in hospitalization and lower mortality and morbidity. Infection rates can be reduced by complying with precise care protocols for PICCs and applying educational programs for hand hygiene for physicians and nurses.

MATERIALS AND METHODS

To study the risk factors of sepsis due to PICC lines in low birth weight infants in a tertiary NICU. Methods: Retrospectively we reviewed the medical records of 39 premature infants with a birth weight (BW) of less than 2000 g between January 2017 and March 2018 and studied 39 records of LBW infants and 52 PICCs inserted in neonates. PICC-related bloodstream infections (CLABSIs) and other complications were recorded and their relationship with many variables, including birth weight, gestational age (GA), sex, body weight when PICC is placed, age when PICC is placed and number of catheter days.

SUMMARY RESULTS

Retrospective study of 39 NICU patients who had a PICC inserted in almost one-year period. 52 PICCs inserted for a mean duration of 21.19± 11.59 days. Neonatal demographics are shown in the table. There were 6 CLABSIs within a follow-up time of 1102 catheter days. The incidence of PICC-associated CLABSI was 5.4 per thousand catheter days (95% CI=1.99 -11.85). The incidence rate of CLABSI increased with the number of catheter days (p=0.032). There was no association between GA, BW, and weight at the day of catheter insertion with the risk of CLABSI. The 5 /6 of CLABSI were observed in neonates with surgical NEC. Regarding the bacteria, 5 cases of enterococcus faecalis and 1 case of candida parapsilosis were isolated.

CONCLUSIONS

Our data suggest that catheter duration is an important risk factor for PICC associated CLABSI in the NICU. Catheter replacement within a reasonable time could be an interventional strategy for reducing infections.
INTRODUCTION

Human enteroviruses, which includes the Coxsackie virus, are ubiquitous viruses found throughout the world, chiefly transmitted through fecal-oral contact. Hand-foot-mouth disease is the most common Coxsackie virus infection manifestation being more frequent in childhood. Maternal coxsackievirus B infections have been associated with stillbirths in late pregnancy, as well as a slightly increased risk for congenital heart defects and urogenital anomalies when seroconversion during pregnancy occurs. Intrauterine transmission frequency is unknown. Perinatal acquired enteroviral infection severity and outcome is influenced by several factors, including the virus strain involved, type of transmission, and by the presence of passively acquired serotype-specific maternal antibodies.

CLINICAL CASES

We present a case of a 33-year-old caucasian female in the 9th week of pregnancy who went to the emergency department with an exanthema affecting both palms, feet heels, tongue and buccal mucosa. The red, blister-like lesions were painless and nonpruritic. Coxsackie virus infection was confirmed by positive maternal serology. One week later the symptoms resolved spontaneously and the pregnancy proceeded with no further complications. All the ultrasounds revealed a normal fetus and placenta. In the 28th week of pregnancy, a fetal echocardiogram and neuro-MRI was performed and both showed no abnormalities. At 39 weeks of pregnancy, a caesarian section was performed, due to stationary labor after induction, and the patient delivered a female newborn, weighing 3780g, with an APGAR score of 8/10/10. The newborns physical exam was unremarkable and the transfontanelar ultrasound was normal. The first year of life was uneventful.

CONCLUSIONS

Most Coxsackie virus infections occurring during pregnancy result in unaffected infants, but the risk is greatest when the infection occurs near term. The spectrum of neonatal disease ranges from no sequela to fatal encephalomyocarditis. Recent data suggest that the placental barrier minimizes fetal infection, which may explain the paucity of evidence linking congenital anomalies to maternal coxackie infection. Further studies are needed to link maternal Coxsackie seroconversion and teratogenesis.
TOPIC: Infection & Surroundings

ABSTRACT ID: 458

TITLE: Infectious risk factors for EUN in prematurity with GA below 28 weeks

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INTRODUCTION

To identify the infectious ante and postnatal risk factors for EUN in the newborn with VG below 28 weeks

MATERIALS AND METHODS

Retrospective 5-year study of 988 newborns with GA under 28 weeks of 9 level III maternity centers in Romania over a 5-year period (2013-2017) on maternal and neonatal factors which prediction for NEC 9 factors ()were involved as possibly in developing or not of EUN

SUMMARY RESULTS

At a 10.4% incidence of EUN at VG below 28 weeks, the identified maternal risk factors were statistically processed by multiple regressions. They were denominated in the order of significance: lack of antenatal steroids (p = 0.001) nausea outside the center = 0.002) eclampsia (p = 0.03)) premature ruptured membranes> 18 hours (p = 0.02). Non-invasive risk factors in EUN pathology: corioamnionitha (p = 0.15), antepartum haemorrhage (p = (p = 0.40), birth rate (p = 0.19), maternal HTA (p = 0.16)

CONCLUSIONS

The key to EUN prevention is to reduce the incidence of newborn babies under 28 weeks of age: born outside of the center without maternal corticosteroids requiring rigorous infection control
INTRODUCTION

Congenital cytomegalovirus is the most common viral congenital infection, and affects up to 2% of neonates. Significant sequelae may develop after congenital cytomegalovirus, including hearing loss, cognitive defects, seizures, and death. Our aim was to discuss our congenital/perinatal CMV infection cases in the light of the literature.

MATERIALS AND METHODS

Medical records of newborn infants with congenital/perinatal CMV infection who were hospitalized in our third level NICU between August 2015 and May 2018 were evaluated retrospectively. Demographic features, clinical and laboratory findings as well as PCR analysis of CMV-DNA in blood and urine, cranial imaging, presence of chorioretinitis, hearing test results, and treatment modalities were recorded.

SUMMARY RESULTS

There were 8 infants with congenital/perinatal CMV infection out of 1039 infants (0.76%) admitted to NICU during that period. Mean birth weight was 1365 gr and gestational age was 30 weeks. Mean time of diagnosis was day 39. Most common findings were anemia (75%), thrombocytopenia (62.5%) and hearing loss (62.5%). None of the infants had chorioretinitis. 2 infants with microcephaly had intracranial calcifications. 3 very preterm infants (37.5%) showed sepsis-like findings. CMV IgM were positive in all infants. CMV–DNA was positive in all infants except one. Four patients were regarded as congenital CMV infection, while differential diagnosis of perinatal and congenital infection could not be made in the rest of the patients. All infants were treated with Gancyclovir/Valgancyclovir. Viral load decreased dramatically and 3 infants out 5 with abnormal hearing test results showed normalization after treatment. One patient with sepsis-like findings died, 2 patients have neuromotor retardation.

CONCLUSIONS

The diagnosis of congenital cytomegalovirus infection is still based on clinical suspicion alone and can be quite late like in our series. Infants with congenital CMV may benefit from newborn CMV screening, early detection, and efficient antiviral treatment in symptomatic infants.
TOPIC: Infection & Surroundings

ABSTRACT ID: 465

TITLE: A risk factors and early neonatal sepsis

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INTRODUCTION

Neonatal sepsis is an important cause of morbidity and mortality in the early neonatal period. Clinical manifestation of early neonatal sepsis are unspecific, so it is very difficult to recognize it on time. The course and outcome of a bacterial infection depends on the time of the onset of the first symptoms, their recognition and on the time of the therapy started. There are many risk factors that influence the appearance of early neonatal sepsis. Early diagnostic and appropriate therapy can save a life of newborn babies, and because of that, we start immediately with therapy, although in most cases, there is no confirmation of the bacteriological etiology of the disease.

MATERIALS AND METHODS

The prospective study on 55 newborns over 34 gestational age divided into two groups. I-A: blood culture proven systemic infection, II group - control group. We monitored the risk factors that influence the appearance of infection with laboratory parameters that refer to infection: CRP, white blood cells, and blood platelets as well as blood cultures in IA group. We monitored parameters in the first, second, and third day of living.

SUMMARY RESULTS

Levels of CRP in I group were statistically significantly higher in the first, second, and third day in comparison with the control group (p<0.001). Number of white blood cells is not statistically significant from the groups (p<0.05).

The greatest impact as risk factors have vaginal discharge, maternal urinary infection, and premature rupture of membranes in our research (p<0.001)

CONCLUSIONS

The greatest impact as risk factors have vaginal discharge, maternal urinary infection, and premature rupture of membranes. Infection in neonatal period is manifested by nonspecific signs with RD symptoms mostly, but also with bloated stomach and hypotonia. Every newborn baby with risk factors is on antibiotic. By monitoring CRP concentration in samples to estimate the initial adaptation of antibiotic therapy and the sensitivity of bacteria.
INTRODUCTION

The ecthyma gangrenosum (EG) is a cutaneous ulcerative lesion that appears in 1-3% of the cases of bacteremia due to Pseudomonas aeruginosa. This microorganism causes 5-7% of nosocomial sepsis in preterm infants. The mortality rate of P. aeruginosa sepsis is 45-70%. The diagnosis of EG is eminently clinical, although it must be confirmed by culture. The differential diagnosis include deep mycosis or anaerobic lesions. The treatment focuses on treating the underlying bacteremia, which will mark the prognosis. Ceftazidime would be indicated as the first choice of treatment.

CLINICAL CASES

Newborn twin of 24 0/7 weeks with 600 grams was born by incompetent cervix. He required mechanical ventilation due to hyaline membrane disease. Empirical treatment with ampicillin and gentamicin for suspicion of vertical sepsis was started. On the 3rd day, an erythematous skin lesion was observed which rapidly progressed to a necrotic ulcer in the thorax. The patient requiring inotropic support and high frequency ventilation. A very severe neutropenia appeared (100 cells/mm³). Cefotaxime is added instead of gentamicin. Due to high risk of invasive fungal infection liposomal amphotericin B was initiated. There was no improvement and meropenem and vancomycin was started. In the blood culture and the skin exudate, P. aeruginosa sensitive to meropenem was isolated. The evolution was unfavorable, presenting a multisystemic failure and death at 7 days. In the post mortem blood culture, tracheal aspirate and skin exudate, P.aeruginosa with intermediate sensitivity to meropenem was isolated.

CONCLUSIONS

1. The EG should be considered within the differential diagnosis of necrotic skin lesions. The EG together with neutropenia should taken into account as predictors of sepsis by P.aeruginosa.
2. Upon detection of a skin lesion compatible with an EG, antibiotic coverage specific for P.aeruginosa should be cultured and initiated.
3. It is very important to care for the skin of the extreme premature, avoiding erosive products that can cause burns and become the gateway for P.aeruginosa or S.aureus.
Healthcare associated infections (HAI) remains a major cause of morbidity and mortality, mainly due to increased extreme preterm admitted and invasive procedures used in neonatal intensive care units (NICUs). The present study aimed to analyse the epidemiological data from newborns (NB) admitted to a differentiated NICU and to identify risk factors for HAI.

MATERIALS AND METHODS

Retrospective observational study including NB admitted in a north Portugal NICU between January 2013 and December 2017 (5 years). Sepsis risk factors were evaluated in those with HAI compared with those with no HAI and between Gram positives (GP) and Gram negatives (GN). The data were collected through national neonatal controlling infection database and respective clinical processes. Statistical analyses were performed using Excel® and Epi-info® and statistical significance was defined as p < 0.05.

SUMMARY RESULTS

In that period 1961 NB were admitted. There were 135 HAI in 114 NB: 111 late sepsis, 14 necrotizing enterocolitis, 6 meningitis and 4 pneumonias. The density of sepsis was 29/1000 days of hospitalization. From affected NB, 52% were male and 87% preterm, with mean gestational age (GA) of 31 weeks ± 3 days and mean birth weight (BW) of 1612 ± 762 g. The prevalence of HAI was inversely proportional to GA and BW. Comparing those with and without HAI, only BW and CVC days were independent risk factors for HAI (OR 0.99, p = 0.0009 and OR 1.08, p < 0.0001). HAI occurred with a median of 13 days of CVC, 14 days of invasive ventilation and 9 days of parenteral nutrition. Blood culture was positive in 56% (n=76), mainly with Coagulase negative staphylococci (n=44) and klebsiella spp. (n=12). Of the isolated GN, 96% were sensitive to aminoglycosides. There were no statistical significance differences comparing sepsis risk factors between GP and GN. The mortality rate was 5.3%.

CONCLUSIONS

Like other studies, the incidence of HAI was higher when GA was smaller. BW and CVC presence were the main risk factors for HAI. Prolonged use of CVC, invasive ventilation and parenteral nutrition were related to infection. It is necessary to emphasize the importance of sceptical care during manipulation of extreme preterm, mainly those with invasive procedures.
INTRODUCTION

Ureaplasma species are commonly found in the vaginal flora and have been associated with adverse pregnancy outcomes such as miscarriage, prematurity, stillbirth. Intrauterine and/or postnatal infection with Ureaplasma species has been shown to be a risk factor for complications in extremely preterm infants. There is a link between respiratory colonization and neonatal lung disease (bronchopulmonary dysplasia). Although there are several case reports, case series and small prospective studies on neonatal ureaplasma meningitis the association and/or causality between Ureaplasma and infection of the central nervous system remains largely unclear.

CLINICAL CASES

An extremely premature infant (born gestational week 23), 550 g, developed bilateral grade 3 intraventricular bleeding and hydrocephalus on day 10 and received a Rickham reservoir to reduce ventricular dilatation. Bacterial meningitis was suspected when cerebrospinal fluid (CSF) showed pleiocytosis and high protein levels. Treatment was initiated with meropenem and vancomycin. Biochemical analyzes from CSF continued to indicate meningitis but repeated cultures from CSF were negative while 16SrRNA PCR consistently showed Ureaplasma parvum even after the addition of ciprofloxacin. After a period of 2 months when neurological deteriorations were encountered the Rickham reservoir was exchanged and the 16SrRNA PCR eventually became negative.

CONCLUSIONS

This case illustrates the issues in diagnosing Ureaplasma meningitis as well as antibiotic treatment without cultures and resistance testing. Removal of foreign material (in our case Rickham reservoir) may be required in meningitis caused by Ureaplasma species since the bacteria are biofilm active.
INTRODUCTION

The scientific literature reports that intrauterine infection is a risk factor for premature birth and prematurity. Moreover, infection of the newborn with pathogen in the amniotic fluid is described as a factor which increases perinatal mortality of infants.

MATERIALS AND METHODS

Women after Cesarean Section delivery with confirmed presence of pathogens in the amniotic fluid and their children were included in the study. Cesarean Section procedure and culture of the amniotic fluid were performed at the 2nd Department of Obstetrics and Gynecology, Medical University of Warsaw in 2013. All women were characterized in terms of socio-economic and anthropometric factors. The following crucial points of study: course of pregnancy, assessment of the type of pathogen present in the amniotic fluid, maternal and newborn complications post-delivery were collected. Data for the analysis was obtained from the medical records of patients and their children.

SUMMARY RESULTS

Pathogens most frequently isolated from amniotic fluid were: Escherichia coli (40%), Enterococcus faecalis (26%) and Streptococcus agalactiae (16%). It has been stated that higher incidence of Enterococcus faecalis or Prevotella bivia presence in amniotic fluid was associated with previous obstetrics and gynecology surgical procedure (p<0.0001 and p<0.03). Whereas, presence of Prevotella bivia in the infected amniotic fluid in comparison to other pathogens detected was associated with higher presence of pathogen in newborn (at least 40%, 95% CI: 40%-100%, p<0.03). The presence of Candida Albicans in infected amniotic fluid involved the smallest risk of complications in newborn in comparison to bacteria. The results presented in the abstract are preliminary. We will present a distribution of other types of pathogens and their relationship with maternal and newborn perinatal outcome.

CONCLUSIONS

Types of pathogens present in the infected amniotic fluid were detected. Predominant pathogens were Escherichia coli and Enterococcus faecalis. Among patients who underwent Cesarean Section, obstetrics and gynecological history determined the Enterococcus faecalis and Prevotella bivia presence in the infected amniotic fluid. Moreover, Prevotella bivia in the infected amniotic fluid had negative impact on the newborn.
INTRODUCTION

Newborns hospitalized in neonatal intensive care units (NICU) are at higher risk for nosocomial infections (NI) because of immunologic immaturity, frequent exposure to invasive procedures and devices and broad-spectrum antibiotics. For a lot of the premature newborns, the endotracheal intubation and mechanical ventilation are indispensable because of respiratory distress syndrome or some other respiratory disease. Ventilator-associated pneumonia (VAP) is a frequent complication in NICU's. It leads to prolongation of hospital stay, higher overall morbidity and death among the patients. The aim of the present study is to analyze basic epidemiological characteristics of VAP in NICU to outline the prevention measure necessary to reduce the incidence of VAP.

MATERIALS AND METHODS

A retrospective epidemiological study is conducted in the Neonatal intensive care unit of University Hospital “Saint George” Plovdiv, Bulgaria for a 5-year period (2012-2016). Information for 1764 newborns (900 full-term and 864 premature newborns) treated in the intensive care unit for the study period is analyzed. For the aims of the study are used conventional microbiological methods for identification of the isolated microorganisms from tracheal aspirates, blood cultures and mucous membranes secretions (eye, throat, nose). The rates of NI and VAP are calculated on the base of 100 hospitalised newborns.

SUMMARY RESULTS

For the period 2012-2016, the average NI incidence is 11.6% (range 7.57-12.60). Ventilator-associated pneumonia is the most frequent NI-64.42%, followed by bloodstream infections 14.86% (p<0.001). The rates of VAP with reference to the overall NI morbidity varies from 77.79% in 2012 to 63.17% in 2016 with the lowest rate of 46.42% in 2014. In the etiological structure of NI, the proportion of Gram-negative microorganism is statistically significantly higher than the Gram-positive microorganisms (84.7% to 15.3% p<0.001). The leading causative agent of NI and VAP is Pseudomonas aeruginosa (27.79% and 38.51%). Other leading microorganisms of NI and VAP are Acinetobacter spp. (14.57% and 18.27%), Klebsiella spp. (14.23% and 10.09%) and Escherichia coli (14.23% and 14.42%). From the Gram-positive microflora in the overall morbidity, the main pathogen is Coagulase (-) Staphylococcus (9.53%), whereas Staphylococcus aureus is the leading causative agent of VAP (3.38%), followed by Enterococcus spp. (1.89%).

CONCLUSIONS

The overall NI morbidity for the study period is in reference borders for NICU. VAP is the leading NI. The Gram-negative microflora and especially Pseudomonas aeruginosa is the most common causative agent of NI and VAP. The proportion of Gram-positive microorganism remains low. The obtained data underlines the necessity to draw the attention of the medical personnel towards the preventive measures for reducing the morbidity of NI and VAP and observing the features of the anti-epidemic regimes.
INTRODUCTION

Congenital Malaria (CM) is a rare disease, although recent data support a higher frequency than usually thought, particularly in endemic areas. The diagnosis implies the presence of asexual forms of the parasite in peripheral blood, in the first 7 days of life, or later if there is no possibility of postpartum infection. The most useful sample to diagnose CM is the newborn’s cord blood (showing higher frequency and severity of parasitemia than peripheral blood). The newborn is mainly asymptomatic, and if not, symptoms are apparent between 10 and 30 days of life. In this case report we describe one case of suspected CM, seen at a NICU in a tertiary Portuguese hospital, which cares for an elevated percentage of migrants from malaria-endemic areas.

CLINICAL CASES

38-year-old pregnant Angolan woman, travels to Portugal. At 26 weeks and 2 days of gestation, she displays fever and asthenia, for which she was admitted to our hospital. After five days (27 weeks) a rise in C-reactive protein, thrombocytopenia and worsening of anemia were observed. The test for Plasmodium was positive with 3.0% of parasitized erythrocytes. By then, obstetric ultrasound showed absent amniotic fluid. A C-section was performed, leading to the birth of a female newborn with a birthweight of 870 g and Apgar Score of 3/5/7. Upon admission, the analytic inflammatory parameters were negative and the search for Plasmodium (peripheral blood) was negative. The anatomopathological exam of the placenta showed placental malaria (numerous parasitized maternal erythrocytes, and normal fetal erythrocytes). The patient is still hospitalized to date, due to comorbidities related to prematurity, albeit never having developed symptoms congruent with CM.

CONCLUSIONS

We have described a newborn who, even with a parasitized placenta, had no analytical or clinical evidence of CM, highlighting the protective role of the placenta. Given the increasing flux of migration from endemic to non-endemic areas, there is an urgent need to establish guidelines and protocols. One should keep in mind this rare disease in the newborns whose mothers have been in endemic areas during pregnancy, to correctly diagnose, treat and follow-up these children.
INTRODUCTION

Pregnant women have a unique susceptibility to many infectious diseases, which often lead to more adverse results. At the heart of increased susceptibility is a combination of adaptive changes in the immune system, anatomy and physiology of a pregnant woman. Acute respiratory infection, including influenza, with frequent addition of bacterial flora during pregnancy leads to a significant imbalance in the immune system of the woman, which is reflected not only during the gestation period, but also on the development of the child in the postnatal period. Viral infection in pregnant increase the risk of: - prenatal injury of the fetus, the development of pathology of different organs, formation of immunodeficiency in the postnatal period.

MATERIALS AND METHODS

Percentage of pregnant women with influenza was higher than among non-pregnant women. In season 2016-2017 45% pregnant women have been detected influenza. Most women were admitted to the hospital within the first two days of the onset of the disease. More pregnant women were hospitalized in 2 and 3 trimesters. The frequency of obstetric pathology did not differ significantly in women with Influenza and SARS, but the number of premature births with influenza was significantly higher. However, preterm labor on the background of influenza occurred in every 4th patient with influenza a (H1N1)pdm09, in every fifth with influenza a (H3N2), significantly less often-with influenza B. Research identifies the potential relationship of mother-transmitted flu with various pathologies in the baby.

SUMMARY RESULTS

Prevention of influenza and timely antiviral therapy in pregnant women can reduce the risk of congenital anomalies. The effectiveness of antiviral therapy, including drugs with different mechanisms of action, was evaluated in two groups of patients. The data obtained by us indicate a pronounced positive therapeutic effect on the course of pregnancy with influenza in the combination of drugs Oseltamivir® and Viferon®, associated with an increase in the ability of leukocytes to produce alpha- and gamma-IFN as a result of Viferon therapy in pregnant women in II and II Trimesters. 36 women had received treatment with the drug Oseltamivir® and 22 – a combination of the drugs Oseltamivir® and Viferon®. We conducted a telephone survey of 58 women with influenza during pregnancy. Three women had a miscarriage during the flu, four - preterm birth, 41 patients pregnancy ended in physiological childbirth, 10-cesarean section, including 5-vital emergency indications.

CONCLUSIONS

In 10 newborns, a health disorder was revealed: four children were born with signs of intrauterine infection, anemia, hepatomegaly; two were diagnosed with congenital heart disease; four – Central nervous system pathology. At the time of the telephone survey, the children were between 1 and 1.5 years old. None of the children born to women who received a combination of drugs Oseltamivir® and Viferon® health disorders have been detected.
INTRODUCTION

Pain is an enormous and prevalent problem that troubles people of all ages worldwide. The effectiveness of acupuncture for pain management has been strongly verified by large randomized controlled trials (RCTs) and meta-analyses. Increasing numbers of patients with pain have accepted acupuncture treatment worldwide. However, some challenges exist in establishing evidence for the efficacy of acupuncture. A more applicable and innovative research methodology that can reflect the effect of acupuncture in the settings of daily clinical practice needs to be developed.

MATERIALS AND METHODS

Acupuncture for Pain Management in Evidence-based Medicine

Individual patient data meta-analysis and large RCTs of acupuncture for pain conditions

In recent years, studies have increasingly provided some evidence for using acupuncture for pain management. In 2012, an individual patient data meta-analysis was conducted by Andrew et al to evaluate the effectiveness of acupuncture for four types of chronic pain: back and neck pain, osteoarthritis, chronic headache, and shoulder pain. The result reflects that acupuncture was superior to sham acupuncture controls and to the usual care controls in all four chronic pain conditions.

As the newest revolution in the field of medical science, EBM has converted the classic authoritarian expert-based medicine and become the fundamental basis for clinical practice.

SUMMARY RESULTS

in basic science are all important tasks for acupuncture researchers to address and solve. Acupuncture is a complex intervention and focuses on individualized treatment. Other challenges also exist in the clinical research of acupuncture. One challenge is the involvement of the acupuncturist.

Challenges and future directions of acupuncture research for pain conditions in EBM

High-quality RCTs and meta-analysis have increasingly produced robust evidence of the effectiveness of acupuncture for pain conditions, although nonspecific physiologic response to the needle insertion and the nature of holistic character of acupuncture treatment lead to many challenges in the research designs that reflect the daily clinical acupuncture practice.

CONCLUSIONS

In recent years, large RCTs and meta-analysis of the effectiveness of acupuncture have greatly advanced our knowledge of acupuncture. Increasingly more patients worldwide now accept acupuncture treatment. Challenges remain in the course of establishing evidence on acupuncture,
INTRODUCTION

The toll of sepsis among preterm infants is high, with a mortality that approaches 20%. Furthermore, there is a high risk for permanent neurologic impairment in survivors. Early goal directed therapy has been shown to improve survival. Many studies revealed that there was not only decreased heart rate variability but also transient repetitive heart rate decelerations coinciding with or preceding clinical signs of sepsis. HRC monitoring (HeRO monitoring) might be an early indicator light in addition to conventional laboratory tests and clinical signs in the diagnosis of neonatal sepsis.

MATERIALS AND METHODS

We studied all preterms admissions to our NICU in 2017, who had HeRO score monitoring. For each patient we recorded blood cultures obtained for the clinical suspicion of sepsis, laboratory test results and the HRC index. We obtained all laboratory values for PCT and CRP. We defined sepsis as an abnormal laboratory value (PCT >2 ng/ml at 48h from the birth or CRP >15 mg/L) and positive blood culture associated to clinical signs of sepsis (fever, tachypnea, tachycardia, systemic ipoperfusion). The HRC index is a continuous measure. We defined a value >2 as a predictive factor of sepsis. We analized medical records of 55 newborns.

SUMMARY RESULTS

In our population of 55 preterms we found 15 of them who had positive blood culture. In the same children, we firstly found a rise in HeRO index (>2).The elevation of laboratory tests (as previously defined) was found in all of them, but usually it was detected some days later the rise of the HeRO score. High HeRO scores in most of them was associated with clinical sign of sepsis (usually tachypnea, tachycardia, respiratory distress).

CONCLUSIONS

Preterm birth is increasing worldwide, and late preterm births, which comprise more than 70% of all preterm births, account for much of the increase. Early and late onset sepsis results in significant mortality in extremely preterm infants. HeRO score, in association with clinical signs and laboratory tests, can alert clinicians to impeding clinical deterioration and allow earlier intervention. Further studies in a larger population are required to confirm our data.
INTRODUCTION

Urinary tract infections (UTIs) are the most common infectious diseases during pregnancy, which may result in significant morbidity for the pregnant woman and fetus. UTIs may present as asymptomatic bacteriuria, acute cystitis or pyelonephritis. Screening and treatment of significant bacteriuria during pregnancy is standard of care recommended in most countries. Surveillance of the bacterial spectrum and antibiotic-resistance patterns of locally occurring uropathogens is essential to form a basis for empirical treatment of UTIs, as antibiotic-resistance rates may vary significantly between countries and regions, and with time.

MATERIALS AND METHODS

Strains of uropathogenic bacteria were routinely isolated from pregnant women admitted at the prenatal department of the D.O. Ott Research Institute of Obstetrics, Gynecology and Reproduction from October 2017 to May 2018. Susceptibility to antibiotics was determined using disc-diffusion method with OXOID discs and assessed according to the Clinical and Laboratory Standards Institute (CLSI) criteria (M100, 2018).

SUMMARY RESULTS

A total of 46 strains isolated from women with asymptomatic bacteriuria (n=21), pyelonephritis (n=20) and cystitis (n=4) were included in the study. Escherichia coli was most frequently detected (26 strains, 56.5%), followed by Streptococcus agalactiae (7 strains, 15.2%), Enterococcus faecalis (6 strains, 13%), Klebsiella pneumoniae and S. saprophyticus (2 strains each, 4.3%), K. oxytoca, Morganella morganii and S. oralis (1 strain each, 2.2%). Susceptibility testing results for E. coli are presented in the Table. Most of the strains were susceptible to fosfomycin, meropenem and gentamicin. High resistance rates were observed for cefotaxime (50%). This might be attributed to wide spread of extended-spectrum beta-lactamase (ESBL) producing bacteria. A contributing factor can be a high rate of pyelonephritis and associated hospitalization episodes in the study population.

CONCLUSIONS

The majority of UTIs in pregnant women in St. Petersburg were associated with E. coli. Fosfomycin, meropenem and gentamicin showed the highest in vitro activity against this bacterium. The high resistance rates observed for cefotaxime might be connected to wide spread of ESBL determinants, which needs verification using phenotypic and genotypic testing.
INTRODUCTION

The highest possibility of mother to child transmission of Hepatitis B virus (HBV) occurs during childbirth. The presence of HBV DNA in the neonatal cord blood has been considered as a marker for intrauterine transmission. Mechanism of perinatal transmission has not been much explored in an endemic area for HBV infection. Indonesia is categorized as a country with intermediate-to-high endemicity of hepatitis B, with 9.4% prevalence of hepatitis B surface antigen (HBsAg) based on National Basic Health Research 2007. We investigated the contribution of pre-pregnancy, pregnancy and intrapartum risk factors to the occurrence of perinatal transmission of HBV in Makassar, located at the eastern part of Indonesia, which has high rates endemicity than the western part.

MATERIALS AND METHODS

A cross-sectional study of 763 pregnant women who underwent HBsAg screening using the ELISA method. A qualitative DNA HBV examination was performed to determine the possibility of viral transmission to the umbilical cord. The association of perinatal transmission with pre-pregnancy, pregnancy and intrapartum risk were analyzed using chi-square test of SPSS 22.

SUMMARY RESULTS

Out of 52 HBsAg positive mothers, 37 samples (71.2%) occurred perinatal transmission. History of miscarriage was correlated with the occurrence of perinatal transmission (p=0.017). There is no association in history of Hepatitis B vaccine (p=0.860), menstrual irregularity (p=0.082), hyperemesis gravidarum (p=0.596), onset of labor (p=0.741), premature rupture of the membrane (p=0.076), and vaginal delivery (p=0.885) with perinatal transmission.

CONCLUSIONS

Having abortion history is a risk factor for perinatal transmission of hepatitis B virus infection in the high endemic area.
INTRODUCTION

Vertical transmission of infections during pregnancy can have deleterious consequences for the developing fetus. Focused prenatal screening and appropriate treatment of the pregnant woman or the neonate is of paramount importance in the struggle for the elimination of congenital infections. Exact knowledge of the seroprevalence of the infectious agents, with special attention to specific high-risk groups, such as immigrants, is necessary for proper public health planning. This study aimed at portraying the seroprevalence status of pregnant women in Crete on the one hand and the screening practices followed by obstetricians on the other hand, in the belief that these results also reflect on the whole of Greece.

MATERIALS AND METHODS

Demographic and serologic data of all pregnant women delivering from January 2017 to December 2017 in the three major public hospitals in Crete (University Hospital of Heraklion, Venizeleio General Hospital of Heraklion, and “Ag.Georgios” General Hospital of Chania) were collected. Seroprevalence was estimated for HBV, HCV, HIV, syphilis, Toxoplasma gondii, CMV, and rubella. Results were compared among ethnic groups and according to age stratification.

SUMMARY RESULTS

A total of 1912 medical records were studied based on their prenatal screening panel. The mean age was 30.38 (± 6) years. Their origin was Greek (77.2 %), Albanian (22.7%), Bulgarian (3.3%), Romanian (1.7%), East Asian(0.4%), former Republics of Russia (1.9%), Roma population (2%), and Central/Western Europe (0.7%). The mean seroprevalence was 1.5% for HBV, 0.43% for HCV, 0% for HIV, 0.22% for syphilis, 21.7% for Toxoplasma, 69.1% for CMV, and 87.9% for rubella (graph 1). The seroprevalence of Greek women for HBV was 0.5%, while Albanian women, Bulgarian, Romanian and Roma had a high seroprevalence of 4.3%, 5.7%, 2.8%, and 11.1% respectively. Screening for Toxoplasma and CMV was performed in the majority of cases, but no congenital infections were confirmed throughout the year.

CONCLUSIONS

Immigrants have a higher seroprevalence for HBV, HCV and syphilis compared to Greeks, emphasizing the importance of proper screening of this group, which often exhibits low compliance to perinatal care. Prenatal screening for HBV, HCV, and HIV complies with universal standards; syphilis screening needs to be optimized. On the contrary, universal screening noted for CMV and toxoplasma should perhaps be substituted by a high-risk evaluation, as is the case in other countries.
Vaccination during pregnancy against pertussis and influenza is of paramount importance, in an attempt to protect the pregnant woman, the fetus and the newborn for the first 6 months. A range of countries have revised their guidelines in the last decade to specifically include pregnant women as a target group. Under this scope, in 2015 the revised National Immunization Guidelines for Adults in Greece also included these two vaccines specifically for pregnant women. This study was undertaken in an attempt to estimate the information status of pregnant women on the one hand, as well as their compliance to the revised guidelines on the other hand, and identify improvement methods that could be implemented.

MATERIALS AND METHODS

Pregnant women who gave birth in the maternity clinics of the three major public hospitals of Crete (University Hospital of Heraklion, Venizeleio General Hospital of Heraklion and Agios Georgios General Hospital of Chania) from January 2017 to December 2017 were included in this study. Demographic data about age, ethnicity, parity and education were collected. In addition, women were interviewed using a semi-structured questionnaire, in an attempt to verify proper immunization practices as well as their information status concerning proper immunization. Data collected was then statistically analyzed using chi-square analysis.

SUMMARY RESULTS

A total of 1398 pregnant women were included in this study. Only 1% of the study population (14 Greek women), reported having received the influenza vaccination. In addition, only a small percentage (14,4%) were informed about influenza vaccine being included in the latest pregnant women national immunization guidelines. The main information source was the internet (25%), and to a lesser degree health campaign spots on television (17,9%). Health professionals, specifically obstetricians and pediatricians, were responsible in a smaller percentage; 15,8% and 14,8% respectively. Data collected concerning pertussis vaccination were even grimmer. None of the 1398 women had received the specific vaccine during their pregnancy, and only 3,9% had been informed about the importance for their newborn. Internet was the main source of information (27,3%). Pediatricians contributed in 14,5% of the cases, while television spots and obstetricians in 9,1% and 7,3% of the cases respectively.

CONCLUSIONS

Pregnant women immunization rates against influenza and pertussis, are extremely low in Crete, most probably reflecting the situation in all of Greece, eventhough these immunizations have been included in the National Immunization Program since 2015. The majority of pregnant women are completely uninformed about the importance of these vaccinations; it is of paramount importance that perinatal healthcare workers strive towards elevating compliance to 50-60%, as observed in the USA and UK.
**INTRODUCTION**

Improper practice of aseptic techniques could lead to healthcare associated infections. Clinical audit is a quality improvement process that seeks to improve patient care and outcomes. Despite updated guidelines, compliance with aseptic precautions is still suboptimal. This audit aims to assess healthcare providers' compliance to aseptic techniques protocols during neonatal procedures in El-Raml hospital neonatal intensive care unit.

**MATERIALS AND METHODS**

Auditing of healthcare providers compliance for application of neonatal procedures aseptic technique protocols of (percutaneous peripheral venous line (PPVL), umbilical venous catheterization (UVC) ,endotracheal intubation (ETT), nasogastric tube (NGT), central venous line, bladder catheter, lumber puncture, emergency evacuation of air leaks (EEAL), chest tube drainage) were assessed for 6 months. Audit was done by direct observation of practices using designated checklists for each procedure.

**SUMMARY RESULTS**

The current audit study included 1893 procedures. There is poor adherence/low compliance of health care workers to the total steps of neonatal procedures aseptic technique checklists. The best doctor adherence was 66.7% in LP and TNA followed by 52.4% in central line placement, 50% in UVC and urinary catheter, 44.4% in chest tube, 38.3% in NGT and lastly 14% in ETT. Doctors’ adherence to checklist steps of PPVL was higher than nurses but no significant difference between doctors and nurses adherence to NGT checklist.

**CONCLUSIONS**

Audit is a valuable method to evaluate health care providers' adherence to aseptic technique protocols. There is defect in applying aseptic techniques during performing most of the neonatal procedures so, training program is essential.
**TOPIC:** Intrapartum Surveillance

**ABSTRACT ID:** 46

**TITLE:** Effects of environmental conditions on the birth process and some of the labor hormones

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**INTRODUCTION**

In order for the natural physiology of birth to take place, it is important that the environment and healthcare personnel are familiar, and that women are not at a foreign environment where they feel threatened. The aim of this study was to compare the effect of environmental conditions on the birth hormones and labor process of pregnant rats.

**MATERIALS AND METHODS**

A total of 18 pregnant Sprague Dawley rats were divided into control, stress and enriched group. Animals in the stress group were exposed to unexpected variable stress paradigm three times a day during their pregnancy third trimester. Whereas animals raised in enriched environment were raised in larger cages equipped with different toys. They were subjected to open field test for 5 minutes in the last trimester. Blood samples were taken from the tail vein at the beginning of birth, and ten parameters (including corticotropin-releasing hormone, oxytocin, endorphin, epinephrine, norepinephrine, prolactin, estrogen, progesterone, vasopressin and Brain-Derived Neurotrophic Factor) involved in labor were assessed. Kruskal Wallis, Mann Whitney U and Spearman’s rho correlation analysis were used to compare data.

**SUMMARY RESULTS**

Interactions of hormones were significantly different among the groups. The blood values of the three groups are shown in Table 1. While the hormonal interactions in the control group were similar to the physiological parameters, while in other groups this situation displayed variations. There were significant (p<0.05) differences in the values of Corticotropin Releasing Hormone (CRH) and Vasopressin hormone levels. In the open field test, standing distribution scores of animals displayed differences among control, stress and enriched environment groups (p<0.05).

**CONCLUSIONS**

These results showed that labor environment diversely affects the physiology of birth. When the birth starts, it is seen that the rats turned their backs to the camera while giving birth because they noticed the camera. It shows rats care about the privacy of himself. Therefore, the birth environment, either at home or at the hospital, needs to be well-organized accordingly.
Intrapartum Surveillance

ABSTRACT ID: 201

TITLE: Features of anamnesis and course of pregnancy of patients who have given birth in a state of hypoxia of varying severity

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INTRODUCTION

Intrauterine hypoxia is a pathological condition that occurs during fetal oxygen starvation during pregnancy and childbirth. This condition is not an independent disease, and occurs as a result of various pathological processes in the mother-placenta-fetus system. The duration, timing, Genesis and features of the course of oxygen starvation of the fetus determine the possible consequences for its intrauterine development, and for neonatal adaptation.

MATERIALS AND METHODS

The study of medical records of 47 patients who gave birth to children in a state of hypoxia of varying severity in the maternity hospital at city clinical hospital named after S.S. Yudin of the Department of health of Moscow. 85.1% of patients were in the age range from 18 to 35 years old, 14.9% - from 36 to 45 years old. There were no young pregnant women in this study. 38.3% of the patients were primiparous and 59.6% were recurrent. In 89.4% of patients, pregnancy was single, in 10.6% - multiple (twins). Depending on the gestational period of the birth of the patients were classified into premature (before 37 weeks) – 51.3%, timely (37-41 week) of 44.7% and a delayed (>41 weeks) is 4.3%. Delivery in 55.3% of patients occurred by vaginal labor, and in 44.7% - by cesarean section.

SUMMARY RESULTS

Somatic history is burdened in 78.7% of pregnant women mainly due to blood system pathology (40.4%), cardiovascular diseases (29.8%) and urinary system pathology (21.3%). 36.2% of the patients had a burdened obstetric history due to spontaneous miscarriages and ectopic pregnancies, as well as artificial abortions (2 and more). Gynecological diseases were detected in 31.9% (chronic inflammatory diseases of the uterus and appendages, hyperplastic processes of the endometrium, myoma, ovarian dysfunction, STI). The present pregnancy in 74.4% of the cases was accompanied by complications, among which the most significant were hypertensive disorders (including preeclampsia), the threat of termination of pregnancy, chronic placental insufficiency, acute fetal hypoxia, premature rupture of amniotic fluid. In 31.9% of the patients microbiologically significant growth of microorganisms in sowing from the cervical canal was revealed mainly due to E. faecalis, E. coli, Staph.coagulase negative.

CONCLUSIONS

Thus, the examined patients had a somatic history in 78.7%, an obstetric - gynecological one in 68.1% and a complicated course of the present pregnancy in 74.4%, which led to premature delivery in more than half of the cases and delayed delivery in 4.3%. The revealed features create favorable conditions not only for the birth of children in a state of hypoxia, but also inevitably lead to an increase in neonatal and child morbidity.
TOPIC: Intrapartum Surveillance

ABSTRACT ID: 219

TITLE: Process of labour at pregnancy with oligoamnios

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INTRODUCTION

The correlation of isolated oligoamnios and unfavorable neonatal outcomes is still a controversial question. The frequency of this pathology varies from 0.5 to 5% according different studies. Oligoamnion can be both isolated or associated with various maternal diseases (preeclampsia, arterial hypertension, etc.) and fetal factors (fetal urinary system disease, congenital malformations). The causes and prognostic value of isolated oligoamnios are poorly understood. The purpose of this study was to analyze perinatal outcomes and features of labor’s progress with isolated oligoamnios compared with patients with normal amniotic fluid index (AFI>5cm) for USR in the period of pregnancy 37-42 weeks.

MATERIALS AND METHODS

The study included 90 patients in gestational age of 37-42 weeks with a single pregnancy, occipital presentation, with a spontaneous onset of labor. One of the condition they didn’t have another obstetric and somatic pathology. The main group consisted of 30 patients with AFI less than 5 cm (test “amnishure” was negative). Sixty patients entered the control group with an AFI above 5 cm by USR. We used follow statistical methods: Student's test, the two-sided exact Fisher test.

The groups were comparable in age and parity of birth. In the main group, the average gestational age at the time of childbirth was greater 40.4 ± 0.8 weeks than the control group - 39.9 ± 0.8 weeks (Student's test 2.52, p = 0.01);

SUMMARY RESULTS

More often we observed postdate pregnancy, and used methods of preparing the cervix for labor (23.33% versus 9%, p = 0.04), in main group was a higher percentage of early amniotomies (13.33% versus 8.3%, p = 0.45). Suspicious type of CTG, variable decelerations in the main group were observed in 7 cases (23.3%) against 9 cases (15%) of the control group (p = 0.38), which is associated with an increased risk of umbilical cord compression in labor, and pathological type of CTG was observed in 4 (13.3%) patients of the main group and in 2 (3.3%) of the control group (p = 0.09). The frequency of meconium in the amniotic fluid was 8 (26.7%) in patients with oligoamnios and in 9 (15%) with a normal volume of amniotic fluid (p = 0.25). However, the percentage of cesarean sections and the Apgar score of the newborns did not differ significantly.

CONCLUSIONS

According our data, one isolated oligoamnios is not a significant risk factor for developing adverse neonatal outcomes. The frequency of meconial staining did not significantly differ in the groups, therefore these facts are not related. The oligoamnios is associated with the concept of a " non-bulging =flat fetal membrane" and serves as the indication for early amniotomies, but the usefulness of this manipulation has recently been questioned and requires further research.
Correct interpretation of the CTG is the first and most important aspect of using ST waveform analysis (STAN). A baseline T/QRS rise usually indicates that the fetus is utilising anaerobic metabolism. The magnitude of the rise is given in the event log as ≥0.06. Thus, if the CTG is normal then no action is required with any STAN event. This may suggest a n adrenaline surge in a healthy fetus. Is the general surge of stress hormones (adrenaline) occurring in response to the squeezing and squashing of labour. This will stimulate the heart to increase its pumping activity but at the same time induce glycogenolysis and high T waves. Nevertheless, the fetal effects of anaerobic metabolism are largely understood. This was a prospective observational study.

MATERIALS AND METHODS

Project evaluation objectives: role of 'STAN events' during normal CTG on arterial cord blood hypoxemia, acidosis (PH, PaO2, PaCO2, HCO3-, and EB), and lactacidemia. The whole study population consisted of 21 deliveries, with 50 'STAN events' registered during 2 hours before delivery. The data was collected prospectively from labors monitored with ST analysis (Neoventa Medical AB®, MDoc) as an adjunct to conventional intrapartum FHR monitoring. Primary endpoints were the correlation between the magnitude of the T/QRS (0.07+0.01) given in the 'STAN event' and metabolic acidosis and lactacidemia levels in arterial cord blood at delivery. Umbilical artery hemogasanalysis and lactacidemia levels were measured in the blood drawn from the umbilical arteries immediately after delivery (ABL90 FLEX).

SUMMARY RESULTS

The average neonatal cord artery indexes of fetal hypoxia and acidosis in the whole study population were: pH 7.34 ±0.04, PaO2 29.03+5.29, PaCO2 39.86+6.74, HCO3- 20.20+1.38, EB 4.08+1.81, and lactate 3.91+1.66, respectively. In addition, magnitude of the T/QRS showed a statistically significant positive correlation with EB (r= 0.17, p < 0.001) and lactate (r= 0.21, p < 0.001). Conversely, magnitude of the T/QRS showed a statistically significant negative correlation with pH (r= 0.07, p < 0.001), PaO2 (r= 0.09, p < 0.05), PaCO2 (r= 0.02, p < 0.05), and HCO3-(r= 0.20, p < 0.001), respectively. Thus, an increase in the magnitude of the T/QRS may reflect metabolic adaptation to hypoxia also in fetuses with normal CTG. Hypoxemia is one way by which this myocardial energy balance situation can change producing both ST waveform changes and CTG anomalies.

CONCLUSIONS

This is the first study that correlate the magnitude of the T/QRS in 'STAN events' and normal CTG with the index of hypoxia and acidosis in arterial cord blood at delivery. 'STAN events' with normal CTG are not associated with clinical metabolic acidosis occurrence at delivery. However, in the whole study population, magnitude of the T/QRS is positively or negatively significantly with all acidosis index of cord blood hemogasanalysis at birth, and with contemporary lactacidemia levels.
INTRODUCTION

Peripartum cardiomyopathy (PPCM) or Meadows syndrome is a serious condition, manifested as non specific heart failure, usually occurring in an African multiparous woman with no pathological history, and for which no cause has been identified. The objective of our study is to detail physiopathological mechanisms, clinical manifestations, diagnostic means as well as therapeutic management and prognosis of this pathology.

CLINICAL CASES

This is about 2 observations of PPCM diagnosed and monitored at the Maternity and Neonatology Center of Farhat Hached’s University Hospital in Sousse, Tunisia, with a review of the literature. Our two patients were primiparous aged 36 and 32 years old. Pregnancies were ongoing mono-fetal pregnancies. In one case, cardiomyopathy occurred in antepartum at 37 weeks of gestation. In the other, the cardiac pathology was declared in postpartum. The evolution was favorable in both cases. The risk factors involved are poor socioeconomic conditions, multiparity, twinning and anemia. The diagnosis is made by echocardiography that shows dilated cardiomyopathy with impaired left ventricular systolic function, after eliminating any other cause of heart failure. Recurrence in subsequent pregnancies in case of survival is the rule.

CONCLUSIONS

PPCM is a rare but serious form of heart failure whose pathogenesis remains poorly understood. In addition to the vital prognosis that is involved, the functional prognosis remains reserved with the risk of persistent heart failure. The risk of recurrence in subsequent pregnancies is not negligible, closely related to the complete recovery of cardiac function, sometimes making subsequent pregnancy unauthorized.
INTRODUCTION

Critical Care Departments Are Fully Necessary For Patients Who Suffer From Severe Obstetric Complications. So, It Is Very Important To Do And Make The Best Setting In Each High Risk Pregnancy Center. We Did A Prospective Cohort Study In Patients Who accepted As A high Risk Pregnancy Leads To admission In Ccu And Icu.

MATERIALS AND METHODS

All Patients Who Admitted In Maternity Unit From July 2012 Until April 2018 Were Included And Their Informations Were Analyzed

SUMMARY RESULTS

During The Study, 200 Obstetric Patients Were Admitted In Ccu Or Icu Service (1 Per 1000 Deliveries). Postpartum Hemorrhage (51%) Was The Most Common Cause Of Admission, The Second Place Was Pregnancy Induced Hypertension (30%) And Followed By Heart Disease Especially Peripartum Cardiomyopathy. Overall Mortality Rate Was 0.5%, Invasive Ventilation Was Needed In Ten Percent Of Patients. The Median Duration Of Ccu And Icu Admission Stay Was Three Days.

CONCLUSIONS

Adequate Number Of Critical Care Bed, Experienced Critical Care Obstetrician Specialist, Effective Coordination Between Critical Care Unite (Medical And Surgical) And Intensivis Tare Needed To Do The Best For Near To Miss Obstetric Patients.
INTRODUCTION

Late pregnancy is a current phenomenon of society. Many sociological, demographic and medical factors were responsible for this rise. Nevertheless, these late pregnancies would cause maternal and fetal morbidity and mortality. We propose to evaluate the prevalence of obstetric and neonatal complications in pregnant women over 40 years of age.

MATERIALS AND METHODS

A retrospective study comparing 205 pregnant women aged 40 and over to 200 women aged 20 to 38 years, stratified on parity. The relationship between maternal age and obstetric events was studied using statistical tests. Statistical study was descriptive and analytical.

SUMMARY RESULTS

Age greater than or equal to 40 years was associated with significantly increased rates of gestational diabetes (OR = 2.67), chronic diabetes (OR = 2.33) and preeclampsia (OR = 1.62)). There were no statistical differences in the rate of fetal malformations (OR = 0.69, 95% CI 0.32 - 1.49), fetal deaths in utero (OR = 0.35, 95% CI 0.02 - 4.67) and prematurity (OR = 0.97, 95% CI 0.51 - 1.83). Rates of caesarean section and instrumental extraction do not seem to be increased. On the other hand, the risk of hemorrhages of the delivery is multiplied by 2. With regard to neonatal prognosis, hospitalization in neonatology is 3 times higher in the newborn of mothers aged over 40, whereas neonatal mortality is comparable in both groups.

CONCLUSIONS

Pregnancies in women aged 40 and older are associated with increased prevalence of some pregnancy and neonatal conditions.
INTRODUCTION

The medical and social problem of recurrent pregnancy loss raises the important scientific and clinical trials. The frequency of this pathology is from 10 to 35% of pregnancies and does not decrease despite various complex modern diagnostic methods and treatment. The role of the thrombophilia in a structure of the recurrent pregnancy loss and placental insufficiency is from 40 to 75%. For the last decades, healthcare workers began to recommend the assisted reproductive technology. However, obstetrical complications became more common in pregnancy after in vitro fertilization (IVF), the highest percentage of which observed oocyte donation IVF.

MATERIALS AND METHODS

We report the clinical case of the favorable outcome of a multiple pregnancy after oocyte donation IVF in a patient with a recurrent pregnancy loss and genetic polymorphisms of hemostasis genes.

SUMMARY RESULTS

A 46-year-old woman came to our hospital after concerning the 5th multiple pregnancy. This pregnancy occurred after second IVF cycle with an oocyte donation. The previous 3 pregnancies- a missed miscarriage, 1 pregnancy-19th -20th week with a late miscarriage complicated by obstetric bleeding, 1 pregnancy was accompanied by preeclampsia complicated by obstetric bleeding and disseminated intravascular coagulation in the early postpartum period. The patient has thrombophilia. The pre-conception care involved low-molecular-weight heparin therapy (LMWH). The constant dynamic follow-up included thromboelastography. Pregnancy terminated on 34th-35th weeks with began labor. C-section was performed, live fetuses were delivered. The Apgar score in both-7/8. Pathologic findings, which could be supposed as a result maternal floor infarction (MFI), massive perivillous fibrin deposition, fetal thrombotic vasculopathy, are specific placental lesions with associations to recurrent adverse thrombophilia.

CONCLUSIONS

The example of this clinical case shows that early diagnosis of the reasons of recurrent pregnancy loss, adequate preparing for IVF without high hormonal stimulation, early detection of risks and carrying out a complex of the preventive actions including impact on all part of a hemostasis allowed to carry out a successful completion of pregnancy, the birth of healthy children and a current of the postpartum period without complications.
TOPIC: Maternal psychiatric disorders and pregnancy

ABSTRACT ID: 109

TITLE: The impact of early pregnancy period nausea and vomiting on the anxiety level

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INTRODUCTION

The nausea and vomiting are affecting 50–80% of all pregnant women. The nausea and vomiting of early pregnancy period is defined as a problem that starts with the 4th to 6th pregnancy week and ends at about the 16th pregnancy week. However, this problem is considered to be a situation that lasts sometimes throughout pregnancy and affects the life of the expectant mother negatively. The epidemiology of pregnancy-related nausea and vomiting remains unclear and is likely multifactorial. Various metabolic and neuromuscular factors have been implicated in the pathogenesis of NVP. Severe symptoms can negatively impact daily functioning, anxiety and work. This study has been conducted to determine the impact of early pregnancy-period nausea and vomiting on the anxiety level in pregnancy.

MATERIALS AND METHODS

The study was performed in descriptive type. The population of the study was constituted by the pregnancy polyclinic of a hospital situated in the province of Karaman and the expectant mothers who come to the pregnancy school. The sample size was determined as 246 pregnant women. In data collection, a 13-question questionnaire developed by the researcher and Beck Anxiety scale were used. The normal distribution of research data was assessed by Lilliefors'lu Kolmogorov-Smirnov (z: 1.800, p:0.003), histogram graph, normal distribution curve, Skewness and Kurtosis. In determining the data, non-parametric tests of Mann Whitney U and Kruskal Wallis tests, Spearman Correlation and Regression analysis were used.

SUMMARY RESULTS

The Beck Anxiety point average of pregnant women taking part in the study was found as 13.4±9.7. It was determined that 70.7% of pregnant women experienced nausea and vomiting. The nausea and vomiting ended in trimester I in 31.6%, in trimester II in 50.6%, and in trimester III in 17.8%. 11.8% of pregnant women live in severe-level anxiety. It was identified in the study that the variables such as pregnant women' age, educational status, working status, miscarriage/stillbirth background, whether the pregnancy is planned or not, trimester of the pregnancy, pre-pregnancy BMI, and weight gained in pregnancy did not affect anxiety level (p>0.05). It was ascertained that a difference takes place between pregnant women' pregnancy experience, nausea and vomiting experienced in pregnancy, trimester of termination of nausea and vomiting, and the daily works, social lives, spouse-relations of pregnant women experiencing nausea and vomiting and their anxiety level (p<0.05).

CONCLUSIONS

It was found in the study that the early pregnancy period nausea and vomiting has impact on anxiety level. Factors such as the frequency of anxiety, the duration of nausea and vomiting, daily affairs, social activities and affecting partner relationships have been found to increase. Hence, it is possible to suggest that consultancy can be provided taking a psycho-social assessment into account along with physical assessment in the early pregnancy period by health professionals.
INTRODUCTION

Women undergo adaptive physical and psychological changes during pregnancy, labour, and puerperium, which make them vulnerable to psychological disorders. One frequently reported expression of these adaptations is post-partum depression (PPD), distinguished from other forms of depression in 1994 by American Psychiatric Association in the 4th edition of Diagnostic and Statistical Manual of Mental Disorders. Numerous risk factors can lead to women acquiring PPD after childbirth. The few studies that have examined the risk of postpartum depression associated with maternity blues in healthy mothers with spontaneous births of healthy full-term infants, involved a number of methodological problems. But Positive affect, Negative affect, and Depression are important aspects of maternity blues.

MATERIALS AND METHODS

The study was prospective and observational design and used widely used instruments such as MBS 18 (distinguishing negative and positive affect, and depression) and EPDS 19 (distinguishing anhedonia, anxiety and depression). We administered the EPDS 19 and an Italian translation of the 16-item self-rating Dutch MBS of Pop et al. (2015) to patients in the maternity ward of Policlinico Abano Terme in order to examine their psychometric characteristics in early post-partum. The Dutch MBS had been derived from the 28-item MBS of Kennerley and Gath (1989). The hospital where the study took place is located in an industrialized area of North-Eastern Italy supporting advanced educational levels, good socio-economic status, occupation, and low and late fertility.

SUMMARY RESULTS

This study used a prospective observational design and included concurrent validation analysis of the 16-item Maternity Blues Scale (MBS) Dutch version to determine the direction and magnitude on the Edinburgh Postnatal Depression Scale (EPDS) symptoms, including three factors, anhedonia, anxiety, and depression in 320 uncomplicated pregnancies early after childbirth. Demographic data included age, marital status, educational level and obstetric features (e.g. parity, mode of delivery). Some additional data regarding obstetric and neonatal outcomes were collected from medical records during hospitalization. We found a statistically significant correlation between MBS and EPDS global scores (0.22, p<0.001). Moreover, Negative affect was significantly correlated with the EPDS global score (0.23, p<0.001), anhedonia (0.12, p<0.05), and anxiety (0.25, p<0.001); Positive affect with the EPDS global score (0.14, p<0.05) and depression (0.13, p<0.05); and Depression subscale with EPDS global score (0.15, p<0.05), anhedonia (0.12, p<0.05), and anxiety (0.12, p<0.05), and depression (0.12, p<0.05) presented significantly higher Global MBS score (2.51+0.38 vs 2.26+0.38, p=0.01), and namely negative affect (2.88+0.67 vs 2.62+0.38 p=0.04) and positive affect (2.52+0.69 vs 2.32+0.38, p=0.04) and depression (2.09+0.75 vs 1.82+0.36, p=0.02).

CONCLUSIONS

This study investigated, for the first time, the 3-factor structure of the 16-item MBS in the Italian context. We wanted to determine the direction and magnitude of any interaction between negative affect, positive affect, and depression on EPDS anhedonia, anxiety, and depression subscales in at term, healthy women living in an industrialized area of North-Eastern Italy two days after delivery. We found a statistically significant correlation between MBS and EPDS global scores and subscales.
INTRODUCTION
Depression is a state characterized by a depressed mood and loss of interest in familiar activities that affect the thoughts, behavior, feelings and well-being of a person. It is known that women are about 1.7 times more at risk of developing depressive conditions. Post-partum depression arises following pregnancy and childbirth, it is a severe disorder threatening the well-being of both mother and baby. In the affected families, there is a higher risk of the child’s impaired emotional, social and cognitive development. Post-partum depression is one of the most common complications of the postnatal period. The disease prevalence varies from 6.5 to 12.9% and more in countries with low and middle levels of income and life.

MATERIALS AND METHODS
To reveal the prevalence of post-partum depression among patients of maternity hospital of Yudin using a questionnaire EPDS. All patients in the post-partum period were asked to answer the questions in part A, which presents general screening questions, with any positive response, patients were asked to go through part B, which more closely describes the severity of depression.
40 patients in the postpartum period were interviewed using a questionnaire EPDS. We have found: 22 (55%) women have signs of post-partum depression, and 6 (15%) of them have a pronounced depressive syndrome. Although all women had thorough antenatal observation, individual birth management, a full family, that is, social risk factors were excluded.

SUMMARY RESULTS
All patients in the post-partum period were asked to answer the questions in part A, which presents general screening questions, with any positive response, patients were asked to go through part B, which more closely describes the severity of depression. In the EPDS, the response categories were rated as 0, 1, 2 or 3 according to the increased severity of the symptom. The total score was calculated by summing up for each of the 10 questions. The sum of scores of 10 or higher or a positive answer to question 10 was regarded as a positive result and requires a more detailed survey. We were questioning of 40 patients in the post-partum period, of them in 12 patients (30%) - CS, in 28 patients (70%) - spontaneous childbirth. Age 32,1 ± 1,8 years. Primiparous - 15 (37.5%). All births were timely. 40 patients in the postpartum period were interviewed using a questionnaire EPDS. We have found: 22 (55%) women have signs of PPD, and 6 (15%) of them have a pronounced depressive syndrome.

CONCLUSIONS
We did not intend to reveal such a high percentage of the spread of depressive symptoms among women. In the USA for to solve this problem, it was suggested to allocate the so-called fourth trimester of pregnancy, which is necessary to continue a thorough examination of a woman after childbirth as a prophylaxis for the development of depressive conditions. In addition, there is a need for a competent organization of psychological care for women in the postpartum period at the state level.
INTRODUCTION
Maternal recall impairment may occur during pregnancy and the postpartum. Our pilot case series aims to assess factors associated with maternal recall following a recent delivery.

MATERIALS AND METHODS

50 women delivering consecutively at a university hospital are included in the study. During the postpartum visit to her doctor’s clinic, 40 to 50 days after the delivery date, each patient was asked whether she could participate in a study focusing on maternal memory; in this case she would fill in a questionnaire that included series of opened and closed questions. Memory was evaluated by three approaches: we assessed objective recall of key elements in the delivery process and compared them to what existed in the medical file. Maternal recall of details in the labor suite was investigated. Anxiety and subjective memory evaluation were also evaluated.

SUMMARY RESULTS

The highest score of correct answers was 87%. A correlation was found between maternal age and educational level on one hand and correct answers on the other hand. The other studied factors (tobacco use, pain, anxiety, obstetrical maneuvers, epidural analgesia and the hour of childbirth) did not have any influence on maternal recall. The newborn’s weight and gestational age were between the best-recalled events, while antibiotic use and uterine cavity revision were the least remembered. Pre-partum anxiety increases per-partum anxiety, which is associated with subjective memory impairment.

CONCLUSIONS

Although postpartum maternal recall seems good overall, selective impairment may exist and could lead to misleading information. Checking the data collected from postpartum women before using them in studies should be mandatory.
TOPIC: Maternal psychiatric disorders and pregnancy

ABSTRACT ID: 374

TITLE: Maternal anxiety symptoms during second half of gestation and perinatal outcome in complicated pregnancies

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INTRODUCTION

The prenatal period is recognized as a time of major transition that can be extremely emotional. Symptoms of anxiety are experienced by many pregnant women, mainly when pregnancy is complicated by any maternal or obstetric disorder. The aim of this study was to prospectively investigate the maternal symptoms of anxiety in the second half of pregnancy and to analyze the perinatal results in complicated pregnancies.

MATERIALS AND METHODS

This is a prospective observational study of pregnancies complicated by any maternal or obstetric disorder. The inclusion criteria: single and living fetus; maternal age between 18-34y; with maternal or obstetric disorder, gestational age above 20 weeks. Beck Anxiety Inventory (BAI) validated to Brazilian Portuguese language was applied. The questionnaire presents 21 self-reported items and anxiety symptoms were rated as minimal (BAI 0-10), mild (BAI 11-19), moderate (BAI 20-30) or severe (BAI 31-63). Perinatal results were collected by phone call to the participants. Statistical analysis: mean, SD, absolute and relative frequencies. Research Ethics Committee approval nº 1.921.391.

SUMMARY RESULTS

A total of 138 pregnant women were interviewed. The mean maternal age was 31.1 y (SD 5.4y); 34.1% were nulliparous, the main complication was hypertensive disorders (39.7%), and the mean gestational age at interview was 29.5 wks (SD 5.9 wks). The mean BAI total score was 11.4 (SD 9.4). In the present study, the distribution of the cases according to BAI total score was: minimal 80 (58.0%); mild 34 (24.6%); moderate 16 (11.6%); and severe 8 (5.8%). In the analysis of perinatal outcomes, no statistically significant difference was found in the comparison between the groups with minimal or mild anxiety and moderate or severe anxiety, regarding the following parameters: gestational age at delivery (median, 39 wks vs. 38 wks, p = 0.129); birth weight (median, 3210g versus 3165g, p = 0.592), first minute Apgar's score (median 8 vs. 8, p = 532), positive screening of alcohol (27.2% vs. 29.2%, p = 0.845 ) and smoking (7.0% vs. 4.2%, p = 0.609).

CONCLUSIONS

These results highlight the importance of emotional health screening during pregnancy, mainly when maternal or obstetric disorder is diagnosed during pregnancy.
INTRODUCTION

The prenatal period is recognized as a time of major maternal susceptibility to harmful behavior. Using standard screening questionnaires in routine prenatal care does not always detect maternal alcohol consumption. The aim of this study is to describe the prevalence of alcohol consumption during pregnancy using the questionnaires CAGE, TACE, TWEAK and AUDIT and to analyze the perinatal results in complicated pregnancies.

MATERIALS AND METHODS

This is a prospective observational study of pregnant women interviewed during prenatal care appointments. The inclusion criteria: single and living fetus; maternal age above 18 y; gestational age above 20 wks. Epidemiological and sociodemographic characteristics were investigated and the validated Brazilian versions of the instruments: T-ACE, CAGE, TWEAK and AUDIT were applied. Perinatal results were collected by phone call to the participants. The analysis was descriptive and comparison by chi-square and Fisher's exact tests. The significance level was 0.05. Research Ethics Committee approval nº 1.921.391.

CLINICAL CASES AND SUMMARY RESULTS

A total of 138 pregnant women were interviewed. The mean maternal age was 31.2 y (SD 5.6 y); 33.8% were nuliparous, and the mean gestational age at interview was 29.2 wks (SD 6.1 wks). The alcohol consumption risk was found in 38 (27.5%). In the analysis of perinatal outcomes, no statistically significant difference was found in the comparison between the groups with positive alcohol consumption risk and negative alcohol consumption risk, regarding the following parameters: gestational age at delivery (median, 39 wks vs. 39 wks, p = 0.634); birth weight (median, 3175g vs. 3227g, p = 0.236), first minute Apgar score (median 8 vs. 8, p = 0.198), moderate or severe maternal anxiety (18.4% vs. 17.0%, p = 0.845) and smoking (13.2% vs. 4.02%, p = 0.053).

CONCLUSIONS

The studied instruments identify the risk of alcohol consumption during pregnancies and the TWEAK identified the largest number of pregnant women with suspected alcohol consumption at risk. Although no significant difference was demonstrated, the proportion of cesarean section and smoking were more frequent in the alcohol-at-risk group.
TOPIC: Maternal psychiatric disorders and pregnancy

ABSTRACT ID: 524

TITLE: Vitamin D levels and reduced bone mineral density after birth.

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INTRODUCTION
The pregnancy period is accompanied by changes in the metabolism of vitamin D and calcium-phosphorus metabolism. Adaptation mechanisms include increased absorption of calcium in the intestine, reduced excretion of calcium by the kidneys, the synthesis of active metabolites of vitamin D by placental tissue. With insufficient provision of vitamin D, the predominance of osteoresorption processes occurs, which can lead to a decrease in bone mineral density (BMD). Vitamin D deficiency occurs in 70-90% of pregnant women living in St. Petersburg. According to the literature, in 30-52% of cases, physiological pregnancy is accompanied by a decrease in BMD. In this regard, the study of the relationship of insufficient saturation of the organism of pregnant women with vitamin D and BMD remains relevant.

MATERIALS AND METHODS
A complete study was conducted at the base of "Almazov National Medical Research Center" in the period from October 2013 to November 2014. There were examined 70 patients at 3-5 days after birth living in St.-Petersburg. The age of women ranged from 20 to 35 years. Using the method of two-energy x-ray osteodensitometry on the osteodensitometer Lunar Prodigy DF, the BMD was evaluated in the central and peripheral parts of the skeleton. For the reduction of BMD, the corresponding osteopenia took Z-criterion from -1 to -2.5 SD. The level of 25-hydroxyvitamin D (25(OH)D) in blood serum was determined by chemiluminescence method. The level of 25(OH)D < 30 ng/ml corresponds to vitamin D insufficiency, 25(OH)D < 20 ng/ml - deficit of vitamin D.

SUMMARY RESULTS
According to the results of two-energy x-ray osteodensitometry, the decrease in BMD corresponding to osteopenia occurs in 55% (n=40) of puerperas in 45% (n=30) of puerperas, normal BMD values were revealed. The following factors of reduction of BMD were found: body mass index (BMI >25 kg/m2), the presence of chronic diseases, menstrual cycle disorders, parity, pregnancy complications, calcium intake less than 1000 mg per day was observed almost equally and no significant statistical relationship was revealed. Attention is drawn to the revealed vitamin D deficiency (mean value of 25(OH)D 16±4.27 ng/ml) occurring in the group with a decrease in BMD. Vitamin D insufficiency was detected in women with normal BMD (mean value 25(OH)D 26±4.27 ng/ml). The distribution of BMD in postpartum women with reduced BMD was as follows in the distal part of the forearm in 48% of women with childbearing (Z-criterion, SD = -2.2±0.28).

CONCLUSIONS
1. Vitamin D deficiency is a significant risk factor for BMD reduction.
2. The most vulnerable division of the skeleton during pregnancy is ultradistal part of the forearm area that can serve as a marker of reduction of the BMD during pregnancy.
INTRODUCTION
Stress, a concept born in our post-modern society. It alters quality of life, productivity, etc... Infertility is a great generator of stress within the couple. However, does stress influence results in assisted medical procreation? What is its impact? And is there a correlation between stress, ovarian response, volume and sperm mobility, embryonic quality and pregnancy rate?

MATERIALS AND METHODS
Prospective study including 65 candidates undergoing ovarian hyperstimulation during IVF / ICSI cycles.
All patients reply to Beck's Anxiety Inventory, translated into Arabic. The questionnaire gives a quantitative estimate of the intensity of anxiety. It allows to retain the diagnosis of anxiety from a cut-point to 10, and to judge the intensity of this anxiety.
Our candidates were divided into 3 Beck groups according to the severity of the anxiety:
1) Group (1): "mild" anxiety score 0 to 21 (37 patients),
2) Group (2): "moderate" anxiety score 22 to 35 (24 patients),
3) Group (3): "severe" anxiety score≥ or = 36 (4 patients).
We compared: level of cortisolemia, number of oocytes punctured, maturation's degree of oocytes, TOP quality embryo's rate and biological/clinical pregnancies's rate.

SUMMARY RESULTS
Concerning cortisolemia correlation and Beck score, cortisol level was significantly higher in group 3 patients compared to groups (1) and (2) on day 3, with a positive correlation with anxiety score.
For the anxiety score correlation and mean number of oocytes collected at the puncture, there was no significant difference with p = 0.69.
As for the average rate of oocyte maturation, our results showed that the group experiencing less anxiety had a significantly higher rate of oocyte maturation: thus the rate of oocyte maturation was 67.95% for the group (1), 34.74 % for group (2) and 37.5% for group (3)
There was no significant difference in sperm parameters: p = 0.96 for mean sperm volume, and p = 0.82 for average sperm motility.
A higher rate of TOP Embryo was found in the minimal anxiety group with 79.81% for the group (1), 71 , 42% for group (2) and 66.66% for group (3).
There was significant difference between the three groups concerning rate of biological/clinical pregnancies.

CONCLUSIONS
Stress assessed by Beck score and mean cortisol levels at different stages of assisted reproduction impaired the quality of the ovarian response (oocyte maturation and Top quality embryo), but not its quantity. Spermatic parameters seem to be less affected by stress.
INTRODUCTION

Low oxygen saturation is a frequent clinical finding encountering in neonatal intensive care unit, which is usually associated with serious conditions and requires urgent treatment. After ruling out cardiac and respiratory causes, central cyanosis makes clinicians to conduct further evaluation for hemoglobin variants. Hemoglobin M disease is one of congenital methemoglobinemia characterized by lifelong cyanosis which is unresponsive to oxygen therapy. Treatment is not required for this hemoglobin variant. Early diagnosis avoids unnecessary investigations and alleviates concern for the patient and the family.

CLINICAL CASES

We report a case of male newborn with low oxygen saturation presenting from birth. This child had a normal weight and was born uneventfully at 38+6 weeks. He did not appear respiratory difficulty signs except of cyanosis. Oxygen saturation using pulse oximetry was 77% and arterial blood saturation was above 95%. After ruling out cardiac and respiratory causes, further evaluation for dyshemoglobinemia was conducted. Each fraction of hemoglobin by several co-oximetric measurement was within the reference range, including 0.2% of methemoglobin. Hemoglobin electrophoresis showed normal profiles for the age. Because of the cyanosis presenting from birth and no family history of cyanosis, we conducted direct Sanger sequencing of HBA2. We found a point variant of HBA2 exon 2, which results in a change of the 59th amino acid from histidine to tyrosine. This single point variant causes hemoglobin M Boston. The genetic evaluation of the patient’s parents was normal for the above mutation.

CONCLUSIONS

This is the first de novo case of hemoglobin M Boston presenting in the proband from South Korea. In newborns, low saturation on pulse oximetry in the face of normal arterial blood saturation value and measurement of normal methemoglobin range by co-oximetry are probably a clue to hemoglobin M disease. The family should be informed about the good prognosis in order to avoid unnecessary investigations and therapeutic interventions.
INTRODUCTION

Background: The most important factor affecting weight gain after birth is the type and mode of infant feeding. The most suitable nutrition is exclusive breastfeeding begins at the moment of birth and continues throughout nights and days until the end of six months. To have a successful breastfeeding, newborns also require establishing a good communication with the breast which can be influenced by some difficulties. The most common problem with breast is breast engorgement.

Aim: The aim of this study is to determine the effect of breast oketani-massage therapy on infant weight gain in lactating women with congestion in breast.

MATERIALS AND METHODS

This clinical trial included 94 lactating women who were suffering from breast engorgement within the first to fifth days after delivery. Individuals were divided into two groups, namely Oketani massage and customary care, based on random block allocation. Both groups received two treatments on two consecutive days. The collected data regarding the neonate weight gain before and after the intervention were analyzed by SPSS Version 20, using Analysis of Variance (ANOVA) with repeated measurements.

CLINICAL CASES AND SUMMARY RESULTS

In terms of the weight of neonate in the two groups at days 1 to 5 before the intervention, the difference was not significant (p=0.173), but on days 14 and 28 after intervention, there was a significant difference in terms of weight neonate with two groups (p<0.001).

CONCLUSIONS

Due to its beneficial effects on the quality of breast milk as well as its positive impacts on infants’ weight gain, this study showed that Oketani breast massage could be used as an easy-to-use and cost-effective method. This alternative method can be also recommended for mothers suffering from breast engorgement.
Comparison of initial treatment for idiopathic persistent pulmonary hypertension in patients with Down syndrome

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INTRODUCTION

The increased incidence of idiopathic persistent pulmonary hypertension (PPHN) has been reported in neonates with Down Syndrome (DS) (1.2-6.6%), which is higher than the reported incidence of 0.1% in general population. There is no report about the appropriate initial treatment for the idiopathic PPHN in neonates with DS. The aim of this study is to evaluate the efficacy of non-invasive treatments that do not involve tracheal intubation for idiopathic PPHN in neonates with DS.

MATERIALS AND METHODS

Patients with DS who were treated at our NICU during a 10-year period for idiopathic PPHN were included in the study. Patients with PPHN were excluded if they had CHD, or if pulmonary hypertension was caused by respiratory failure, asphyxia, or pulmonary hypoplasia. Patients were categorized into two groups based on the initial treatment received; patients in the intubation group underwent tracheal intubation, mechanical ventilation, and inhaled nitric oxide therapy; and patients in the NIPPV group underwent NIPPV and oxygen therapy. The following variables were compared between the two groups as indicators of recovery from PPHN: duration of high concentration oxygen therapy (FiO2>0.4); duration of oxygen therapy; and time to disappearance of bilateral shunts in the ductus arteriosus.

CLINICAL CASES AND SUMMARY RESULTS

A total of 23 patients (intubation, n=8; NIPPV, n=15) were included in the study. No significant difference was seen between the two groups in terms of the severity of persistent pulmonary hypertension of the newborn. No significant differences were seen between the two groups in terms of the duration of high concentration oxygen therapy, duration of oxygen therapy, and time to disappearance of bilateral shunts in the ductus arteriosus. A significantly higher proportion of patients required treatment with catecholamine in the intubation group, requiring additional days to be able to provide enteral nutrition.

CONCLUSIONS

As an initial treatment option, noninvasive treatment that does not involve tracheal intubation appears as effective as other invasive treatments for idiopathic persistent pulmonary hypertension in patients with Down syndrome.
INTRODUCTION

Paracetamol also known as acetaminophen is a chemical compound used in medical practice for analgesic and antipyretic effects. The mechanism of action is related to the cyclooxygenase (COX) activity, which is not full inhibit as for nonsteroidal anti-inflammatory. In addition to analgesic and antipyretic effects, modulating the prostaglandin synthesis by selective inhibition of COX, a vascular modulator effect was described recently on the closure of the persistent ductus arteriosus (PDA). This effect has been described in premature newborns, perhaps by decreasing the prostaglandin production.

CLINICAL CASES AND SUMMARY RESULTS

We present the case of a neonate, 39 weeks gestational age, normal birth weight who presented in the 10th day of life with a cardiac murmur. Echocardiography evidenced a hemodynamically significant PDA, left ventricular enlargement, severe mitral regurgitation, patent foramen ovale and pulmonary hypertension., Although she was a 10-day-old full-term neonate paracetamol administration was attempted. Paracetamol was administered orally in the therapeutic dose of 15 mg/kg/dose, three times a day for three days. The effect was significant by reducing the diameter of the arterial duct (to less than 50% of initial diameter), reducing the size of the left cardiac chambers, reducing the degree of mitral regurgitation from severe to mild, and disappearance of pulmonary hypertension.

CONCLUSIONS

Paracetamol use can change prognosis through the vaso-modulator on the PDA, at the age of 10 days, on a full-term neonate with a normal birth weight. This effect may also be present in full-term newborns and not only in preterm. Even if the PDA was not closed after three days, the hemodynamic impact disappeared and the child could avoid surgical ligation.
INTRODUCTION

Persistent cyanosis in neonates can have many causes. The crisis of pulmonary arterial hypertension (PAH) in meconium aspiration syndrome is one of them. Its rapid diagnosis can be extremely challenging in a newborn in the absence of promptly echocardiographic diagnosis.

MATERIALS AND METHODS

CLINICAL CASES AND SUMMARY RESULTS

We present the case of a newborn, transferred soon after birth towards a level III maternity with meconium aspiration syndrome. Evolution of the newborn was initially extremely serious, but with significant improvement within 12 hours. Later on, recurrent episodes of generalized cyanosis followed. Initial echocardiography performed during such a cyanosis crisis revealed an exclusively right-to-left shunt, at the level of both persistent ductus arteriosus and atrial septal defect suggesting impressive PAH. The evidence of a changing direction from right-to-left towards left-to-right suggested the end of the PAH crisis and was coincidental with blood pressure (BP) measurement in all limbs. Phosphodiesterase inhibitor treatment proved highly effective. The patient showed normal levels of pulmonary pressure, at discharge.

CONCLUSIONS

This case highlights the importance of echocardiographic diagnosis: accurately, quickly especially in particularly severe cases for guiding therapy. Ultrasound diagnosis may surprise reversal of the shunts under the influence of simultaneous measurement of BP in all limbs and the influence of concomitant phosphodiesterase inhibitors treatment over the pulmonary blood pressure. The peculiarity of the case is the decreasing values of PAH in the early hours after initiation of the treatment.
Myocarditis represents inflammation of the myocardium and may appear at any age, as Emmet Holt said 120 years ago when this disease was described for the first time: “Myocarditis may...occur at any age, even in foetal life”. We describe two cases of Coxsackie B4 neonatal myocarditis. Both appeared almost in the same period of time, at 3 and 4 week-old, female and male newborns and had a similar course.

The onset was with rhythm and conduction disturbances: ventricular ectopies, nonsustained ventricular tachycardia, supraventricular tachycardia, sinoatrial block, atioventricular block, blocked extrasystoles. From the beginning, both had myocardial enzymes persistently elevated: CK-MB and troponin T, which maintained elevated levels even at distance from the onset. No inflammatory response and no kinetics disturbances were noted at admission nor at 2 months distance from the onset. Serology for Coxsackie B4 was in progressively increasing titers. MRI confirmed a small degree of myocardial edema for both of them, compatible with focal myocarditis. They received IV immunoglobulin, 2g/kg/one dose in the second day from admission and the rhythm and conduction problems were treated with Propafenone, 10 mg/kg/day. They did not tolerate beta blockers. After 2 weeks, the rhythm disturbances almost disappeared. They remained on maintenance treatment with propafenone for three months period.

Neonatal myocarditis must be taken into consideration at any pediatric age, even in asymptomatic patients. Rhythm problems could aggravate the progression towards dilated cardiomyopathy and early treatment could interrupt a possible deterioration.
INTRODUCTION

Hypoxic ischaemic encephalopathy (HIE) affects approximately 1-2 newborns per 1,000 live births and is a common cause of neonatal death worldwide. While hypotension is known, there is dearth of data as to the severity and evolution of cardiac function in HIE infants administered therapeutic hypothermia. The objective was to ascertain the magnitude of cardiac function impairments in a cohort of infants with severe HIE undergoing therapeutic hypothermia using echocardiography (ECHO). Secondly, we aimed to assess its evolution during various phases of cooling.

MATERIALS AND METHODS

Archived data during the period 2010-2016 was assessed. Infants with severe HIE administered therapeutic hypothermia and monitored by ECHO were included. Amongst them, we separately analysed infants who had assessments in all the three phases (baseline/pre-active cooling [T1], cooling [T2] and rewarming [T3]). Correlations between variables were assessed by Pearson’s coefficient of correlation. Analysis of variance testing was used to analyse the serial ECHO changes over time.

CLINICAL CASES AND SUMMARY RESULTS

33 infants formed part of the overall cohort, the gestation and birthweight of the cohort were 39.6±1.6 weeks and 3306±583 g, respectively. Baseline (T1) information noted impaired cardiac performance, (right ventricle stroke volume 1.08±0.04 ml/kg, fractional area change [FAC] 24±0.5% and tricuspid annular peak systolic excursion [TAPSE] 7.46±0.11mm).

Serial information was available for 24 of 33 infants. Cardiac function improved significantly between the cooling and the re-warming phases (right ventricular output [127.3±34 vs 164±47 ml/kg/min, p<0.01] and FAC [20±3 vs 28±2%, p<0.01]). Maximum change was noted in FAC (26.3±9.8%) while minimum change was noted in fractional shortening (median, interquartile range) of 4.6% (1.4, 9.1). Significant correlation between TAPSE and time to peak velocity as a proportion of right ventricular ejection time was noted (r2=0.68, p<0.001).

CONCLUSIONS

In infants with severe HIE, cardiac function evolves during various phases of therapeutic hypothermia. Right ventricular ejection of blood and pulmonary arterial resistance are tightly coupled.
INTRODUCTION

Although children with trisomy 18 are known to have a high mortality rate shortly after birth, an increasing number of reports have described improvements in the short-term survival rates by neonatal intensive care and surgeries. The purpose of this study was to report on the children with trisomy 18 at our institution and examine the influence of surgical intervention on their prognosis.

MATERIALS AND METHODS

The clinical data of 28 children with trisomy 18 admitted to our neonatal intensive care unit (NICU) between January 2007 and April 2018 were examined retrospectively. The children were divided into 2 groups: a surgical intervention (SI) group (n=13) and a non-SI group (n=15). The groups were then compared with a focus on the discharge from the NICU and survival. Children living on April 30, 2018, were censored at their last clinical encounter. In the analysis, the Mann-Whitney U-test was used for the non-categorical variables, and Fisher’s exact test was used for categorical variables. P < 0.05 was regarded as significant.

CLINICAL CASES AND SUMMARY RESULTS

There were 10 boys and 18 girls. Their median gestational age and birth weight were 36 weeks (range 24-41 weeks) and 1540 g (range 464-2882 g). The fetal growth restriction rate was 93% (n=26). Their main comorbidities were congenital heart disease (CHD) (100%, n=28), and esophageal atresia with distal tracheoesophageal fistula (21%, n=6). All of their parents accepted them, but 2 sets of parents refused surgery. Thirteen children (46%) underwent 15 surgical procedures: tracheostomy (n=8), palliative surgery for esophageal atresia (n=5), palliative surgery for CHD (n=1), and laryngotraheal separation (n=1). The 1-year survival rate among all patients was 32% (n=9). The 1-year survival rate was higher in the SI group than in the non-SI group (54% vs. 13%, p=0.042), and the survival duration was significantly longer (median: 463 days vs. 108 days, p= 0.044). No significant difference in the rate of discharge from the NICU was noted between the SI and non-SI groups (69% vs. 27%, p=0.06).

CONCLUSIONS

At our institution, the management for children with trisomy 18 is discussed on an individual basis. In cases in which the respiratory condition and circulation are relatively stable and life-lengthening is possible with surgical intervention, surgery is performed at the parents’ request. Surgical intervention can expect to improve the one-year survival rate and duration of survival.
INTRODUCTION

Chloral hydrate is one of the most widely used drugs for moderate sedation in the field of pediatrics. This study is to investigate the incidence of adverse events and associated risk factors of sedation with chloral hydrate in neonatal intensive care unit (NICU).

MATERIALS AND METHODS

We retrospectively reviewed the clinical charts for all NICU infants who underwent sedation with chloral hydrate for MRI from January 2015 to December 2017. A single dose of chloral hydrate (40-60 mg/kg) was administered to infants and an additional dose (10-20 mg/kg) was given 15 min after the first dose or when the patient woke up during the MRI examination. Demographic factors, dose information, underlying diseases, therapeutic failures and adverse reactions to the drug were reviewed.

CLINICAL CASES AND SUMMARY RESULTS

One hundred and forty three infants achieved moderate sedation with chloral hydrate with a mean gestational age (GA) at birth and corrected GA at sedation were 35+0 ± 7+2 and 39+5 ± 3+1 respectively. Out of all enrolled infants, 12.6% (N=18) of the infants showed adverse event (AE) and 87.4% (N=125) of the infants do not have adverse event (NAE). The adverse events included oxygen desaturation (5.6%), aspiration (4.9%), irritability (0.7%), tachycardia or bradycardia (0.7%), and cardiac arrest (0.7%). In univariate analysis, AE was younger in corrected GA at sedation than NAE (37+2[36+0; 40+0] vs. 40+1[38+2; 41+4], p = 0.015, AE vs. NAE). There was no significant difference in dosage of chloral hydrate and underlying conditions between the two groups. But in multivariate analysis, dosage of chloral hydrate was only significant risk factor of adverse events associated with sedation in NICU (OR 1.04, 95% CI 1.01-1.07, p = 0.0186).

CONCLUSIONS

Adverse events associated with sedation with chloral hydrate was not uncommon and more attention should be paid for adverse events in use of high dose of chloral hydrate for diagnostic tests in the NICU.
INTRODUCTION

Currently, children born with ART have an increased risk of perinatal morbidity. In the literature there is a high incidence of congenital anomalies of development, a disorder in the physical and mental development of this contingent of children. They also have a higher probability of subsequent hospitalizations, longer hospital stay and perinatal mortality. It remains an open question whether this is due to previous infertility and its treatment, premature birth, low birth weight, multiplicity, or is a consequence of the massive hormonal load in the ART programs, which was the purpose of our study.

MATERIALS AND METHODS

Clinico-laboratory examination was conducted in 107 newborns in patients after ART. Of these, 77 infants of the main group: 22 newborns in patients with genetic thrombophilia, 25 newborns in patients with chronic DIC syndrome, 30 newborns in patients without hemostasis after ART, and 30 newborns in patients after spontaneous pregnancy (control group). During the examination and evaluation of the newborn's condition, the analysis of pregnancy and childbirth was carried out in each observation, the physical condition of the mother, age, outcome of previous pregnancies, etc. were taken into account. In our study, the average body weight of newborns in the subgroup with thrombophilia was 2981.7±165.6 g, in the group with hypercoagulable -3070.0±224.9 g. In the control group - 3541.7±278.7 g.

CLINICAL CASES AND SUMMARY RESULTS

Almost all newborns were born in a satisfactory state with Apgar score on the 1st minute of life of 8 or more points (8.3 ± 0.3), at the 5th minute of life - 8.9 ± 0, 2 points. We've noticed that in children born in patients with disorders in the hemostasis system, the neonatal period proceeds with more complications than those in mothers without hemostasis disorders. Thus, in subgroups with thrombophilia and hypercoagulation, perinatal encephalopathy of hypoxic origin was diagnosed 3 or more times more often (45.45%, 32%, respectively, 6.67% of the control group), 2 or more times (27.27% 20%, 10%, respectively). Hyperbilirubinemia of conjugation, which has a longer course, as well as disorders of cerebral circulation (13.64%, 12%, respectively, in the absence of this pathology in the control group). Asphyxia at birth was not statistically different in the children of the primary and control groups.

CONCLUSIONS

During pregnancy with haemostatic disorders, it is of a complex nature, which manifests itself in the development of early threats of abortion, placental insufficiency and preeclampsia. Newborn babies in this group are at high risk for developing neonatal pathology, such as perinatal encephalopathy, hypoxic genesis, conjugation of hyperbilirubinemia and cerebral blood flow, which are associated with comlications of pregnancy.
INTRODUCTION

Neonatal renal vein thrombosis is the most common vascular condition in the newborn kidney, which could lead to serious complication in infants.

CLINICAL CASES AND SUMMARY RESULTS

We report a case of unilateral renal vein and inferior vena cava thrombosis, presented with gross hematuria and thrombocytopenia in a neonate. The neonate was a macrosomic male born to a mother with hyperglycemia in pregnancy. The baby was born with perinatal asphyxia and early neonatal infection and massive hematuria. Clinical and laboratory examination showed enlarged kidney having cortico-medullary differentiation diminished and azotemia. Diagnosis of renal vein thrombosis was suspected by renal ultrasound and confirmed by magnetic urography. Prothrombotic risk factors were evaluated. The child is being managed conservatively. Measures aimed at prevention of end stage renal disease because of its poor outcome were highlighted. Despite anticoagulant therapy the left kidney developed areas of scarring and then atrophy.

CONCLUSIONS

Conclusion: In this work we present a patient with multiple entities in etiology of non-catheter induced renal and vena cava thrombosis in a neonate. Clinicians should suspect renal vein thrombosis in neonates when presented with early postnatal gross hematuria, palpable abdominal mass and trombopenia.
INTRODUCTION

Infantile haemangiomas (IH) represent the most common benign tumours of infancy with a prevalence of 4-10%. Usually IH have a tendency of spontaneous regression, however some of them can cause serious complications and require treatment. Recent studies reported oral propranolol as highly effective treatment for IH and is emerging as a first-line therapy.

MATERIALS AND METHODS

In this study, we report 5 infants with complicated IH treated with oral propranolol. All infantile haemangiomas were in a proliferative phase. Three patients had large haemangiomas on the head and the neck, one of them had nasal haemangioma, penetrating the nasal cavity, leading to reduced airway and functional breathing impairment. The other patient had large facial haemangioma, affecting the upper lip and the ear. The third patient presented from birth with large haemangioma on the neck, still without neck structures compression at the time propranolol treatment was initiated, also had cystic adenomatoid lung malformation.

CLINICAL CASES AND SUMMARY RESULTS

Two children had large truncal haemangiomas, one of them had ulcerations on large segmental superficial back haemangioma. The indication for propranolol application was impairment of physiological functions in 1 case, severe cosmetic defect and disfigurement in 3 and ulceration in 1 patient. Propranolol was administered in a initial dosage of 0.5 mg/kg with gradually increasing up to 2 mg/kg per day. All patients were hospitalized for monitoring of vital signs during treatment initiation and adverse effects were not observed. The duration of treatment was 4 to 12 months (mean 7.5-months). All patients had significant change of colour, density and reduction of haemangioma volume.

CONCLUSIONS

Propranolol is a safe and efficacious therapy for severe proliferative IH. If indicated, therapy should be initiated early to minimize the extent of residual changes.
INTRODUCTION

Extremely low birth weight (ELBW, birth weight less than 1,000 g) infant has high morbidity rate due to immaturity itself and its related complication, one of which is acute kidney injury (AKI). It has become apparent that infants who survive an episode of AKI are at increased risk for chronic kidney disease (CKD) and warrant long-term follow-up. The incidence of AKI of ELBW infants varies from 22.6 to 60%. Previously most neonatal AKI studies used the definition of an absolute SCr>=1.5 mg/dL. Recently, according to the changes of serum creatinine and urine output, AKI can be classified in three stages by Modified Kidney Disease Improving Global Outcomes (KDIGO, 2013) definition. We studied the incidence and short term outcome of AKI in ELBW infants by this new definition.

MATERIALS AND METHODS

Medical records of ELBW infants admitted to neonatal intensive care unit (NICU) of Chonnam National University Hospital from January to December 2017 were reviewed retrospectively. Neonatal demographics with their maternal characteristics, hospital course, morbidity and mortality were compared among these three stages by the KDIGO definition.

CLINICAL CASES AND SUMMARY RESULTS

Total 43 ELBW infants were enrolled. Mean gestational age (GA) was 26.4±2.6 weeks and birth weight was 814.3±139.2 g. Seventeen patients showed AKI and incidence was 39.6% (27.9% in stage 1, 4.6% in stage 2, and 7.0% in stage 3). Not birth weight but GA was significantly lower with the higher stage of AKI. Analyzing the demographic findings, Apgar scores at 1 and 5 minute were significantly lower with the higher stages of AKI (P=0.004, P=0.005, respectively). There was no statistically significance in maternal characteristics except PROMs (premature rupture of membranes, p=0.03). Five infants were dead before discharge, overall mortality was 11.6% (3.8% in no AKI, 16.7% in stage I, and 66.7% in stage 3). Sepsis, use of inotropics, glucose intolerance, sepsis and mortality were higher in ELBW infants with the higher stage of AKI.

CONCLUSIONS

Using KDIGO definition, the lower the GA, the higher the stage of AKI. Apgar score was lower and incidences of glucose intolerance, sepsis and mortality were higher in ELBW infants with the higher stage of AKI. The limitations of this study are that this is a single center retrospective study and there was no long-term follow up data such as chronic kidney disease. Further multi-center, multidisciplinary prospective study is needed to improve the outcome of these vulnerable ELBW with AKI infants.
INTRODUCTION
The visualization of "echogenic intracardiac focus" (EIF) has been a subject of discussion in various specialties. There are some theories of the EIF' formation. One of them is the relationship with chromosomal aberrations, another one - the formation of EIF is based on dysplastic processes in connective tissue. In recent years, there is the high frequency of combination EIF with the ultrasound markers of intrauterine infection in the fetus, placenta and membrane. The next theory is the possible relationship of the congenital heart disease and EIF and the dynamics of changes after birth. There is no clear information about the pathogenesis of EIF, the clinical significance, which requires further study of this issue not only by obstetricians, but pediatricians and pediatric cardiologists.

MATERIALS AND METHODS
The object of the study were 214 pregnant women, then 1-3-years-old children. 107 patients was the control group, forming by "case-control" in maternial gynecological history, somatic status and age.
Stage 1 – retrospective analysis of the antenatal period of newborns with echogenic intracardiac using pregnant card, the history of childbirth, protocols of perinatal infections and biochemical screening (ß-HCG,PAPP, AFP).
Stage 2- access of the features of the neonatal in children with EIF according to the history of neonatal development, ECG and ECHO results, US scans of brain, heart, internal organs.
Stage 3 – the clinical examination of 53 patients with echogenic intracardiac focus, surviving after birth.
Statistical processing was carried out with the package "Statistica 7.0".

CLINICAL CASES AND SUMMARY RESULTS
The retrospective analysis of the antenatal history in pregnant women with the ultrasound marker «golf ball» was identified such predictors of formation it: the age over 27 years, mild to moderate anemia, Ig G titer to CMV 1:1600 and more than. Moreover, pregnant with EIF has the placental dysfunction was registered with a high degree of confidence (p<0.01). The clinical signs of chronic intrauterine hypoxia were diagnosed in newborns with EIF. All 214 children with EIF hadn't phenotypic characteristics of chromosomal abnormalities; the syndrome of disadaptation of the newborn's cardiovascular system diagnosed in 3,2 times. The congenital malformations were diagnosed in only 7.94% neonates with EIF. This ultrasound phenomenon EIF preserved in 27.89% of neonates after birth. Cerebral ischemia and hypoxic-ischemic damage of brain prevailed in children with EIF (p=0.039). The congenital heart defect established in 3.27% children with EIF, and high incidence of small cardiac anomaly.

CONCLUSIONS
The evidence of «echogenic intracardiac focus» in the fetal heart was 3.18%. There no significant association between EIF and the chromosomal aberrations. The EIF surviving after birth had weak correlations with the congenital heart disease and malformations of other organs. However, the number post-hypoxic disorders of the cardiovascular and nervous systems prevailed in children with EIF. To sum up results of the studying we make an algorithm of antenatal and postnatal observation these children.
INTRODUCTION

Peritoneal dialysis (peritoneal lavage) is the most effective method of intracorporeal cleansing of the body from metabolic products through diffusion and osmosis through the peritoneum as a natural semipermeable membrane. It is carried out by introducing into the abdominal cavity of one or two catheters in the midline of the abdomen 3-4 cm below the umbilicus or at the point of Mak-Bernie on the left. There are several types of dialysis: flow, recirculatory, intermittent, permanent. The indications are acute and chronic renal failure, accompanied by decompensated metabolic acidosis, when hemodialysis is contraindicated due to the risk of bleeding or there are no conditions for the application of an arteriovenous shunt in young children and in elderly people.

MATERIALS AND METHODS

At city clinical hospital I S.S. Yudin of Moscow the procedure of peritoneal dialysis was performed in two newborns, whose condition was complicated by the development of acute renal failure in the stage of oliguria. Both children were born as a result of timely delivery in a state of severe hypoxia. In one case, the child was born by vaginal labor, weighing 5250 g. His mother had the 5th birth, complicated by the GD in the III trimester. The 2nd stage of labor was complicated by dystocia of the shoulders. In another case, the child was born by caesarean section due to total premature placental abruption, weighing 3910 g. His mother had a 2nd operative delivery from the 2nd pregnancy, complicated by the development of polyhydramnios and preeclampsia in the third trimester.

CLINICAL CASES AND SUMMARY RESULTS

The severity of neonatal status in both cases was due to hypoxic-ischemic CNS lesions. From the first minutes children had artificial lung ventilation, cardiotonic support, correction of metabolic acidosis, infusion of fresh frozen plasma, antimicrobial therapy. The child born as a result of cesarean section was also given anticonvulsant therapy to relieve convulsive syndrome. During the first day after birth, children showed signs of acute renal failure with the development of edematous syndrome, oligoanuria, hyperkalemia (7.9-11 mmol/l), increase in creatinine (259 mmol/l), which increased in dynamics. In the intensive care unit on the second day, the newborns underwent peritoneal catheter implantation and started the dialysis procedure in the volume of 80 ml and the exposure time of 60 minutes. The contraindication for hemodialysis in both cases was the presence of hemorrhagic syndrome and hypocoagulation syndrome based on the results of the coagulogram.

CONCLUSIONS

Peritoneal catheter functioned in one observation for 14 days, and in the other – for 16 days. Against the background of peritoneal dialysis, signs of acute renal failure were regressed: there was a recovery in the rate of diuresis, a decrease in the concentration of creatinine (to 54 and 42 mmol/l), nitrogen bases, normalization of electrolyte content (potassium 4.6 and 4.9 mmol/l). After stabilization of the condition, the newborns were transferred to the second stage of nursing.
INTRODUCTION

Atrial flutter is an uncommon arrhythmia in newborns and infants. It is usually not associated with structural heart disease and is generally well-tolerated, despite of high atrial and ventricular rates. Nevertheless, it is mandatory to evaluate ventricular function in all neonates, since prolonged duration of the arrhythmia may result in tachycardia-induced cardiomyopathy and symptoms of congestive heart failure. Cardiac function returns to normal levels within several weeks or months after suppression of the arrhythmia. We present two neonates with atrial flutter diagnosed before and after birth, along with their treatment and outcome.

CLINICAL CASES AND SUMMARY RESULTS

Case #1: A male neonate was diagnosed with arrhythmia during fetal life. Arrhythmia relapsed soon after birth and electrocardiogram revealed typical atrial flutter. The neonate was treated with direct current cardioversion, β-blocker and digoxin. Despite appropriate treatment, atrial flutter had multiple recurrences within three months. Echocardiogram excluded congenital heart disease, while cardiac function was normal during the same period.

Case #2: A 28 day-old neonate presented tachycardia and symptoms of congestive heart failure. Electrocardiogram showed atrial flutter, while the echocardiogram revealed arrhythmia-induced cardiomyopathy, without an underlying structural heart disease. Atrial flutter was converted to sinus rhythm with direct current cardioversion and two anti-arrhythmic medications were initiated. Since then, arrhythmia had no further recurrences and cardiac function restored to normal within 10 days.

CONCLUSIONS

Atrial flutter is a serious arrhythmia during neonatal and fetal life. Early recognition is critical to avoid ventricular dysfunction. Since the majority of these children experience asymptomatic tachycardia, heart rate should be carefully monitored by the pediatrician in all regularly scheduled checkups. In neonates with multiple recurrences of the arrhythmia, clinicians should also follow-up ventricular function with serial echocardiograms.
**INTRODUCTION**

Echocardiography is an important tool for early diagnosis of congenital heart disease (CHD) in newborns. When there is not a paediatric cardiologist on site, a preliminary echocardiogram performed by the neonatalogist can be useful especially in sick newborns. The aim of this study was to evaluate frequency of CHD detected by neonatologist-performed echocardiography in a Tertiary Neonatal Care Centre in Tunisia.

**MATERIALS AND METHODS**

Echocardiography is an important tool for early diagnosis of congenital heart disease (CHD) in newborns. When there is not a paediatric cardiologist on site, a preliminary echocardiogram performed by the neonatologist can be useful especially in sick newborns. The aim of this study was to evaluate frequency of CHD detected by neonatologist-performed echocardiography in a Tertiary Neonatal Care Centre in Tunisia.

**CLINICAL CASES AND SUMMARY RESULTS**

A total of 1084 echocardiographic studies were performed by 2 neonatalogists trained in paediatric echocardiography. One hundred and ninety eight exams showed abnormalities (18%). The most frequent diagnosis was atrial septal defect (n=67) followed by ventricular septal defect (n=56). Forty one major CHD (21%) were diagnosed and managed in the neonatal period. Transposition of great arteries, tetralogy of fallot, double outlet right ventricle, interrupted aortic arch, coarctation of the aorta and abnormal pulmonary venous return were found in 4.5%, 3.5%, 2%, 1.5%, 1.5% and 1.5% respectively. The results of neonatologist-performed echocardiography were different from pediatric cardiologist in only 2 cases without clinical impact.

**CONCLUSIONS**

Early detection through newborn screening potentially can improve the outcome of CHD. In low income countries, such as Tunisia, where antenatal detection of these malformations is still poor and paediatric cardiologist not many, neonatalogists should be encouraged to learn the skill and to develop guidelines for clinical practice in order to improve neonatal care.
**TOPIC:** Miscellaneous Neonatology

**ABSTRACT ID:** 345

**TITLE:** NEONATE WITH EPIDERMOLYSIS BULLOSA-PYLORIC ATRESIA CAUSED BY MUTATION IN PLECTIN GENE (CASE REPORT)

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**INTRODUCTION**

Brief Introduction: Epidermolysis bullosa with pyloric atresia (EB-PA) is characterized by fragility of the skin and mucous membranes, manifested by blistering with little or no trauma (from simple blisters to aplasia cutis congenita, nail dystrophy, scarring alopecia, hypotrichosis, contractures and dilated cardiomyopathy), congenital pyloric atresia (CPA is divided into 3 types: pyloric membrane or web type I (57%), pyloric canal replaced by a solid cord of a tissue type II (34%), pyloric atresia with a gap or gap aplasia type(9%)) and ureteral or renal anomalies (hydronephrosis/hydrourerter, dysplastic/multicystic kidney, bladder's absence, ureterocele, duplicated renal collecting system).

EB-PA can be caused by mutation in the ITGA6 (5%EB-PA), ITGB4 (80%EB-PA) and PLEG (15%) genes.

**CLINICAL CASES AND SUMMARY RESULTS**

Case report: A 24-hours boy, born by CS at term, small for gestation age (birth weight -2400g), no labors in pregnancy, polyhydramnios at birth, presented with no-bilious vomiting with blood, without epigastric dilatation. He is the second child of healthy non-consanguineous Caucasian parents. Plan abdominal X-ray showed a large gastric air bubble with no gas distally. Upper GI contrast study showed dilated stomach with obstruction at the pylorus and confirmed the diagnosis of Pyloric Atresia. On the sixth day, laparotomy revealed PA type2 and gastroduodenostomy was performed. Patient started feeds on post-operative day five, which was tolerated well and hence increased gradually to full feeds.

From the 3rd day, blisters and crusted formation on the trunk, extremities, fingers and toes appeared. Ultrasound examination showed mild hydronephrosis. Scintigraphy with Tc99m-BRIDA illustrated no gastrointestinal reflux.

Skin biopsy and molecular genetic testing confirmed mutation in the plectin gene.

**CONCLUSIONS**

Conclusion: EB-PA is a rare life-threatening condition. Plectin is a multifunctional protein. Mutation in the PLEG1 gene is associated with muscular dystrophy and pyloric atresia.

The patient recovered and is doing well at follow up, with rare blisters on fingers and toes, negative for cardiomyopathy or muscular dystrophy so far. However, at the age of six months with a flu-like episode he had CPK-28 000IU/l (n.r.<190IU/l) and at the present time – at the age of 14 months – he had CPK -180IU/l.
INTRODUCTION

Megalencephaly-capillary malformation syndrome also known as macrocephaly-capillary malformation polymicrogyria syndrome (MCAP) is a rare complex disorder involving the skin, connective tissue, brain and other organs that is usually present at birth. Clinical presentation of MCAP include macrocephaly, extensive cutaneous capillary malformation, port-wine stain, body asymmetry with hemihyperplasia, polydactyly or syndactyly of the hands and feet, hypermobility of the joints, variable developmental delay and various neurologic problems like seizures and low muscle tone. Most children with MCAP have an enlarged brain, in addition to other findings on brain MRI associated with neurologic problems.

CLINICAL CASES

We present a male term (40/41) newborn, delivered by elective caesarean section. Birth weight was 4180 g, length 54 cm, and head circumference 36.5 cm. The postnatal period was unremarkable. Clinical features present at birth showed a widespread capillary malformation affecting legs, arms and back bilaterally, and left side of the abdomen, with sparing of the face, genital skin and the right side of abdomen. Congenital haemangioma was noticed on the left posterior lower leg measuring 30x25mm in size. There was no difference in leg circumference noted in early neonatal period, although first interdigital space was wider on both feet, also known as sandal-gap toes. Multidisciplinary team of specialists was involved in screening for possible malformations. Brain ultrasonography and magnetic resonance was performed showing normal results.

CONCLUSIONS

MCAP syndrome presents a major challenge for neonatologists. Clinical features of extensive capillary malformation localised on abdomen, back and extremities, with congenital haemangioma on the lower leg, raised a suspicion of MCAP syndrome in our patient. Further close monitoring is required and brain MRI will be performed over the following 6 years for early detection of associated malformations.
INTRODUCTION

Intravenous immunoglobulins (IVIG) are considered an addition to standard therapy (hydration, phototherapy and exchange transfusion) in treatment of hyperbilirubinaemia due to haemolytic disease of the newborn secondary to ABO or Rh isosensibilisation. IVIG are hypothesized to reduce breakdown of red blood cells by blocking Fc receptors on macrophages and also enhancing clearance of maternal antibodies. At present it is recommended by both NICE and AAP, recommendations suggesting administration if bilirubin levels are rising despite intensive phototherapy or within 2-3 mg/dl (34-51 μmol/L) of the exchange transfusion level. However the practice has yet to gain popularity and widespread acceptance amongst neonatologists in our country.

MATERIALS AND METHODS

Case series of 6 term infants, 37-39 weeks of gestation and 2900-3630 g birthweight with positive Coombs test and low albumin between 26-29 g/l, all fitting the criteria for IVIG administration as per AAP recommendations. For 4 infants total bilirubin level was obtained within 6 hours (average 136 μmol/l, table 1) and they were started on phototherapy and hydration. In addition, they received 0.5-1 mg/kg IVIG at average 8 hours. Last 2 infants had their bilirubin levels taken later, at 12 hours and started on the same dose of IVIG (with phototherapy and hydration) after the results were obtained. First 4 infants received the second dose 12 hours after the first, last 2 infants were deemed not to need a second dose based on satisfactory bilirubin levels.

CLINICAL CASES AND SUMMARY RESULTS

Bilirubin levels were monitored at 12 hours with average 158 μmol/l and 24 hours with average 195 μmol/l (table 1). All levels were below the exchange transfusion threshold and further monitoring showed decline in bilirubin levels.

CONCLUSIONS

All 6 infants with confirmed haemolytic disease of the newborn and levels of bilirubin within IVIG treatment threshold but below exchange transfusion threshold were treated with 1-2 doses of IVIG in addition to phototherapy and hydration. Bilirubin levels never reached exchange transfusion threshold and therefore avoided potential significant side effects with reported mortality 1%. In addition, time of phototherapy was shortened, time of hospitalization was lower and no side effects were noted.
INTRODUCTION

Neonatal mortality still high in Tunisia and other low income countries. Early neonatal mortality (neonatal mortality within the first week of life) is a good quality indicator of perinatal health. The aim of this study was to evaluate the neonatal mortality rate in our area and identify their main causes.

MATERIALS AND METHODS

A prospective study of early neonatal mortality in the centre of maternity and Neonatology of Monastir between the 1st of January 2010 and the 31th of December 2017. Every death of a newborn was analyzed (gestationnel age, condition, morbidity, maternal factors, etc.) by the medical staff and a senior neonatologist.

CLINICAL CASES AND SUMMARY RESULTS

During the 8 years of the study, 52,162 live births were recorded in the hospital and 22,861 were admitted in all units of the neonatology department (43.8%). We had 628 deaths (12.3 % of live births) from him 316 were early neonatal ones (50.3% of neonatal mortality) and represent 6.05 ‰ live births. Two hundred were preterms (63.29%) and 79 (39.5%) were prematurissima (Gestationnal Age < 28 WG). 54 newborns were outborns. 117 newborns (37.02%) had major or lethal congenital malformations. 82 newborns (25.9%) had perinatal asphyxia. 49 deaths occurred because of nosocomial sepsis (15,5%). 259 deaths (82%) were inevitable. Nosocomial infections were associated with prematurity and perinatal asphyxia.

CONCLUSIONS

In view of the high number of "inevitable" deaths, additional efforts are needed to improve obstetric management by early detection of severe or lethal malformations, prevention of asphyxia and extreme prematurity. An effort is also needed to further reduce nosocomial infection in our department. Combination of these measures would significantly reduce neonatal mortality in our region.
INTRODUCTION

Congenital myotonic dystrophy (CMD) is a severe disease with high neonatal mortality. Authors report five neonatal cases preceding maternal disease diagnosis.

MATERIALS AND METHODS

Retrospective study involving infants with Steinert myotonic dystrophy confirmed by DNA analysis between 2010 and 2017 at the department of neonatal Intensive Care, teaching Hospital of Monastir, Tunisia.

CLINICAL CASES AND SUMMARY RESULTS

Five cases of CMD from four families were included. Two 30 weeks gestational age infants were sibling. All pregnancies had been complicated by reduced fetal movements and polyhydramnios. Neonate's main features were profound generalized hypotonia, facial weakness and respiratory distress requiring mechanical ventilation in four cases. Congenital myotonic dystrophy was confirmed by DNA analysis, as well as myotonic dystrophy in all mothers. The symptoms greatly diminished after few weeks in three cases. The two preterm sisters died from a severe respiratory insufficiency after 3 weeks and 6 hours respectively. Survivors had psychomotor development delay. One mother died few months after delivery from ventricular arrhythmias.

CONCLUSIONS

CMD should receive consideration in every neonate with hypotonia with facial weakness. This disease is easily diagnosed if molecular genetics study is available. Mothers should be carefully followed by neurologists and cardiologists to avoid sudden death.
TOPIC: Miscellaneous Neonatology

ABSTRACT ID: 413

TITLE: Early maternity discharge: Severe hyperbilirubinemia risk


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INTRODUCTION

During the past decades, early discharge from maternity has increased and the risks of this practice have made the jaundice one of the most reasons of neonatal rehospitalization. This practice required strategies to make it safe with identification of the potential infants at risks; giving them screening, specific care and follow up in order to prevent them for readmission.

Aim: To describe the rate of severe hyperbilirubinemia and its complications after early discharge from maternity in the group of newborns at risk of jaundice and look for a failure of the course of management of these child from birth to discharge from the hospital.

MATERIALS AND METHODS

Prospective study conducted in the maternity of Farhat Hached of Sousse from 16th February to the 16th May 2015. The newborns at risk of jaundice which were early discharged from the maternity were included.

CLINICAL CASES AND SUMMARY RESULTS

One hundred of the pair mother-children were included. The major risk factor of jaundice was the blood group O of the mother with a rate of 73%. After discharge, 27% of newborns had jaundice. Seven of the hyperbilirubinemic patients had required admission in the department of neonatology and were treated with phototherapy. Most etiologies of jaundice were the ABO hemolytic disease in 57% of cases, prematurity in 28.6% and neonatal bruising in 14.3%. A proportion of 85% of parents didn’t receive information about neonatal jaundice during their stay in maternity.

CONCLUSIONS

Jaundice is the most cause of readmission after early discharge in our maternity. Insufficiencies in conditions for discharge of newborn at risk of hyperbilirubinemia are noted. National recommendations seem to be essential in order to organize the professional practices, as for screening of jaundice, and improve the information relieved to the parents.
INTRODUCTION

Cardiac arrhythmias are quite frequent in newborns. The prognosis is usually benign spontaneously or after medication and depends on the nature of the arrhythmias. Therefore, a correct diagnosis is essential for both management and prognosis. Aim: to describe the epidemiology of cardiac arrhythmias in neonates admitted to the department of Intensive care and neonatal medicine.

MATERIALS AND METHODS

A retrospective survey during eight years (from 2010 to 2017), concerning 30 neonates admitted for cardiac arrhythmias or presented cardiac arrhythmias during their hospitalization.

CLINICAL CASES AND SUMMARY RESULTS

Sex-ratio was 1.5. The average term was 39 SA. The mean age at admission was 14 hours and the most common reason for admission was an irregular rhythm found during the routine examination of the newborn. The diagnosis was confirmed in all cases by an ECG. The most common diagnosis was impermanent sinus bradycardia in 36.7%. Ectopic atrial tachycardia was observed in 6 cases including one case of atrial fibrillation and 4 cases of junctional tachycardia. The etiology of these rhythm disorders was perinatal asphyxia in 4 cases, post cardiac surgery complications in two cases, for the rest no etiology was retained. Management was based on therapeutic abstention in case of transient bradycardia with normal biological assessment. The cases of junctional tachycardia required vagal maneuver and short-term administration of anti-arrhythmics, only one case required cardioversion. Outcome was favorable in all cases.

CONCLUSIONS

Cardiac arrhythmias are frequent in newborns and usually are benign. Their prognosis depends on the etiology and the precocity of management.
INTRODUCTION

Congenital hyperinsulinism (CH) is the most frequent cause of persistent hypoglycemia related to inappropriate insulin secretion in neonatal period or infancy. This condition is dangerous because if episodes of hypoglycemia are frequent and/or long lasting, they can cause severe irreversible neurological sequelae. About 60% of infants with this condition experience a hypoglycemic episode within the first month of life. Recent studies have identified mutations in twelve genes involved in hypersecretion of insulin, but the cause of CH in approximately half of infants is left unknown. In many cases conservative treatment is not effective and surgical intervention is required. Differentiation between diffuse and focal form is the most important issue in preoperative management.

CLINICAL CASES AND SUMMARY RESULTS

We present a case of female newborn delivered at 38/39 weeks of gestation with a birth weight (3590 g) and a birth length (50 cm) appropriate for gestational age. Her mother was diagnosed with gestational diabetes treated only with diet. The child had early asymptomatic hypoglycemia (BG 1.3 mmol/l at the age of 2 hours). Regular feeding (every 2 hours) and intravenous glucose infusion rate as high as 10 mg/kg/min wasn't sufficient to maintain normoglycemia. The results of endocrinological work-up led to the diagnosis of hyperinsulinism. At the age of 9 days diazoxide was introduced at a dose of 10 mg/kg/day with good clinical response and from 17th day of life diazoxide and enteral feeding were sufficient to ensure normal glucose levels. In the subsequent follow up visits, no development deviations were noticed and there was no serious hypoglycemic episodes. The gene mutation analysis is still in progress.

CONCLUSIONS

The diagnosis of CH is not very demanding, but in some cases may be delayed due to mild or asymptomatic course of the disease. To prevent the potentially associated neurological complications, it is necessary to provide appropriate treatment as soon as possible. In spite of good effect of conservative treatment, many cases requires surgical procedures. The extensiveness of these procedures depends on the form of CH. Therefore, preoperative diagnosis is of crucial importance.
INTRODUCTION

Introduction of effective perinatal technologies in Kyrgyzstan. Economic statistics. The Kyrgyz Republic since 2004. registers in accordance with WHO live births and stillbirth criteria. Over the past 12 years there have been growth rates of fertility from 21.4 to 27.4 per 1000 population, natural population growth from 14.7 to 21.6 per 1000 population and a decline in the overall mortality rate from 6.9 to 5.4 per 1000 population. During the same period, the infant mortality rate decreased from 30.6% to 16.6% o, early neonatal mortality from 19.6% to 11.3% o, stillbirth from 14.4% o to 9.3% o.

MATERIALS AND METHODS

To determine the responsibilities for fruit and infant losses, we used the BABIES matrix, which includes data from the Republican Medical Information Center on the number of births and deaths of newborns and infants according to the birth weight for 2004 -2016. Proportional values of fetal and infantile losses were calculated depending on the body weight at birth and the time of death. The data obtained are aggregated into the BASES matrix, in accordance with the factors determining the responsibility for stillbirth, the death of a newborn and an infant.

CLINICAL CASES AND SUMMARY RESULTS

The main responsibility for fetal and infantile casualties in Kyrgyzstan in 2004 depended on the health of a woman before pregnancy (14.2 ‰), from caring for a pregnant woman before and during childbirth (6.8 ‰), from the organization of care for newborns in maternity facilities 10.3%), from caring for an infant to 1 year (10.4% of). In 2016, compared with 2004, there has been an improvement in the indicators of feto-infantile losses from 41.7 ‰ to 27.1 ‰, that is, by 14 , 6 ‰. Of these, in 2016, 10.0 ‰, and in 2004 14.2 ‰ - are associated with the health of the mother. The quality of the provision of medical services at the antenatal intranatal level tends to improve from 6.8 % in 2004 to 5.7 % in 2016. It has been established that the quality of care for newborns is improved from 10.3 % to 6.3 %, infant care indicators from 10, 4 % to 5,1 %. There is a tendency to improve the services in the neonatal by 1.7% and in the infant period by 5.95%.

CONCLUSIONS

In this way, the analysis of the indicator of feto-infantile losses of 2004-2016 indicates deterioration in the state of women's health and requires effective interventions for women reproductive age before pregnancy, during pregnancy and childbirth. The trend towards improved neonatal and infantile care for the same period reflects the integration of effective neonatal and infant programs.
INTRODUCTION

Socioeconomic factors have repeatedly been recognized as strong determinants of health status of the population, including infants. Not surprisingly, several studies have shown that the recent economic crisis has been linked with declines in population health reflected also in infant mortality rates (IMR), albeit the results have been dubious. The aim of this study was to explore IMR trends in Greece, a country spearheaded by the crisis, with special emphasis on the role of specific sociodemographic factors.

MATERIALS AND METHODS

Individual data for all livebirths and infant (0-12 months) deaths were provided by the Hellenic Statistical Authority (ELSTAT) for a 12-year period (2004-2016). Time trends in early (<7 days of life) (ENMR) and late (7-27 days) neonatal (LNMR), post neonatal (28-364 days) (PNMR) and total IMR (0-364 days) were explored taking into account maternal nationality (Greek vs. non-Greek) and place of residence (Urban/Semi-urban vs. Rural), as well as changes in the Human Development Index (HDI) during the study period, an indicator of individual and collective measures of socioeconomic impact. Poisson regression, joinpoint regression, as well as Interrupted Time Series (ITS) analyses in specific years (2008, 2010 and 2012), were applied to assess trends in mortality during sensitive age periods.

CLINICAL CASES AND SUMMARY RESULTS

A total of 4862 infant deaths were recorded; 4238 (87.2%) were born to Greek mothers. Total IMR trends declined significantly (-0.9% annually) among infants born to Greek mothers, especially in urban areas (-3.5% annually); by contrast, IMR increased (+9.4%) among infants born to non-Greek mothers, reflected also in ENMR, LNMR and PNMR trends. Joinpoint regression showed that among infants born to Greek mothers the decreasing IMR trend was restricted to the period 2004-2012 (-4.5% annually); sizeable increases of about 10% annually were observed thereafter in both IMR (p=0.07) and ENMR (p=0.06). Among infants born to non-Greek mothers, IMR trends increased significantly during the period 2004-2011 (+17.1% annually) with no fluctuation thereafter. ITS analyses confirmed the joinpoint analysis results and further identified adverse trends of LNMR and PNMR after 2012 among infants born to Greek mothers. HDI was inversely associated with IMR, ENMR and PNMR in infants born to Greek mothers.

CONCLUSIONS

There seems to be a lag time of ~ four years before the financial crisis could impact on the strongly decreasing IMR trends in Greece. Irrespective of the crisis, non-Greek nationality of mother, HDI and rural residence were found to be strong predictors of perinatal health care delivery and should be specifically addressed.
INTRODUCTION

Hypoglycemia is the most common metabolic problem in newborns and should be treated as soon as possible to prevent complications of neurologic damage, mental retardation, developmental delay, and impaired cardiovascular function. This study aimed to assess maternal, fetal and neonatal factors to identify infants at risk of developing neonatal hypoglycemia.

MATERIALS AND METHODS

This is a case control study conducted in Perinatal unit of Dr. Kariadi Hospital in 2017. Data were obtained from medical records. A total of 123 newborns with blood glucose <47 mg/dL were considered as cases. We selected 123 newborns without hypoglycemia as a control group by simple randomization sampling. Characteristics of infants, maternal age, maternal pregnancy related conditions, fetal and neonatal factors were recorded and analyzed statistically in relation to the occurrence of hypoglycemia.

CLINICAL CASES AND SUMMARY RESULTS

Out of 677 newborns admitted in 2017, hypoglycemia was found in 123 (18.2%) infants (59 male, 64 female). Among the cases, 58 (47.1%) were preterm, 38 (30.9%) were very preterm, and 8 (6.5%) were extremely preterm infants. A total of 89 (72.3%) were born with low birth weight, 25 (20.3%) were born very low birth weight, and 5 (4%) infants were born with extremely low birth weight; meanwhile, 49 (39.9%) infants were born small for gestational age. Factors associated with neonatal hypoglycemia were prematurity (OR 6.537; 95% CI 3.543 – 12.063; P <0.001), infants born weighed less than 2500 g (OR 2.979; 95% CI 1.532 – 5.795; P <0.001), and low APGAR score (OR 3.386; 95% CI 1.945 – 5.895; P <0.001). In multivariate regression analysis, prematurity and low birth weight remained the significant factors associated with neonatal hypoglycemia. None of maternal and fetal conditions were associated with the occurrence of neonatal hypoglycemia in this study.

CONCLUSIONS

Prematurity, low birth weight and low APGAR score were significant risk factors associated with neonatal hypoglycemia. Routine screening and monitoring of blood glucose is recommended.
INTRODUCTION

Background: Vici syndrome (OMIM 242840) is a rare syndrome characterized by agenesis of the corpus callosum, oculo-cutaneous hypo pigmentation, cataracts, cardiomyopathy, combined immunodeficiency, failure to thrive, profound developmental delay, and acquired microcephaly. We describe a new neonatal case.

CLINICAL CASES AND SUMMARY RESULTS

Case report: A second child from healthy consanguineous Tunisian parents was admitted in a neonatal intensive care unit for fever and dehydration. At the exam, he had long philtrum, micrognathia, fair hair, and skin and general hypo pigmentation. Magnetic resonance imaging (MRI) of the brain showed agenesis of corpus callosum with Dandy Walker malformation. Calcium and phosphate values were normal, as were blood pH, blood lipids, serum and urine amino acids, and urinary organic acids. Immunological studies were normal, as were chromosome karyotype analyses (46, XY). He had poor feeding and regurgitation necessitating a feeding tube and steatorrhea. Mutation analysis showed a homozygous variant c.4935_4938del p.(His1645Glnfs*4) in EPG5 gene. He died at the age of three months by severe septicemia.

CONCLUSIONS

Conclusion. Vici syndrome is an example of a novel group of inherited neurometabolic conditions, congenital disorders of autophagy. Management is currently supportive and symptomatic. Genetic counseling is essential for the family and prenatal diagnosis, when mutation is known, can be made
INTRODUCTION

Detection of dilatation of the intestines of fetus by antenatal ultrasonography is an indirect finding of anatomical or functional bowel obstruction. The causes may be bowel atresia or stenosis, volvulus with malrotation, intestinal duplication, meconium ileus and meconium plug syndrome. Volvulus with malrotation may result in ischemic necrosis and has high rate of morbidity and mortality. The right place for birth where appropriate timing for delivery and postnatal multidisciplinary treatment approach can be achieved, is important for the prevention of complications, and good prognosis.

CLINICAL CASES AND SUMMARY RESULTS

This case was referred to our hospital at the 35th gestational week after detection of dilated intestinal segments and polyhydramnios. A male baby born at 37+3 weeks weighing 3310 g with abdominal distension and purple coloured skin. Due to the extensive necrosis of the small intestines, enterostomy was performed after resecting necrotic bowel tissue up to a distance of 15 cm of the ileocecal valve, 65 cm small intestine segment as left. After the third postoperative week, full enteral feeding was obtained with gaining 20-30 g/day. Ileostomy was closed at the 43rd day and discharged from the hospital. The pathology report described transmural infarction, active chronic inflammatory process and inflammatory granulation tissue development. distal transmural infarct at the surgical margin.

CONCLUSIONS

Fetal intestinal volvulus is a life-threatening condition. The intestinal loops, rotates around the fetal mesenteric arteries and branches, resulting in intestinal obstruction and interruption of vascular structure. Cystic fibrosis, malrotation, cloacal abnormalities may play a role in development which our case has been evaluated. Successful management of our case emphasized the importance of a multidisciplinary approach in the prevention of mortality in antenatal intestinal necrosis.
TOPIC: Miscellaneous Neonatology

ABSTRACT ID: 505

TITLE: Neonatal mortality at Blida Hospital after the application of the Algerian National Perinatal Program.

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INTRODUCTION

In the mid-2000’s, the neonatal mortality rate in Algeria was 25 per 1000 live births, with 20 per 1000 births of early neonatal mortality. Since 2007, a three-year program (2007-2009) to combat neonatal mortality has been set up in Algeria. The main objective of this program is to reduce early neonatal mortality by 25% by the end of 2009.

Goal: Evaluation of the impact of the national perinatal program on neonatal mortality at the Blida University Hospital - Algeria.

MATERIALS AND METHODS

We conducted a before-after descriptive study, comparing two periods, one before the national perinatal program (1999-2006) and one after the application of this program (2010-2017).

CLINICAL CASES AND SUMMARY RESULTS

The early neonatal mortality rate decreased from 19.2 to 14.5 per 1000 live births, a significant decrease of 24.5% (25% according to national program objectives). During this period, there was a net decrease in overall neonatal mortality (18.0% to 10.1%). The risk of premature death decreased by 12.9% between the two periods (30% according to national program objectives) but remains high.

The risk of death by specific infection of the perinatal period decreased from 49.4 to 21.8 per 10,000 live births. (55.9% as against 30% according to national program objectives). Specific infection mortality in late neonatal mortality decreased from 36.2% to 18.1% while the risk decreased from 16.5 to 7.4 for 10000 live births. Early neonatal perinatal asphyxia mortality decreased from 13.2% to 7.4%, while the risk decreased from 30.1 to 13.0 per 10,000 live births.

The risk of death from hemorrhagic disease of the newborn also decreased by 45.4% (national program objectives was 50%).

CONCLUSIONS

In our study, the objectives of the national perinatal program are achieved, with a net decrease in neonatal mortality and a marked decline in the early neonatal mortality rate. The main causes of neonatal death (maternal-fetal infection, perinatal asphyxia, neonatal hemorrhagic disease) have decreased but progress is needed especially in the management of prematurity.
TOPIC: Miscellaneous Neonatology

ABSTRACT ID: 550

TITLE: Adrenal Hemorrhage, early diagnosis - case report

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INTRODUCTION

Neonatal adrenal haemorrhage is uncommon and it may be associated with anaemia, persistent jaundice and abdominal mass. The frequent causes are: birth trauma, perinatal hypoxia or asphyxia, septicaemia, large birth weight, coagulopathy, male infant, intrauterine infection, diabetes in the mother and it is often on the right side.

The term neuroblastoma refers to a spectrum of neuroblastic tumors that arise from primitive sympathetic ganglion cells and have the capacity to secrete and synthetize cathecolamines. Two thirds of primary neuroblastoma are located in the abdomen, and 2/3 among these are from the adrenal gland. Neuroblastoma can be cystic, solid or mixt. The cystic form needs differential diagnose with adrenal hemorrhage.

CLINICAL CASES AND SUMMARY RESULTS

We present the case of a female newborn, vaginally delivered, on cranial presentation, difficult birth, with GA =38w, AS=5/7, BW=3600g, unmonitored pregnancy, which presents at the first postnatal exam: pallor, jaundice, palpable abdominal mass in the right superior quadrant. The abdominal ultrasound and the abdominal CT scan reveal a right adrenal cystic formation. After the specific clinical, paraclinical and interdisciplinary exams it is established the diagnosis of right adrenal haemorrhage and we decided to monitor with repeated ultrasound exams. The ulterior ultrasound exams show a favourable evolution.

CONCLUSIONS

To establish the early diagnosis and the therapeutic plan in case of an adrenal formation it is necessary to have a multidisciplinary team: neonatologist, pediatric surgeon, pediatric endocrinologist, pediatric oncologist, and radiologist. Ultrasound is a valuable exam for an initial diagnosis of adrenal masses.
INTRODUCTION
In our increasingly busy NHS many barriers affect the delivery of postgraduate education; from daily demands of ward life to service provision. Hence, educators have taken advantage of novel technological developments; using podcasts, Twitter and YouTube to distribute a wide range of educational material. Following a recent departmental survey, inability to attend teaching sessions was highlighted as an area in need of attention and improvement. Trainees were struggling to fully benefit from the programme provided by senior staff due to the unpredictable nature of the patients and workload in our tertiary neonatal unit. Thus, it was felt a more creative approach was needed to ensure all members of staff could engage with teaching sessions even if they could not be physically present.

MATERIALS AND METHODS
A dedicated private departmental ‘Singleton Neonatal’ YouTube channel was then created in 2017. During weekly unit teaching, presentations are recorded and subsequently uploaded onto the channel. Verbal consent for filming is obtained from presenters prior to their allocated teaching session. Staff are required to ensure their teaching material contains no patient identifiable information, which is again emphasised before filming commences. Videos are edited by senior members of the medical team prior to uploading to ensure confidentiality is upheld and that content is of high quality. Links to newly uploaded videos are circulated amongst all members of both medical and nursing staff by a dedicated message group.

CLINICAL CASES AND SUMMARY RESULTS
Since the creation of the ‘Singleton Neonatal’ YouTube channel in November 2017, there have been 31 videos uploaded with greater than 850 video views to date. Examples of topics covered in current uploads include; setting up Nitric Oxide with High Frequency Oscillation; UVC and UAC insertion; hypotonic neonates and neonatal palliative care. Following the introduction of the ‘Singleton Neonatal’ YouTube channel we circulated a feedback questionnaire amongst the medical and nursing staff. From this we found that 60% (n=15) of staff had accessed the videos after the original session had taken place. Recurrent themes of ‘unit workload’ and ‘staffing issues’ were again highlighted in the feedback questionnaire as barriers staff face when attempting to attend teaching. 87.5% of staff had accessed the videos whilst at home and 12.5% had viewed them whilst at work. Of the staff who watched the videos 73% described them as ‘very helpful’.

CONCLUSIONS
We have clearly demonstrated that the use of a dedicated YouTube channel has helped to improve staff engagement with departmental teaching. However, we recognise that not all members of staff are reaping the full benefit of the materials we have created. With this in mind we are planning to also have the videos available on our departmental intranet site and aim to provide nursing specific content following further research.
ESOPHAGEAL ATRESIA: DOES THE PRESENCE OF ADDITIONAL ANOMALIES AFFECT PROGNOSIS?

INTRODUCTION

Esophageal atresia (EA) is the most common congenital anomaly of the esophagus and is often associated with a tracheoesophageal fistula (TEF). The incidence of the disease is estimated at 1 in 2500 to 1 in 4500 live births. Most cases of EA/TEF are often accompanied by additional anomalies, commonly in the distribution of VACTERL association (Vertebral defects, Anorectal malformations, Cardiac defects, Tracheoesophageal anomalies and Limb abnormalities). Whether the presence of coexisting anomalies affects the prognosis after surgical repair or not remains debatable in the literature. The aim of this study was to compare the post-operative outcomes following surgical repair of EA/TEF in infants with isolated EA/TEF and EA/TEF with coexisting anomalies.

MATERIALS AND METHODS

A retrospective case study was conducted, comparing infants with isolated EA/TEF versus infants with EA/TEF and additional anomalies in the distribution of VACTERL association (EA/TEF+) that underwent surgical repair in our hospital between December 2001 and April 2018. Patient demographics, time of surgical repair, postoperative complications and survival rate were analyzed in the two patient groups.

CLINICAL CASES AND SUMMARY RESULTS

A total of 44 infants with EA/TEF were identified. Of these, 16 infants (36.4%) had isolated EA/TEF and 28 infants (63.6%) had EA/TEF with one or more additional anomalies. Twelve infants (27.3%) were identified with three defects including EA, qualifying them for a formal VACTERL diagnosis. There was no significant difference between the EA/TEF and the EA/TEF+ groups concerning gestational age (p=0.85), birth weight (p=0.64) and gender (p=1.00). Postoperative complications were found to affect both patient groups with no statistically significant difference. At least one postoperative complication was observed in 9/16 (56.3%) infants with isolated EA/TEF and in 13/28 (46.4%) infants with EA/TEF+ (p=0.75). The most frequent complication was anastomotic stricture, affecting 9/16 (56.3%) and 12/28 (42.9%) the EA/TEF and the EA/TEF+ groups respectively (p=0.53). Survival rate was 93.8% and 92.9% in the EA/TEF and the EA/TEF+ groups respectively.

CONCLUSIONS

The presence of additional anomalies (Vertebral defects, Anorectal malformations, Cardiac defects, Tracheoesophageal anomalies and Limb abnormalities) in Esophageal atresia (EA) does not seem to affect the frequency of postoperative complications or mortality.
INTRODUCTION

Interventional cardiac catheterization is an essential method of treatment in congenital heart disease in neonates.
To review the catheterizations performed in neonates admitted in a NICU of a tertiary hospital for congenital heart disease, the interventions performed and the outcome.

MATERIALS AND METHODS

Hospital records and catheterization data of neonates with congenital heart disease admitted in the NICU of a tertiary care hospital between September 2015 and December 2017 were reviewed.
A total of 17 neonates (10 males, 7 females, mean age 12.7+12 days and mean body weight 2911+723gr) were included in the study.

CLINICAL CASES AND SUMMARY RESULTS

Regarding the diagnosis: double outlet right ventricle in 2 patients (11.7%), hypoplastic left heart syndrome in 4 (23.5%), transposition of the great arteries in 1 (5.8%), total or partial anomalous pulmonary venous connection in 3 (17.6%), critical aortic stenosis in 1 (5.8%), pulmonary valve atresia in 2 (11.7%), critical pulmonary stenosis in 1 (5.8%), hypoplastic aortic arch 1 (5.8%), hypoplastic aortic arch with aortic coarctation and mitral stenosis in 1 (5.8%) and tricuspid atresia in 1 (5.8%).

Interventional cardiac catheterization was performed in 70.5%: There were 6 cases of atrial septostomy (35.2%), 2 cases (11.7%) of balloon pulmonary valvuloplasty, 1 case (5.8%) of aortic balloon valvuloplasty (5.8%), and 3 cases (17.6%) of patent ductus arteriosus stenting. There were no deaths during the procedure.

CONCLUSIONS

Parodical desaturation was observed during catheterization. Arrhythmia was detected in 8% and was treated with pos medication. All neonates had clinical improvement. Two neonates with hypoplastic left heart syndrome died in the hospital 15 days after the procedure, because of their initial disease.
Therapeutic cardiac catheterization in neonates, is an effective and relatively safe method, and is considered as the initial mode of treatment for some congenital heart disease.
INTRODUCTION

Stenting of the patent ductus arteriosus (PDA) for duct-dependent pulmonary blood flow, has been recently introduced.

MATERIALS AND METHODS

To evaluate outcome of neonates with stenting of the PDA, hospitalized in a NICU of a tertiary hospital and present our first experience. Three male neonates (median age 27 days, birth weight: 2.2 kg, ranging between 1.4-2.9 kg and mean weight during the procedure: 2.73 kg) with hypoplastic left heart syndrome (HLHS), complex congenital heart disease and duct-dependent pulmonary blood flow, underwent ductal stent implantation as an alternative to maintain pulmonary blood flow until complete surgical repair. Initial an angiography was performed under general anaesthesia. And retrograde femoral arterial access was used in the cath lab.

CLINICAL CASES AND SUMMARY RESULTS

In the first neonate coexisted HLHS, aortic atresia, hypoplastic aortic arch, a large PDA and significantly dilated pulmonary artery. Systemic pressure was found in pulmonary circulation. Successfully implantation, was made from a femoral artery, into the PDA with a self-expanding sinus super flex DS stent (Optimed 9 mm / 15 mm). In the second newborn was implanted from the arterial path into a PDA, a self-expandable sinus super flex DS stent (8 mm diameter and 15 mm length) as a first Giessen hybrid type correction. Because of coexistence of a restrictive open oval foramen, successful diaphragm resection was achieved with the Tyshak Mini 8 mm / 2 cm catheter. In the third newborn coexisted aortic valve atresia and hypoplastic ascitic aorta. It was successfully implanted in descending arch a drug eluted preloaded stent (Boston Scientific) 4 mm diameter and 8 mm length and also was successfully implanted a preloaded stent (Johnson & Johnson) 5 mm diameter and 18 mm length in PDA.

CONCLUSIONS

After the procedure, all neonates continued positive inotrope agents and low molecular weight heparin. Prostaglandin E1 infusion was discontinued and bilateral PA banding procedure and atrial septostomy as first stage palliation for HLHS was advised. Stenting of PDA consist a safe and effective option in selected cases, offering an alternative to initial surgical procedures.
INTRODUCTION

After discharging from neonatal units, newborn may experience pathologies that may need admission in a pediatric intensive care unit in the first 30 day of live. The aim of our study was to identify the main diseases that occurred in the newborn infants, that will require hospitalization.

MATERIALS AND METHODS

Retrospectively, we studied a cohort of newborns admitted to our pediatric ICU during 2017. We selected infants hospitalized in the first 30 day of live in a 4 month period.

CLINICAL CASES AND SUMMARY RESULTS

The study cohort included 59 neonates admitted to the PICU. From the cohort, the main causes of admission were: 48% cardiac congenital malformation associated with cardiac insufficiency or pulmonary infections, 18% respiratory tract infections, 10% apnea episodes, 8.5% sepsis, 6.7% severe anemia, 3.3% meningitis, 5% acute diarrhea with acute dehydration syndrome. We registered 1 case of venous cerebral thrombosis in a patient with complex cardiac congenital malformation. The onset of the disease was at 17.05±8.55 days of life, with a minimum of 4 and a maximum of 29 days. We registered 8 deaths in the cohort study, most of all in children with cardiac congenital malformation or sepsis.

CONCLUSIONS

There is wide spectrum of pathologies that require admission of newborn an pediatric intensive care unit in the first month of life, the most frequent being cardiac congenital malformation and comorbidities. Obviously, the number of cases is limited and required additional cases for the documentation of findings.
Prolonged jaundice (PJ) is defined as jaundice persisting beyond day 14 of life in term neonates, and beyond day 21 in preterm neonates. In early infancy it is important to determine whether jaundice is predominantly conjugated or unconjugated hyperbilirubinemia in order to determine as soon as possible whether the baby is suffering from liver disease or benign jaundice. The aim of this retrospective study was to analyse the causes of PJ in well infants with PJ.

The authors carried out a retrospective study which included 33 infants aged between 21 days and 2 months with PJ during the period 2015-2018. All infants were assessed to feeding history, physical examination, inspection of stool and urine and total and conjugated bilirubin. In infants who presented direct bilirubin increase, liver function was completely evaluated, serology for liver viruses, iontophoresis, abdominal echography were performed. In infants who presented indirect bilirubin increase, liver function was completely evaluated, serology for hepatic viruses, iontophoresis, abdominal ultrasonography was performed. A prolonged unconjugated hyperbilirubinemia was evaluated to breastfeeding or to hemolytic diseases, congenital hypothyroidism, urinary infection, or Gilbert syndromes.

All infants were exclusively breastfed and 10 infants had a history of improper weight gain. 8 infants presented liver cytolysis syndrome and cholestasis in neonatal hepatitis: 3 cases of citomegalovirus infections, 3 cases of sepsis and 2 cases of unknown etiology. No case of biliary atresia was diagnosed. 15 cases were diagnosed with prolonged unconjugated hyperbilirubinemia: 2 cases of hemolytic anemia, 3 cases of cephalhematoma, 3 cases of Escherichia Coli urinary infection, 1 case of Gilbert syndrome and 6 cases of breast milk jaundice.

Conjugated hyperbilirubinemia (cholestatic jaundice) is never physiologic. In order to early identification of cholestatic neonates it is recommended that any infant who remains jaundiced beyond age 2 to 3 weeks should have the serum bilirubin level fractionated.
ABSTRACT ID: 599

TITLE: THE ROLE OF THE TISSUE FACTOR IN FORMING OF THE HYPERCOAGULATION IN NEWBORNS

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INTRODUCTION

Blood coagulation system disorders are one of the leading causes of disability and death in the newborn population. The hemostasis of newborns is characterized by a simultaneous decrease in the concentration of coagulation activators and inhibitors compared with adults. Thus, newborns can be suspected of having an increased risk of developing an imbalance of clotting. In our previous study a shift in the coagulation system to the hypercoagulation was detected in newborns using a global thrombodynamics test. The purpose of this research is to study the possible mechanisms of this hypercoagulation.

MATERIALS AND METHODS

A total of 14 newborns were enrolled in the study (8 full-term neonates – group 1, gestational age ≥37 weeks and 6 moderate preterm ones – group 2, gestational age 30–35 weeks), born in the Kulakov National Research Center for Obstetrics, Gynecology and Perinatology. Blood sampling was performed from the umbilical cord during a caesarean section and from the newborn during the first 2 hours of life in two tubes: with sodium citrate and with a contact activation inhibitor (CAI) added to sodium citrate. The following assays were performed: APTT, prothrombin, fibrinogen, D-dimers, thromboelastometry (NATEM), thrombodynamics and spontaneous clotting time in the presence of a factor IX inhibitor (nitropharin, 100 nM) or tissue factor (TF) inhibitor (FVIIai, 100 nM).

CLINICAL CASES AND SUMMARY RESULTS

APTT, prothrombin and fibrinogen did not significantly differ for two groups of newborns (P <0.05). Thromboelastometry, thrombodynamics and D-dimers were significantly shifted toward hypercoagulation in group 2. In thrombodynamics, spontaneous clots formed in all samples; in the presence of CAI, the time of spontaneous clots formation extended by an average of 2.6 times, and in 40% of cases, the clots stopped forming. Addition of nitropharin did not influence the spontaneous clotting time, when TF was inhibited: coagulation did not occur in 50% of the samples. Similar studies with the addition of CAI showed complete absence of clotting when TF was inhibited. To determine the concentration of TF in the blood of newborns, we added different concentrations of TF in the plasma of a healthy adult and obtained that the average time of appearance of spontaneous clots in newborns corresponds to the time of appearance of spontaneous clots in adult plasma in the presence of 1 pM TF.

CONCLUSIONS

Global hemostasis tests reflect a shift to the hypercoagulation in preterm newborns compared with full-term ones. This hypercoagulation is due to the presence of a circulating TF in the blood. It remains unclear whether this TF is due to the traumatic nature of the labor itself and the subsequent cutting of the umbilical cord or is a special mechanism that occurs in the fetus even before delivery and is intended to protect the newborn from trauma during passage of the parturient canal.
INTRODUCTION
The umbilical venous catheterization in preterm or in pathological newborns have considerable benefits. The most common complication is the malposition. Umbilical venous catheterization are sometimes complicated with pleural and or pericardial effusion. The verification of catheter tip is important both at placement and during follow-up. We describes the case report of a newborn with umbilical venous catheter (UVC) at term that presented a pleural effusion of parenteral nutrition fluid.

CLINICAL CASES AND SUMMARY RESULTS
A term male infant (2960 gr) delivered by operative vaginal has been transferred to our center at 2 hours of life for severe perinatal asphyxia. When the infant was admitted to NICU he presented n-CPAP and an UVC (chest radiograph showed correct position). Blood gas analysis showed severe metabolic acidosis. Neurological examination and CFM showed severe encephalopathy. Therapeutic hypothermia and parenteral nutrition was started. The infant showed gradual increase in respiratory distress. Chest radiograph showed massive right pleural effusion. The drained pleural fluid was atypical. The color of the drainage liquid was milk, a post-traumatic chylothorax was suspected. The biochemical analyses showed that the drained pleural fluid was similar to the TPN infusion. A chest x-ray with contrast which highlighted infusion in the pleura of the contrast (Fig.1). The UVC was removed. Cardiopulmonary status was stabilized after drainage. Long-term neurodevelopmental outcomes was good.

CONCLUSIONS
The umbilical venous catheterization in preterm or in pathological newborns have considerable benefits. The most common complication is the malposition. The verification of catheter tip is important both at placement and during follow-up. Pleural effusions were generally diagnosed when respiratory distress symptoms became obvious, clinicians must be aware of that risk, and should not underestimate the newly produced respiratory distress symptoms in infants with UVC.
INTRODUCTION
Abdominal wall defects like gastroschisis are commonly detected at the first visit scan, or in the second trimester. The incidence is about 1 in 2000 births. Babies born with gastroschisis rarely have other associated anomalies. After surgical repair, survival rates are more than 90%. A more severe end of the spectrum is the rare phenomenon of closed gastroschisis leading to extreme short gut (less than 25 cm of remaining small bowel). Either the abdominal wall defect can contract and close in utero (vanishing gut syndrome), or a volvulus can occur, which leads to infarction and reabsorption of small bowel. If this occurs, then the outcome is very poor with a mortality rate of 70%.

CLINICAL CASES AND SUMMARY RESULTS
A 26-year-old patient in her second trimester was diagnosed of gastroschisis. At 32 weeks, prophylactic steroid injections were given with a C-section at 34 weeks. A female infant was born, weighting 2.230 kg, with a wall defect and an ischemic bowel. Firstly, a jejunostomy was performed, with 50 cm of small bowel left. She was on total parenteral nutrition (TPN) during 59 days and needed it during 6 months. Secondly, a jejunocolostomy was performed and she underwent a serial transverse enteroplasty (STEP) on a dilated intestinal loop at one year old.
An 19-year-old patient at 13 weeks gestation was diagnosed of gastroschisis. At 32 weeks, prophylactic steroid injections were given, with an urgent C-section at 33 weeks gestation for bradycardia. A male infant was born, weighting 2.100 kg, with a wall defect and an ischemic bowel. A jejunocolostomy was performed, with only 23 cm of small bowel left. By now, he is 33 days and still on TPN with difficulties for enteral nutrition and pending of a STEP.

CONCLUSIONS
Closed gastroschisis and vanishing gut syndrome has been occasionally reported. Treatment is aggressive and depends on the amount of small bowel left like a bowel lengthening procedure or a serial transverse enteroplasty, otherwise, the only option is a small bowel transplant. As these patients require TPN until some time post-surgery, they can develop end stage liver failure. When counselling parents with a diagnosis of fetal gastroschisis, we should be positive, but mention this rare complication.
INTRODUCTION

To explore the etiology, clinical manifestations and preventive measures of uterine rupture during non-cesarean scar pregnancy. We reviewed the clinical features, treatment and prognosis of 7 cases of uterine rupture during non-cesarean scar pregnancy admitted to the Department of Obstetrics and Gynecology, Shanghai Sixth People’s Hospital affiliated to Shanghai Jiao Tong University from 2013 to 2017, the data were analyzed and discussed.

CLINICAL CASES AND SUMMARY RESULTS

Three of the seven patients had previous hysterectomy, two with tubal resection, one had previous tubal excision and hysterectomy, and one was birth control Uterine scar rupture after implantation, the initial clinical manifestations were abdominal pains, but with atypical symptoms, easy to lead misdiagnosis. Ultrasound and CT help clinical diagnosis, to some extent, early diagnosis and surgical treatment determines the treatment outcome.

CONCLUSIONS

Increasing awareness and early diagnosis of uterine rupture in non-cesarean scar pregnancy is very important to the diagnosis and treatment of uterine rupture during pregnancy.
INTRODUCTION

This article analyzes the frequency of polymorphisms of the hemostasis system and folate cycle protein genes associated with increased risk of thrombophilia based on the results of CHGMA genetic laboratory patients. Method of research is allele-specific PCR. It was analyzed 1800 DNA samples. The most frequently mutations occur in the genes of receptors in the platelets and the folate cycle, mostly heterozygous substitution. Leiden mutation (F5) and prothrombin mutation (F2) are the most significant in the thrombophilia development and occur much less frequently. Only in one case revealed a homozygous mutation in the gene F2 and F5.

MATERIALS AND METHODS

The analysis of 1800 results of PCR studies of 12 polymorphisms of genes associated with thrombophilia was carried out. All patients, 1800 women, aged 20 to 60 years inclusive, had reproductive health disorders: miscarriage (80%) and infertility (20%), in 21% of cases with a family history of thrombotic history, living in the Transbaikal region and mainly in Chita. DNA samples isolated from peripheral venous blood leukocytes served as a material for molecular genetic analysis (PCR-Rt). For each patient, the genes of hemostatic system factors included: FII (G20210A), FV (G1691A), FVII (G10976A), FXIII (G103T), FGB (G455A), PAI-1 (5G / 675 / 4G), ITGA2 (C807T), ITGB3 (T1565C), and folate cycle systems: MTR (A2756G), MTRR (A66G), MTHFR (C677T), MTHFR (A1298C).

CLINICAL CASES AND SUMMARY RESULTS

According to the data of a complex molecular genetic study of gene polymorphisms of hereditary thrombophilia, genetic markers ("risky" allele) of the dysfunction of the plasma, platelet links of the hemostasis system and the folate cycle were revealed in each of the patients examined by us in at least one of the investigated genes. The polymorphic variants of the genes of the fibrinolysis system PAI-15G / 675 / 4G (5G / 4G - 49.6% and 4G / 4G - 32.4%) and the ITGA2C807T platelet receptor (48,2% and 48,2%) were the most frequent T / T - 13.2%), as well as folate metabolism proteins MTRRA66G (A / G - 54.3% and G / G - 22.6%) and MTHFRA1298C (A / C - 43.4% and C / C - 9,7%), and mostly they were heterozygous replacements. The most significant thrombophilia development - the Leiden mutation (F5) and the prothrombin mutation (F2) - were significantly less common, in 4.0% and 2.4% of cases, respectively (Figure 1). The population frequency of variant A of these polymorphisms is 2-5%.

CONCLUSIONS

In the study group of women, there was a high frequency of mutations in the genes of the fibrinolysis system, platelet receptors and folate cycle proteins, mainly in the heterozygous form, as well as the presence of the multigenic nature of thrombophilia in more than 80% of cases with a low percentage of the mutations of the most important thrombophilia mutations in factor five genes and two.
INTRODUCTION
This study aimed to investigate the prevalence of human papillomavirus (HPV) infection and to explore an appropriate cervical cancer screening strategy in a cohort of Chinese pregnant women.

MATERIALS AND METHODS
From May 2016 to February 2018, 5145 women at 16 to 20 gestational weeks underwent a cervical cancer screening by HPV detection test combined with TCT (Thin prep cytological test) at their first antenatal care in our hospital. A colposcopy was proposed in cases of high-risk HPV infection or abnormal cervical cytological results (≥ASCUS). A cervical biopsy under colposcopy was conducted in conditions of a susceptible colposcopy impression with the agreements of patients.

CLINICAL CASES AND SUMMARY RESULTS
The frequency of HPV infection among pregnant women was 8.55% (439/5145) with the rate of high-risk HPV at 7.15% (367/5145) while 11 women were diagnosed as abnormal cytological results (above ASCUS, 0.21%). The main genotype of HPV among infected pregnant women was HPV-16 (49/439, 11.16%). 227 patients were referred to a colposcopy and 63 cervical biopsies were performed (63/439, 14.35%). According to histopathology, 32 chronic inflammations, 17 LSILs, 12 HSILs and 2 invasive cancers were diagnosed. The rate of CIN or cervical cancer during pregnancy was 0.56% (29/5145) and 0.039% (2/5145) respectively. A greater sensitivity was achieved by high-risk HPV detection (100%, 31/31) compared to TCT (10%, 3/31).

CONCLUSIONS
HPV detection combined with TCT could better recover the low sensitivity of simple TCT as cervical cancer screening methods during pregnancy. A more satisfactory detective rate of CIN or cervical cancer was achieved by a selective cervical biopsy during colposcopy for women with high-risk HPV infection.
The problem of habitual abortion is of clinical and social importance and a new model of obstetrical pessary can be successfully used for the treatment of patients with cervical insufficiency and habitual abortion. 

MATERIALS AND METHODS

A new model of obstetrical pessary by doctor Schneiderman is made of high quality silicone of determinated flexibility and density providing the optimal application of the pessary. The outstanding feature of the ring is availability of four I semicircular and four bulges on the internal surface of the ring. The study of the new model of obstetrical pessary demonstrated its high reliability and efficiency. The subjects of the study were 408 women diagnosed with isthmic-cervical insufficiency or history of habitual abortion and pregnancy of 14 to 37 weeks of gestation. All pregnancies were followed to term.

CLINICAL CASES AND SUMMARY RESULTS

The advantages of the new model of the obstetrical pessary are as follows:
1. Adjunctive fixation of the pessary in the vagina due to the external slots (so the pessary would not move or drop out).
2. High comfort and ease of usage of the pessary during its insertion into the vagina.
3. Reduced risk of lacerations and ulcers of the vaginal mucosa due to minimal pessary contact with the vaginal wall.
4. Increase in outflow of the vaginal discharge.
5. Prevention of infections vaginitis due to antimicrobial coating of the pessary.
6. Allergic -free pessary.
7. Easy and painless removal of the pessary.
8. Presence of two or four bulges on the internal surface of the ring preventing cervical dilatation in case of cervical insufficiency during pregnancy.
9. Elimination of symptoms of stress urinary incontinence. The optimal timing for use obstetrical pessary is from the 14 week of pregnancy to the 37th week of pregnancy with the subsequent removal of the pessary.

CONCLUSIONS

Application of the new model of obstetrical pessary considerably increases the chances of successful maintenance of pregnancy course up till term in women with cervical insufficiency and habitual abortion.
CD15+ placental endothelial progenitor cells (CD15+ pEPC) of the feto-placental vessels are an indicator of physiological maturation and fetal condition [Seidmann L., 2014]. The aim of this study was to perform comparative analysis of CD15+ pEPC expression in the resistance placental vessels between various clinical forms of pregnancy pathology associated with acute and chronic placental insufficiency.

MATERIALS AND METHODS

224 tissue samples of normal (n=34) and pathological (n=190) placentas of gestational age 37-42 associated with acute placental insufficiency (placental abruption (PA), n=26), manifest chronic placental insufficiency (preeclampsia (PE), n=38; gestational Diabetes Mellitus (GDM), n=40, fetal intrauterine growth restriction (IUGR), n=39) and latent chronic placental insufficiency (SIUD), n=47) were immunohistochemically analyzed. A relative amount of the feto-placental resistance macrovessels containing CD15+ pEPC was determined. Intensity and intravascular expression of CD15+ pEPC was assessed using the Immunoreactive Score (IRS).

CLINICAL CASES AND SUMMARY RESULTS

Expression of the feto-placental CD15+ pEPC in normal pregnancy was noted in 9,0±6,2% of resistance macrovessels, IRS 0,8±0,4; PA in 10,0±6,2%, IRS 1,4±1,6; PE in 21,3±5,7%, IRS 4,3±1,5; IUGR in 33,7±9,3%, IRS 4,7±2,6; GDM in 37,6±11,3%, IRS 5,8±2,5; SIUD in 69,24±19,7%, IRS 11,2±0,8.

CONCLUSIONS

High risk pregnancies associated with manifest and latent forms of chronic placental insufficiency are attended by significantly increased CD15+ pEPC expression in the macrovasculature compared with the normal and pathological placentas with acute placental insufficiency. CD15 immunophenotyping can be used to identify latent forms of placental insufficiency and hypoxic risk of newborn in the postnatal period.
INTRODUCTION

Metabolism of folates has a crucial role for homeostasis, it regulates changing of amino acids, purine and pyrimidine synthesis and DNA methylation. Methionine is a precursor for DNA methyl donor and is important for DNA methylation and gene regulation. The disturbances of folate cycle, elevated levels of homocysteine, could result in thrombosis, heart infarction, cancers, neurodegenerative diseases, obstetrics complications (miscarriages, preeclampsia) and fetus defects. Methylation of DNA is also very important for normal sperm parameters. An adequate supply of methyl donors is required for spermatogenesis. Studies have shown that folic acid deficiency and folate cycle polymorphisms in male can alter the spermatogenesis and increase the incidence of fetal morphological abnormalities.

MATERIALS AND METHODS

A 40-year-old woman had no history of gynecological, cardiovascular, thrombosis of her own and in her family.

Obstetric history (pregnancies). 1. (Age 23) surgical medical abortion in the first trimester; 2.Age 26 – caesarean section because of pelvic presentation on 39 week. Newborn boy 3000g 51 sm Apgar score 6-8, died 3 weeks later. The autopsy revealed heart defect. 3.Age 32 – antenatal fetal death of male fetus at 29 week. The autopsy revealed heart defect and esophageal atresia. Cytogenetic analysis (aCGH) showed multiple microdeletions. The couple was examined for the causes of fetal loss. Changes of spermogram in dynamic observation with increase concentration of pathological forms of spermatozoa were revealed. Acquired and congenital thrombophilia factors were examined.

CLINICAL CASES AND SUMMARY RESULTS


CONCLUSIONS

Hyperhomocysteinemia and folate pathway polymorphisms in both parents are risk factors for recurrent pregnancy loss and fetus defects. At the miscarriage history, anembryonic, chromosomal disorders both spouses must be examined the polymorphisms of folate pathway, hyperhomocysteinemia. Planning of pregnancy in couples with miscarriage history, anembryonic, chromosomal disorders and hyperhomocysteinemia, folate pathway polymorphisms should start when concentration of homocysteine is normal.
INTRODUCTION

Several adult diseases originate through adaptations of the fetus in the intrauterine environment. Early endothelial dysfunction has been proposed originating in fetal life, however, to date it is not known which are the factors that could intervene in the development of this pathology. The fetal aortic intima media thickness (aIMT) and the aortic diameter (AD) have been suggested as biomarkers for predicting metabolic disorders and cardiovascular disease (CVD) risk in children. The aim of the study is to evaluate the association of maternal factors and the estimated fetal weight (EFW) with the measurement of aIMT and AD in fetus.

MATERIALS AND METHODS

Fetal biometry were performed at 20-24 gestation weeks in 60 women between 18 and 43 years old, with a single pregnancy. The measurement of fetal aIMT and AD, which were obtained from the portion of the fetal abdominal aorta located between the renal and the iliac arteries, by high-resolution ultrasound. General maternal data and anthropometric measurements were obtained. A venous blood sample was obtained from the mother after an overnight fasting for the measurement of plasma glucose and lipid profile. The normal distribution of variables was assessed using Kolmogorov–Smirnoff test. Multiple regression analysis was performed to show the correlation between aIMT and AD with maternal factors. The P value ≤0.05 was considered as statistically significant.

CLINICAL CASES AND SUMMARY RESULTS

The patients recruited in the study had the following characteristics; a mean of age 31.3 ± 5.1 years, maternal weight before pregnancy 62.9 ± 8.6 kg and the maternal weight during the 2nd trimester of pregnancy 69.9 ± 8.9 kg. Within the maternal metabolic measurements, the mean of glucose was 86.7 ± 10.4 mg/dl, total-cholesterol 241.4 ± 50.6 mg/dl, HDL-cholesterol 65.9 ± 16.2 mg/dl, LDL-cholesterol 132.9 ± 41.2 mg/dl, triglycerides 197.4 ± 67.1 mg/dl. The mean of EFW was 807.2 ± 319.6 gr. The analysis of the association between the maternal factors and the EFW with the fetal aIMT and AD, showed a positive association between the fetal AD and EFW (R2= 0.168, p< 0.012). On the other hand, a positive association was observed between the fetal aIMT with the maternal serum glucose levels (R2= 0.170, p< 0.040).

CONCLUSIONS

Maternal hyperglycaemia is associated with fetal endothelial damage. The molecular mechanism could be through the increase of ROS levels associated with reduction of nitric oxide. These findings show the clinical importance for the control of glucose in pregnant women, and in addition, the implementation of the measurement of aIMT during prenatal control to detect endothelial damage in early stages. Further studies are needed to obtain more information on the subject.
INTRODUCTION

The aim of the study: To study whether hypertension during pregnancy may worsen the structure and function of left ventricle. Obstetrical history and demographic characteristics did not differ between the groups. Measurements were carried out in their BMI, BP, ECG, ECHO, laboratory analyses. The patients at the exact time of examination, had their BP stabilized.

MATERIALS AND METHODS

200 women with pregnancy hypertension (either medically treated or not) were compared to 50 healthy pregnant women of similar gestational ages. To evaluate left ventricular diastolic function, mitral inflow were used. The form of geometric remodulation found more often within the medically treated group is concentric hypertrophy (83.33%) and eccentric hypertrophy (71.79%) that prevails in the medically treated group whereas the normal geometric model prevails in the normotensive group (98%). The altered geometric pattern is associated with normal systolic function. The diastolic dysfunction is often found in (69.57%), pseudonormal pattern (72.13%) and restrictive pattern (78.26%) in the medically treated group. Within the normotensive we found normal diastolic function.

CLINICAL CASES AND SUMMARY RESULTS

CONCLUSIONS

The data of this study found that pregnancy hypertension, may induce the diastolic dysfunction of the left ventricle as well as helps in its geometric remodeling even after control of hypertension.
INTRODUCTION

Abdominal palpation with Ou MC manipulation (APOM; Am J Emerg Med, 2012) has shown to be more sensitive than bimanual pelvic examination for the diagnosis of pelvic inflammatory disease in women with acute abdomen. This study demonstrated APOM with Ou MC decrescendo phenomenon (OuDP; TJOG, 2017) for diagnostic reliability for pregnant women with abdominal pain.

MATERIALS AND METHODS

Pregnant women with acute abdomen attending an emergency department received APOM. OuDP was firstly induced to delimit the area of uterus; then, palpation was performed to determine the area of pain. Put the separation hand to delimit the uterine area lightly to induce OuDP to avoid compressing the uterus hardly.

CLINICAL CASES AND SUMMARY RESULTS

Of these women, APOM with OuDP showed capable to locate the pain in uterine area or non-uterine area. Uterine area pain showed a pregnancy-associated diseases while non-uterine area pain sowed a disease not related to uterine pregnancy.

CONCLUSIONS

The delimitation by APOM as a separation zone may allow positional recognition of the abdominal tenderness with decreased overlap of signs. In pregnant women, APOM can also effectively locate tenderness with OuDP to avoid hard compression on the uterus. OuDP is induced with contralateral hand of the examiner by pressing the hand in a chopping gesture lightly on the abdomen along the contour of the uterus.
INTRODUCTION
The external version from breech presentation is a safe method in order to facilitate a lower risk vaginal delivery from a cephalic presentation. There is a lot of controversy regarding the success rates of the external cephalic version. Our purpose was to develop and evaluate a clinical score for the prediction of the success of an external version.

MATERIALS AND METHODS
We developed a clinical score which takes into consideration the following parameters: localisation of placenta, amniotic fluid index, umbilical cord entanglement, fetal weight, breech mobility, parity and uterine tonus. Every parameter gets 0-2 points (maximum 14 points). We conducted in our department 144 external cephalic versions between 2013 and 2017. All the procedures were carried out between 36.0 and 39.0 weeks of pregnancy. The score was always calculated through the managing physician before the procedure and was accordingly associated to the result afterwards.

CLINICAL CASES AND SUMMARY RESULTS
The overall success rate of the external cephalic version in our department was 49.3%. Our clinical score demonstrated a strong correlation to the success rates of the external version. Success rates in correlation to the clinical score:

CONCLUSIONS
Our results suggest that this simple scoring system could provide a good instrument for the prediction of the success of the external cephalic version and could also be used for the counselling of the patients. A higher predictive rate could be possibly achieved through the addition of the fetal position (eg sacrum right/left, anterior/posterior) to the scoring system. This hypothesis is being at the moment evaluated in another large cohort.
INTRODUCTION

Abortion is a safe procedure for which major complications and mortality are rare at all gestations. However, major complication such as uterine rupture can occur with medical termination of pregnancy (TOP). This study aims to identify contributing factors for uterine rupture in women undergoing second trimester medical TOP in KK Women’s and Children’s Hospital, Singapore.

MATERIALS AND METHODS

This is a retrospective review of patients complicated with uterine rupture while undergoing second trimester medical TOP from January 2015 to December 2015. Data was retrieved and analyzed from an internal hospital audit. Second trimester TOP was defined as TOP performed between 13 weeks 0 day to 23 weeks 6 days gestational age.

CLINICAL CASES AND SUMMARY RESULTS

A total of 416 patients underwent TOP in KKH during the study duration. 57 of these patients had a scarred uterus. Seven cases of uterine rupture were identified. Three patients had abdominal pain and one patient had hypovolaemic shock prior to uterine rupture. Two patients underwent ultrasound pelvis and one patient underwent CT abdomen and pelvis prior to laparotomy. All uterine ruptures were confirmed at laparotomy. There were no cases of hysterectomy or death.

Six cases of uterine rupture involved a scarred uterus; one had a previous caesarean section (CS), two had two previous CS, two had three previous CS and one had four previous CS. The overall incidence of uterine rupture was 1.68 % (7/416). The incidence of uterine rupture in patients with scarred uterus and unscarred uterus were 10.53% (6/57) and 0.28% (1/359) respectively.

Uterine rupture was observed to occur at later gestational age when compared with uncomplicated TOPs (19.7 weeks versus 17.4 weeks).

CONCLUSIONS

Factors such as a scarred uterus and advanced gestational age were associated with uterine rupture in women undergoing second trimester medical TOP.
**INTRODUCTION**

Pelvic floor dysfunction (PFD), although seems to be simple, is a complex process that develops secondary to multifactorial factors. Vaginal birth is a proven risk factor for PFD. Pelvic floor muscle training (PFMT) is often recommended to treat postpartum urinary incontinence (UI). However, the role of postpartum PFMT in pelvic organ prolapse (POP), sexual dysfunction (SD), and anal incontinence (AI) remains unclear. The role of pelvic physiotherapy for these patients remains a relatively untapped resource. The aim of this study was to assess the efficacy of postpartum physiotherapy by using different devices Pelvic Floor Exercisers EmbaGynTM and Magic Kegel MasterTM on pelvic floor dysfunctions.

**MATERIALS AND METHODS**

It was prospective, monocentral randomized study. This study was approved by Ethical Committee of Kemerovo State Medical University. 48 postpartum women in 12 weeks after childbirth were randomized in two groups. Group I (n=26) has been undergone 4 weeks of treatment with EmbaGYN (United Kingdom), group II (N=22) - Magic Kegel Master (China). The exercise lasted for 20 min, and was carried every day. An anonymous questionnaire of women was conducted using the questionnaire PFDI-20 (Pelvic Floor Distress Inventory Questionnaire) and the questionnaire FSFI (Female sexual function index). The strength of the muscles of the pelvic floor was measured using pneumopelviometry. Statistical processing of the results of the study was carried out using the program Statistica Version 10.

**CLINICAL CASES AND SUMMARY RESULTS**

The frequency of PFD symptoms and pelvic muscles strength before and after treatment are presented in the table 1. We found out a statistically significant decrease in complaints on POP, UI, AI after the treatment in both groups. However, SD frequency after treatment decreased significantly only in group II: 68.4% and 22.7% (p=0.003). A significant increase in the strength of the pelvic floor muscles is recorded in both groups: group I - 53.7±3.0 and 67.1±5.3 U, group II - 54.1 ±2.3 and 69.5±6.3U (p0.05). After treatment in group I, the number of women who responded positively to the question: «Urine leakage related to the feeling of urgency?» significantly decreased – 34.6% and 11.5% (p=0.049).

**CONCLUSIONS**

Thus, the use of EmbaGYN and Magic Kegel Master for 4 weeks contributed to a decrease in the frequency of pelvic organ prolapse, urinary and anal incontinence symptoms, as well as a statistically significant increase in the strength of the pelvic floor muscles. The use of EmbaGYN was more effective in reducing the urinary incontinence symptoms. Magic Kegel Master was more effective in decreasing of sexual dysfunction symptoms frequency.
Breech presentation is defined as a fetus in a longitudinal lie with the buttocks or feet closest to the cervix. This occurs in 3-4% of all deliveries in Macedonia. Breech presentation deliveries decreases with advancing gestational age. In 3-6% of all fetuses at term will be in a breech presentation. Facing this situation we deal with a lot of controversies and challenges related to the decisions and approach of delivery. Aim of our study was to evaluate all patients with breech presentation hospitalized and delivered at the University clinic of obstetrics and gynecology, Skopje, Macedonia in order to start a process of developing a standardized protocol for every day management of breech presentation according to fetal weight, gestational week and parity.

MATERIALS AND METHODS

The study took place at the University clinic of obstetrics and gynecology, Skopje, Macedonia. We made overview from all deliveries of year 2017 which were 4878 from which breech presentation deliveries was 298 singleton pregnancies. We closely evaluate the way of delivery and the indication of way of delivery and divided the patients in two group’s vaginal breech vs. cesarean section group. Than we compare the two groups on the criteria of fetal weight, parity and gestational week of delivery.

CLINICAL CASES AND SUMMARY RESULTS

During year 2017 there were a total of 4878 deliveries in our institution, from which 3327 (65.31%) were vaginal deliveries and 1551(34.69%) were cesarean sections. From the total number of deliveries 332 (5.9%) were fetuses in breech presentation. 87 (26.2%) were delivered vaginally and 245 (73.8%) with cesarean section. According to the parity 190 (57.22%) of women were primiparous and 142 (42.77%) were multiparous. The percentages of vaginal versus operative deliveries in these two groups were quite similar. Also when we compare the gestational age at term patients the number of C.S rice with the g.w. In 37 g.w with breech presentation we had 72 deliveries from which 30 who delivered vaginally and 42 who delivered with C.S. But in 40 g.w. we had totally 130 patients with breech presentation from which 94 delivered with Cesarean section. Also we review the fetal weight and we concluded that the risk of delivery with the cesarean section rice proportionally with the fetal weight.

CONCLUSIONS

The way of delivery of term patients with breech presentations is strongly connected with fetal weight- the risk of cesarean section rise with the rising of fetal weight, also operative way of delivery rice with the gestational week, but it is not so strongly connected with the parity of the patients.

We must still overview the protocols and the ways of decision of way of delivery of patients of term deliveries with breech presentations.
INTRODUCTION

Conducting pregnancy and delivery in women with uterus scar after myomectomy is one of the actual problems of modern obstetrics and gynecology. This is mainly due to the contemporary tendency of reproductive plans to occur after age 30, when 17-20% of the uterus fibroids are detected in women, and at the same time, the "rejuvenation" of the disease is associated with the increase in the number of patients with uterus fibroids in younger age groups.

MATERIALS AND METHODS

Part of the research work carried out in the Department of Reproductive Health at the Institute of Obstetrics and Gynecology, is to monitor the leading of pregnancy and delivery in reproductive age women after myomectomy. The results obtained in the first place are presented. Based on the above-mentioned approach, the treatment was provided to 35 women with uterus fibroids who were planning a pregnancy. Of these, it was performed 25 laparoscopic myomectomy and 10 laparotomy myomectomy. It was prescribed conservative treatment to all the patients after operation within 6 months.

CLINICAL CASES AND SUMMARY RESULTS

The desirable pregnancy occurred in 22 (62.8%) women after myomectomy, and recovery of fertility did not differ much from the operational access of laparotomy and laparoscopy and it was 16 (63.9%) and 6 (60.1%). Gestational complications were the most common risk of pregnancy - 12 (54.5%) were encountered in pregnant women. Anemia was observed in 10 cases (45.5%) in milder form. Preeclampsia was found in 13 cases (59%) in mild and severe forms.

The placenta deficiency was identified in 14 (63.6%) cases. The hypothyroidism and correction of the thyroid gland revealed in 13 (59%) cases. Surgical delivery was carried out in 17 (77.3%) women at the time of birth, prematurely - 5 (22.7%) women. 22 children were born, 17 of them were in good condition, and three children, prematurely born in 30-33 weeks pregnancy, needed reanimation and did not need any other intensive care measures for 2 children born in 36-37 weeks of pregnancy.

CONCLUSIONS

Thus, the suggested approach to pregnancy based on prophylaxis, early diagnosis and timely correction of gestational complications allows the successful recovery of reproductive function of many women with uterus scar after myomectomy.
INTRODUCTION

The aim of the study was to determine maternal and foetal outcomes after surgical removal of a pelvic mass in pregnancy. From 1994 to 2018, in our Hospital were 48566 deliveries. 47 cases of adnexal masses associated with intrauterine pregnancy that required laparotomy or aspiration or were diagnosed incidentally at the time of caesarean section were reviewed. Patients with simple or complex masses ≥6 cm in diameter that were persistent on ultrasonographic evaluation beyond 16 weeks of gestation and patients with adnexal masses with complications (torsion, haemorrhage, incarceration), and also smaller persistent adnexal masses than 6 cm in diameter were included.

MATERIALS AND METHODS

In 7 patients with acute symptoms laparotomy was performed. The remaining 3 patients with milder symptoms underwent transvaginal aspiration of simple cysts. In 25/37 pregnant women asymptomatic adnexal masses were identified during pregnancy, and in 12/37 women were found incidentally during caesarean section. 14 patients with asymptomatic adnexal masses underwent laparotomy during second trimester of pregnancy. In 5 patients surgical procedures were planned to be done during caesarean section. Incidentally found adnexal masses in twelve women were also removed during caesarean section. Transvaginal aspiration of ovarian cysts was performed in 2 women. In one case laparotomy was done 3 months after spontaneous abortion that occurred at 16 week of gestation.

CLINICAL CASES AND SUMMARY RESULTS

One epithelial borderline malignant mass and 43 benign ovarian tumours (mostly cystadenomas and benign cystic teratomas) were found. Out of 47 pregnant women 44 gave birth (40 at term and 4 preterm). Twenty-four women had vaginal delivery and twenty gave birth by caesarean section. One patient had spontaneous abortion. Two patients were lost from follow up after surgical procedure in first trimester and one was lost from follow up after gave birth baby and refused surgery. Three pregnant women with persistent adnexal masses smaller than 6 cm were closely observed during pregnancy and surgical procedures were delayed. They were treated by laparoscopy six months after delivery.

CONCLUSIONS

The incidence of adnexal masses during pregnancy and their aetiology in our population is consistent with the literature. There were no differences in pregnancy outcome between urgent and planned surgery, but the number of cases is too small to make definitive conclusion. We emphasize that transvaginal aspiration and drainage of symptomatic simplex cysts in the first trimester and percutaneous cysts in the second can avert laparotomy.
There is an increase frequency of women with the scar on uterus in modern society. Such data is due to an increase frequency of operative delivery. It is the complete recovery of the wound that causes the course of the postoperative period, as well as the course of subsequent pregnancies. Surgical correction should take into account the potential of the regenerative process of uterus and should be conducted in the least invasive manner. Because of the steady increase in the operatively resolved births, the probability of incompetence of the scar on the uterus after the operation is also increased by cesarean section, which causes the search and application of various methods of operative plastic correction of this pathology.

MATERIALS AND METHODS

On the base of St. Petersburg State Pediatric Medical University in the perinatal center in the gynecological department from January 2016 to December 2017, 15 surgical interventions were made concerning the inconsistency of the scar on the uterus after cesarean section: 5 of which were laparoscopic access due to concomitant gynecological pathology (2 - external genital endometriosis, 3 - cystic ovarian formation), 10 - vaginal. The diagnosis was confirmed by anamnesis of the disease, clinical manifestations, ultrasound examination, magnetic resonance imaging and hysteroscopy.

CLINICAL CASES AND SUMMARY RESULTS

After the operative treatment, the most of the patients had no symptoms of scar incompetence on the uterus according to ultrasound and MRI. In 14 out of 15 (93%) of the examined patients, the "niche" was not detected. In 1 (7%) of the cases there were signs of insolvency in control ultrasound. The thickness of the myometrium in the scar area after cesarean section is more than 5 mm (93%). In 4 out of 4 (100%) patients abnormal uterine bleeding ceased, in 6 out of 7 (85%) the pains in the abdomen stopped. Six patients from the sample had a pregnancy that occurred naturally and proceeded without pathology. In this case, all 6 patients before the operation were diagnosed with secondary infertility.

CONCLUSIONS

The use of surgical methods for the correction of the scar incompetence on uterus after the cesarean section has shown high efficiency and availability, which makes it possible to apply this technique in practice as pre-gravity preparation and prevention of further obstetric and gynecological complications, such as rupture of the uterus, implantation of the fetal egg in the scar, abnormal placental attachment, abnormal uterine bleeding, and also as an elimination of the factor of infertility.
**INTRODUCTION**

External cephalic version (ECV) is the manipulation of the fetus, through the maternal abdomen, to a cephalic presentation. Due to the interest in reduce caesarean section (CS) rate, this procedure has emerged as an alternative to elective CS in the management of breech presentation. The use of ECV is increasing because of its high security and success rate (50-65% according to literature). ECV may reduce the number of breech presentations and CS, but complications with the procedure have also been reported. The aim of the present study was to determine the factors associated with the success rate of ECV for breech presentation at or near term. Side effects and perinatal and obstetrics outcomes were also analyzed as secondary objectives.

**MATERIALS AND METHODS**

A total of 167 ECVs performed at Hospital General Alicante, Spain, from February 2013 to December 2017 were prospectively analyzed. Inclusion criteria were singleton pregnancy of at least 36 weeks, a live fetus in non cephalic presentation and no contraindications to vaginal birth. Informed consent was obtained from each women. In all cases, tocolysis with ritodrine was used 30 minutes before and during the procedure. Remifentanil iv was used in 61 women and spinal analgesia in 106. Maternal age, parity, gestational age, amount of amniotic fluid, placental location, type of breech, position of fetal back and estimated fetal weight were analyzed. These data were collected on the same day immediately after ECV. Side effects, obstetric results and type of delivery were collected too.

**CLINICAL CASES AND SUMMARY RESULTS**

The success rate of ECV was 77.24%. In those that were successfully performed: 72 had a normal delivery and 18 cases endend in operative vaginal delivery. 35 CS were registered: 5 reversion to breech presentation, 10 because of fetal compromise, 7 after failed induction, 4 because of cephalopelvic disproportion and 9 because of abnormal labor progression. ECV was unsuccessful in 38 cases: in 3 cases we suspected placental abruption and emergent CS were performed; in 1 case we interrupted the procedure because of fetal bradycardia and in 3 cases due to transitory complications (uterine hypertonia and fetal bradycardia). 90 CS were avoided. There is a decrease of 55.21% in the overall CS rate and the number of ECV needed to avoid a CS was 1.81. The variables significantly associated with success were multiparity, amount of amniotic fluid and nulliparous with posterior placenta (p<0.05). No statistically significant differences were found in other analyzed variables.

**CONCLUSIONS**

ECV reduces caesarean section rates in non cephalic presentation and also the overall caesarean section rate due to the decrease of iterative caesarean section. Multiparity, the largest amount of amniotic fluid and nulliparous with posterior placenta were associated with the success rate of ECV in our study. We consider ECV as an effective and safe procedure with a considerable success rate (77.24% in our study) and with low complications rate.
INTRODUCTION

Systemic lupus erythematosus (SLE) is a multisystemic autoimmune disease that predominantly affects women in their reproductive years. Hydroxychloroquine (HCQ) is regarded as a mainstay in the treatment of SLE because of its efficacy in preventing flares, achieving remission, and reducing overall mortality. However, the impact of HCQ on pregnancy outcomes remains controversial. We aimed to investigate the effect of hydroxychloroquine during pregnancy with systemic lupus erythematosus on pregnancy outcomes and neonatal outcomes.

MATERIALS AND METHODS

We performed a retrospective study of 162 pregnancies occurring in 131 patients with SLE managed in the department of obstetrics and gynecology at Samsung Medical Center, South Korea, during a period between January 1995 and June 2018. We reviewed medical records and every pregnancy was separately counted. Baseline characteristics included demographics, obstetric history, HCQ use, and maternal co-morbidities, such as antiphospholipid syndrome, lupus flare. Pregnancy outcome included pre-eclampsia, premature rupture of membrane, intrauterine growth restriction. Neonatal outcome retrieved were live birth, still birth, spontaneous abortion as well as gestational age at delivery in days, infant birth weight, delivery mode, and Apgar score. These outcomes were compared according to HCQ uses.

CLINICAL CASES AND SUMMARY RESULTS

Eighty-three pregnancies without HCQ and 79 pregnancies with HCQ was analyzed. One hundred forty-two (87.7%) live births and 7 (4.3%) Still births and 7 (4.3%) spontaneous abortions were observed. Six (3.7%) therapeutic abortions were performed in patient with severe lupus. One hundred-three of the live births (72.5%) were full-term and 39 (24.1%) were preterm birth before 37 week gestation. Preterm birth before 34 week gestation in the group with HCQ was significantly less than in the group without HCQ (5.7% vs 18.1% p=0.024). Pre-eclampsia was significantly less in the group with HCQ (7.6% vs. 18.1%, p=0.047). However, APS and lupus flare were higher in the group with HCQ (24.1% vs. 75.9% p = 0.001 and 3.6% vs. 12.7% p = 0.034, respectively).

CONCLUSIONS

In this study, we investigated the pregnancy and neonatal outcomes in patient with SLE according to HCQ uses. Our data indicates that HCQ treatment during pregnancy are important for preventing pre-eclampsia and preterm birth.
INTRODUCTION

Repetitive examinations, programmed intercourse and the path of assisted reproduction are often experienced psychologically and physically by couples as a real distress. It is true that infertility in itself cause a great damage to sexuality within the couple (narcissistic injuries, obsessive desire for pregnancy, guilt ...), we can not deny the aggravating role of the use of the different technics of medically assisted procreation. Our purpose is to identify the impact of infertility and its treatments especially in vitro fertilization (IVF) on the marital and sexual behavior of the couple.

MATERIALS AND METHODS

It is a Cross-sectional study using a questionnaire given to 25 infertile couples and candidates for an IVF / ICSI attempt in the reproductive medicine unit of Farhat Hached University Hospital of Sousse. The statistical analysis was using SPSS software version 20.0 for Windows. The Mann Whitney test was used to assess the presence or absence of a difference in sexual functioning between men and women in each couple.

CLINICAL CASES AND SUMMARY RESULTS

Men reported having erectile dysfunction and / or ejaculation problems when it was necessary to perform well, with a "block" during spermatic sampling in 3 cases. Most men (16 cases or 64% of the total number) thought that their women's investment in the intimate life was motivated only by their desire to have a child. When infertility was male, men thought that it degraded their self-esteem and threatened their manhood by generating feelings of guilt and shame. While sexual satisfaction and quality of life have not been significantly altered.

In women, demand for affection, tenderness, and attachment was greater in treatments for infertility. They were more sensitive to remarks and questions of their entourage. Eighteen couples, or 72%, considered medical intervention too intrusive on the intimate life. A decrease in the frequency of intercourse was observed and a decrease in pleasure during the different stages of IVF. Sexual disorders namely dyspareunia or low libido were emerging.

CONCLUSIONS

The difficulties of the infertile man are more of narcissistic injuries. Those of women are the result of the obsession with being a mother and entering the social mold. As a practitioner, we have to be aware of the negative impact of infertility and its treatments on conjugal relations and the couple's sexuality in order to better help them.
INTRODUCTION

Haemorrhage of delivery is one of obstetric complications most feared by obstetricians and their patients; a fear justified by the fact that to date haemorrhage of delivery is one of leading causes of maternal deaths.

We propose through this study to evaluate effectiveness of intra-abdominal packing in the treatment of postpartum haemorrhage in case of persistent bleeding despite medical and surgical treatment.

MATERIALS AND METHODS

Fifteen cases of severe immediate postpartum haemorrhage have been reported in our maternity center at Farhat Hached University Hospital Center, Sousse, Tunisia

CLINICAL CASES AND SUMMARY RESULTS

In the fifteen cases it was a vaginal delivery.

Bleeding was resistant to uterotonic drug therapy in all cases.

Hemostasis hysterectomy was performed in ten cases.

Intra-abdominal packing by large compresses allowed in association with resuscitation to control the bleeding in thirteen cases, with recovery to remove the compresses after 48 hours on average.

One infectious complication was noted, treated with broad-spectrum antibiotic therapy.

CONCLUSIONS

Intra-abdominal packing is effective in persistent postpartum hemorrhage despite medical and surgical treatment.
INTRODUCTION

Few cases of pseudoaneurysms of uterine artery are reported in the literature; their diagnosis is often difficult. Most described in the course of gravid states, we generally find the concept of surgical trauma.

MATERIALS AND METHODS

A clinical case.

CLINICAL CASES AND SUMMARY RESULTS

We report rare case of pseudoaneurysm of uterine artery manifested by late and insidious postpartum haemorrhage after caesarean delivery in a multiparous patient. Diagnosis could be made by ultrasound and Doppler ultrasound. Treatment was surgical and consisted of a total hysterectomy with simple suites. After a review of literature, we discuss the aetiopathogeny generally related to the notion of direct trauma, the very heterogeneous circumstances of discovery and different therapeutic modalities and the place of embolization that currently appears predominant in the conservative treatment.

CONCLUSIONS

Although exceptional the diagnosis of pseudoaneurysm of uterine artery complicated by cracking or rupture must be evoked in front of post-partum hemorrhage with late revelation. Whenever possible conservative treatment may be indicated based on embolization.
INTRODUCTION

Gestagens are widely used medicine in obstetrics and gynecological practice. However, the number of gestagens authorized to use in obstetric is very limited. Therefore, the search for new effective and safe progesterone analogues to maintain pregnancy continues around the world. Modern achievements in the cellular bioengineering allow to model biological processes and study the differentiation of cells in vitro. It offer great opportunities in the development of new approaches for the search and testing of innovative medicines. Nowadays in vitro models for testing and studying new analogues of female sex steroid hormones are not developed, while animal models are expensive. The aim of our study was to develop a cellular model for testing the substances with expected gestagenic activity.

MATERIALS AND METHODS

Endometrial specimens was obtained by using hystero- or laparoscopy and aspiration needle biopsy. Cell isolation was conducted mechanically and enzymatically by collagenase type II (Gibco). Cells were cultured at 37°C and 5% CO2 in DMEM/F12 medium (Bioloth) with 10% bovine fetal serum (FBS; Hybridone) and 1% antibiotics (Bioloth). Samples were incubated with antibodies to progesterone (Dako, 1:50) and estrogen receptors (Dako, 1:60). Immunophenotype and karyotype was determined on 5-7 passages. Decidual transformation of cell lines was performed with the combination of estradiol and progesterone (Sigma-Aldrich) or progesterone analogues. Levels of expression of prolactin and insulin-like growth factor binding protein-1 (IGFBP-1) after incubation were determined by ELISA.

CLINICAL CASES AND SUMMARY RESULTS

Five cell lines were isolated from the endometrium of the patients of reproductive age. All cell lines displayed upregulated expression of surface molecules of the mesenchymal series and downregulated expression of hematopoietic markers. Stable expression was established for estrogen and progesterone receptors. Karyotype anomalies not revealed. Incubation of cell cultures with hormones resulted in an increase in the content of decidualization markers (prolactin and IGFBP-1) in the culture medium. There was also a change in the morphology of cells that underwent hormonal effects. Cells after exposure to progestogen drugs became more rounded in shape and increased in size. In the control group, in contrast, the vast majority of cells had an elongated shape and fit tightly to each other. Cell lines were successfully subjected to decidual transformation under the influence of combination of sex steroid gormons. Using of progesterone analogs reveal a more pronounced effect.

CONCLUSIONS

The established ability of highly active progesterone analogues to cause more pronounced cellular decidualization in comparison with progesterone opens up the prospects of using endometrial cell lines for screening for drugs of the gestagenic series. A new approach in the study of progesterone analogs will help to identify highly active molecules at an early stage of developing an innovative gestagenic drug. This work was supported by Russian Foundation for Basic Research grant 18-015-00449 A.
TOPIC: Miscellaneous Ob&Gyn

ABSTRACT ID: 704

TITLE: PLACENTAL ABRUPTION IN THE SECOND TRIMESTER OF PREGNANCY – CASE REPORT

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INTRODUCTION

The cause of dangerous bleeding, endangering the life of child & mother, is placental abruption, which mortality range is 25-50%, it is clinically diagnosed. Its degrees vary from bending the edges, partial abruption, to complete separation of placenta. Correct etiology still unknown: hypertension, preeclampsia & eclampsia. Placental abruption is pregnancy complication with high risk of coagulopathy & development of DIC. The clinical picture: sudden, permanent, cramping abdominal pain, uterine contractions, and vaginal bleeding. Internal bleeding is particularly dangerous due to inability to determine amount of lost blood. Sonographic manifestation: presence of retroplacent hematoma & intraplacetary illumination, separation of the placenta edges & increased thickness of it larger than 5.5cm.

MATERIALS AND METHODS

CLINICAL CASES AND SUMMARY RESULTS

Patient 39ys, 5paria, comes to hospital at the 24th WG to GynD for poor, dark uterine bleeding, stomach pains and elevated TA 168/80 (NMR 2954/2018). Speculum examination - poor bleeding from uterus, uterus corresponds to amenorrhea, increased tonus. US - vital pregnancy of the 21st WG (IUGR) with a retroplacent hematoma 5x3cm dia on placenta front wall. Lab analysis: RBC 3.38 HG B 77.1 HCT .244 PLT 127 fib 3.7 D dimer 6.46. After ½ hour, profuse bleeding began. Urgent Cesarian incision. Abdomen opening, uterus of livid color encountered. Female child removed no vital parameters. Uterus full of coagulas, the placenta abrupted from the uterus wall. Uterus is atonic. Received 2 amps Prostín 15 M im and in the uterus 1 amp Sintocin 40 IU IV in infusion. Bleeding ceased, operation successful. PostopCrs - received 2 doses of depleted erythrocyte & 1 plasma. PostopCrs went smoothly, released on 5th postop day in good general condition & neat local findings.

CONCLUSIONS

Placental abruption is defined as premature abruption of normally inserted placenta before baby is born. It is one of the most common causes of intrapartal fetal death. The mother may die due to severe bleeding and disseminated intravascular coagulation. Urgent checking into hospital for examination can mean life for mother & child. US makes it possible to determine that placenta has begun to abrupt too early & to determine procedures & method of delivery to preserve life of mother & child.
INTRODUCTION

The aim of the study was to determine the informative value of CGM in the assessment of glycemic profile in pregnant women with type 1 DM, to determine the role of glucose variability in the development of obstetric and perinatal complications in pregnant women with type 1 DM and to conduct a comparative analysis of the effectiveness of pump insulin therapy (PI) and the regimen of multiple insulin injections (MII) in achieving optimal glycemic control.

MATERIALS AND METHODS

Design of the study and methods: 100 women with type 1 DM using pump insulin therapy (PI) and 100 women using multiple insulin injections (MII) were examined. HbA1c levels were determined and continuous glucose monitoring (CGM) was used. Glucose variability was evaluated with the help of MAGE, MOOD, CONGA indices. Paradigm Real-time and Guardin Medtronic systems were used for CGM. Target glucose levels were determined as 3.5-7.8 mmol/l. CGM was conducted in the I, II and III trimesters of pregnancy. Medtronic Paradigm 722, Paradigm® VeoTM and Accu-Chek Combo® pumps were used. Insulin analogues of ultrashort action and analogues of insulin of prolonged action were used. Von Willebrand factor was determined and frequency of macrosomia was estimated.

CLINICAL CASES AND SUMMARY RESULTS

Results: hyperglycemia PI group was 25 [13-38] % of the time of day (p<0.01) and 41% [18-54] (p<0.01) MII group. The duration of hypoglycemia PI group was 1.0 [0-1] %, an 2.0 [0-7.0] % (p<0.05) in the MII group. The direct correlation between the level of von Willebrand factor (Wf) and the time of hyperglycemia during CGM period r=0.53 (p<0.05) was revealed; hypoglycemic state and von Wf in the main r=0.23 (p<0.001) and in the PI group r=0.25 (p<0.01). Correlation of MAGE index and von Wf level was r=0.54 (p<0.05), MODD index r=0.52 (p<0.05). Dependence of glucose variability and severity of preeclampsia was obtained. An increase in the values of von Wf with the increase in the severity of preeclampsia in pregnant women with type 1 diabetes was revealed (H=13,25; p<0,01). In PI group, the birth rate of children weighing more than 90 percentile was 29%, and in MII group this figure was (χ2=4.60; p<0.05) 48%.

CONCLUSIONS

Conclusions: CGM is effective in obtaining information on the frequency and severity of hypoglycemic episodes, time of hyperglycemia and glucose variability in pregnant women with type 1 DM. The data obtained in this study confirm the role of glucose variability in the development of endothelial dysfunction and perinatal complications in women with type 1 DM. The use of PI and CGM is effective in achieving optimal glycemic control and reduces the risk of perinatal complications.
**INTRODUCTION**

The features of the course of pregnancy and childbirth, and the duration of the anhydrous gap are very relevant for neonatal ophthalmology. The study of the microflora of the conjunctival cavity is becoming increasingly important due to improvement of technologies of intraocular interventions and need of adequate perioperative prophylaxis. Also it is necessary to remember about neonatal ophthalmia. Instillations of a 2% solution silver nitrate to prevent of neonatal ophthalmia was suggested by Carl Krede in 1881. There are many preventions schemes. In Russia today, 1% tetracycline ointment is usually used.

The purpose of our research was to study the specificity of the microflora of the conjunctival cavity in newborns, taking into account the duration of the anhydrous gap during delivery.

**MATERIALS AND METHODS**

60 newborns (120 eyes) were examined and divided into 2 groups. The first group consisted of 30 naturally delivery children, the second group consisted of 30 children born by cesarean section. It should be noted that second group includes only those cases in which anhydrous gap was more than 3 hours. According to the literature, when the anhydrous gap is less than 3 hours then in 90% of cases conjunctival sac is sterile.

Sensitivity of the extracted microflora to the antibacterial drugs used in ophthalmology (aminoglycosides (tobramycin), macrolides (azithromycin), fluoroquinolones (ciprofloxacin, levofloxacin, moxifloxacin), tetracyclines (tetracycline), penicillins (oxacillin)) was determined by the disco-diffusion method.

**CLINICAL CASES AND SUMMARY RESULTS**

The average gestational age of newborns in the first and second groups was 38/39 weeks. The anhydrous gap at the time of delivery in the first group is 5.4±1.25 hours, in the second - 17.64±2.19 hours.

Staph. Epidermidis was extracted from the cervical channel of the women in 24.6% and 14.7% of cases, lactobacillus in 16.65% and 13.3% of cases, in the first and second groups respectively. With natural delivery the conjunctival cavity was sterile in 62.6% of cases. CNS were isolated in 12.3% of the cases, E. coli in 16.2% and diphtheria in 8.4% of the cases. Isolated microorganisms are 100% sensitive to fluoroquinolones (ciprofloxacin and moxifloxacin), 75% to azithromycin and 100% to tetracycline. After delivery by cesarean section, conjunctival cavity was sterile in 66.5% of the cases. CNS were extracted in 15.4% of the cases. Isolated microorganisms are 100% sensitive to ciprofloxacin and moxifloxacin, 75% to azithromycin and 100% to tetracycline.

**CONCLUSIONS**

Conjunctival cavity of newborn babies born both naturally and by caesarean section is sterile in more than 60% of cases, regardless of the degree of microbial contamination of the mother’s cervical canal.

CNS were found in both groups. Microflora extracted from the conjunctival cavity of newborns is most sensitive to fluoroquinolones - ciprofloxacin and moxifloxacin. This must be taken into account in the perioperative prophylaxis of the eyes before intraocular interventions.
INTRODUCTION

Vocational belonging refers to the interest of the individual and his / her own view of this profession. Vocational belonging is an important element that determines the attitudes and behaviors of employees towards their business life and affects business performance positively. This study was carried out in order to develop a qualified vocational belonging scale which can reveal the level of vocational belonging of midwives.

MATERIALS AND METHODS

In this context, a five-point likert-type test scale that with literature review, focus group interview and expert opinion, consisted of comprehensive questionnaires directed towards vocational belonging with 30 items was prepared. Scale, a province in Central Anatolia region of Turkey in the work was performed on 300 midwives, the data were analyzed using SPSS 21 program.

CLINICAL CASES AND SUMMARY RESULTS

Kaiser-Meyer-Olkin (KMO) and Bartlett test were performed to evaluate the suitability of the data for factor analysis before the analysis of the basic components. As a result of this test, KMO value was found to be 0,878 and Bartlett Sphericity test was found at a significant level as the chi-square value of 4852,371 (p <0,001). It has been determined that the factor analysis and varimax rotation results in a four-factor structure that accounts for 63.846% of the total variance of the scale, which is composed of 22 items. These factors are named as “individual area”, “Qualification/Responsibility area”, “Professionalism area” and “vocational role area”. The internal consistency coefficient (Cronbach Alpha) of the scale was calculated as 0,905. Findings for item and factor analysis of the scale are given in Table 1.

CONCLUSIONS

The scale called the Midwifery Belonging Scale (MBS) was determined to be a valid and reliable tool that could be used in all service areas, mainly midwives. Moreover, it is aimed that midwives who have a problem of working, especially the problem of belonging to the vocational, will be able to produce politics at the point of solution of this problem and contribute to the literature of midwifery.
INTRODUCTION

Midwifery care, particularly when it is provided by self-employed midwives, has shifted into the focus of public interest during the past few years. The Federal Ministry of Health has commissioned expertise on self-employed midwives’ involvement in causes of adverse outcomes during maternity care. The aim of the report was to appraise and analyze data on birth injuries and harmful events, so lessons may be learned and maternity care may be optimized.

MATERIALS AND METHODS

Substandard care happens in a multifaceted context of system failure. A mixed methods approach in research was deemed appropriate for a thorough analysis of the complex matter. This consisted of a systematic literature review; forensic expertise; reviews of 95 cases between 2004-2014 with legal compensations of > 100,000€; interviews with relevant persons in liability insurance companies, midwives, obstetricians, and lawyers. Also, an online questionnaire for midwives and obstetricians was available from 15.9. until 15.12.2017. Also, an open-space conference (11/2017) and an open discussion platform (12/2017) were held during a large relevant conference.

CLINICAL CASES AND SUMMARY RESULTS

The questionnaire generated 950 responses. Focus was on experiences regarding the context of adverse events, means to enhance patient safety, risk factors for adverse outcomes, and support for professionals who were involved. At Open-space and discussion, 264 participants reported and discussed solutions to enhance patient safety. Main issues were documentation, safety culture, co-operation, risk management, and training. While current perinatal data monitoring in Germany covers maternal, fetal and neonatal risk factors and outcome data, contextual risk factors for adverse events are not necessarily identified. For every case of an adverse event they had been involved, professionals identified about nine context factors in retrospect. In particular, team communication problems, lack of leadership or hierarchical structures, leading to time loss in emergency situations were reported. Also, understaffing, suboptimal skill-mix, or incompliance with protocols were frequently mentioned.

CONCLUSIONS

Although numerous safety measures are known, a systematic approach to nationwide implementation is lacking. Professionals suggest as most urgently needed actions:

- compulsory case conferences
- continuous education in high risk medication use
- standardized emergency drills, including simulation
- Compulsory update in current guidelines
- Checklists and protocols for intra- and postpartum monitoring
- Training in documentation and patient information
- support systems for professionals
INTRODUCTION

The short term variation of the fetal heart rate (STV) is a very important parameter of the computerised CTG, especially in the monitoring of pregnancies complicated with IUGR. Nowadays there are various algorithms for the computation of the STV. Currently, the gold standard is the algorithm developed by Dawes-Redman (Sonicaid Fetalcare by Huntleigh Healthcare), where the STV is measured by dividing each minute into 16 segments (STV16). A new algorithm has been developed (Intellispace perinatal by Philips Medical), which measures the STV by dividing each minute into 240 segments (STV240), thus approximating the beat-to-beat variation. Our hypothesis was that the normal values of the STV240 would be different, and specifically lower, from the ones for the STV16.

MATERIALS AND METHODS

We conducted a single-centre, prospective, observational study of normal pregnancies (fetuses appropriate for gestational age with normal fetal and maternal Doppler parameters and no complications such as Diabetes mellitus, hypertensive disease of pregnancy or IUGR) in order to develop and compare the normal values for the STV240 and STV16. In total, we gathered 228 CTG traces from 94 pregnancies starting from 24.0 until 33.6 weeks of gestation and we subsequently analysed them with both algorithms (STV240 and STV16).

CLINICAL CASES AND SUMMARY RESULTS

The 95% confidence interval was calculated for both algorithms and diagrams with the normal ranges for both the STV240 and STV16 per week of pregnancy were drawn. The normal values of the STV240 were significantly lower in comparison to the ones of the STV16. Not only the mean values but also the 95th Percentile of the STV240 lay beneath the existent cut-off value of 3ms for the STV16 (Figure 1).

CONCLUSIONS

The development of a new algorithm for the calculation of any clinical parameter leads to the problem of lacking reference values for the named parameter. Every clinician using cCTG should be, in advance, well aware of the algorithm implemented in her/his CTG monitors, as the normal values for the STV240 lie beneath the, up until now, established cut-off values for the STV16. Otherwise, there is the risk for unnecessary, iatrogenic, premature deliveries, with all related risks.
TITLE: Alterations of the short term variation of the fetal heart rate after the administration of corticosteroids in the context of RDS prophylaxis: validation with two different algorithms

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INTRODUCTION

The administration of corticosteroids in the context of RDS prophylaxis is an effective measure for the reduction of the prematurity associated neonatal mortality and morbidity. As already demonstrated, the RDS prophylaxis has a significant effect on the STV, as it leads to transiently increased STV within the first 24h followed by transiently reduced STV until the first 72h. The STV depends on the used computational algorithm. In the widely used Dawes-Redman algorithm, the STV is measured by dividing each minute into 16 segments (STV16). A new algorithm has been developed by Philips, which measures the STV by dividing each minute into 240 segments (STV240). Our aim was to validate if the known effects of the RDS prophylaxis on the STV can be demonstrated with the use of both algorithms.

MATERIALS AND METHODS

In the context of a single-centre, prospective, observational study of normal pregnancies conducted in our department, we studied the effects of the RDS prophylaxis on the STV240 and STV16. In total, we gathered 285 CTGs from 101 pregnancies starting from 24.0 until 33.6 weeks of gestation and we subsequently analysed them with both algorithms (STV240 and STV16).

CLINICAL CASES AND SUMMARY RESULTS

When compared to the STV240 and STV16 without RDS prophylaxis or at least 72h after the first intramuscular corticosteroid administration, a transient increase of both the STV240 and STV16 was documented in the first 24h. This was followed by a transient decrease of both the STV240 and STV16 between 24h and 72h after the first intramuscular corticosteroid injection (Figure 1). These transient changes of both the STV240 and STV16 over time are statistically significant (p=0.0100 and p=0.0139 respectively, Kruskal-Wallis test).

CONCLUSIONS

Our results confirmed, in accordance to the existing literature, that the RDS-prophylaxis has a transient but significant effect on the STV. These observations stress once again the fact that a decreased STV within the first 72h after administration of RDS prophylaxis should not be an indication for an early delivery.
INTRODUCTION

Objective: The aim of the study was to assess short-term effects of maternal and direct fetal antenatal corticosteroid therapy (ACST) on resistance indices (RI) in umbilical, cerebral, aortic and renal circulation. The second aim of the study was to assess the possible changes to umbilical cerebral, aortic and renal velocities after maternal and fetal ACST on perinatal outcome in premature well-grown fetuses.

MATERIALS AND METHODS

Material and Methods: We evaluated the effect of direct i.m. fetal single dose dexamethasone (4 mg/kg) and maternal dexamethasone (6 mg intramuscularly 4 doses, 12 hourly) on parameters of umbilical and fetal cerebral, aortic and renal velocities 4 hours before and 2-4 hours after ACST, as well as the relation the changes in fetoplacental and fetal circulation to perinatal outcomes. We evaluated two groups of 41 well-grown fetuses in the 31st gestation week at risk of preterm labour at the Department of Gynecology/Obstetrics, Clinical Center of Serbia from 2001 to 2016.

RESULTS

Results: A significant difference was determined between the groups in respect of Doppler resistance indices (RI) in umbilical artery (UA), fetal MCA, a.renalis and mitral and tricuspid AV valves inflow (early diastole [E]/ atrial systole [A] velocity ratios) (p:<0.001, p:<0.001, p:0.030, p:<0.000, p:<0.000). There was statistical difference in comparison 1 min APGAR between groups as well as in comparison 5 min APGAR (p=0.006 vs.p= 0.042).

Results of our research showed statistical significant correlation between resistance index in a. ceebri media and neonatal intracranial hemorrhage p=0.003 (95% CI, 0.69-0.74) in fetal direct ACST group. In fetal ACST group, there was statistical significant correlation between neonatal intracranial hemorrhage to tricuspid AV valve inflow TV E/A p= 0.083 (95% CI 0.65-0.68). In the same group, our study confirmed statistical significant correlation between fetal Ri1 a.renalis and neonatal RDS p = 0.015 (95% CI 0.70-0.73).

CONCLUSIONS

Conclusion: Antenatal corticosteroid therapy applied to mother or direct intramuscular to fetus showed short-time increased velocities in umbilical, cerebral and renal arteries and no significant influence on velocity in fetal descending aorta. This transient changes of fetal cerebral circulation related to neonatal intracranial hemorrhage (ICH), especially after direct fetal ACTS. It was very controversial significant relation between AV valve inflow to neonatal ICH in this group.
INTRODUCTION

Scotland has one of the highest rates of teenage pregnancy in Western Europe. Rates of teenage pregnancy within Scotland demonstrate significant links to deprivation. Teenage mothers have been found to be at significantly increased risk of complicated mode of delivery, preterm birth, low birth weight infants, small for gestational age infants, neonatal mortality and low APGAR scores. The aims of this study were to determine whether there was an association between mode of delivery, adverse birth outcomes and young maternal age within NHS Lothian in the years 2002 to 2014. Also, to determine if rates of adverse birth outcome and operative delivery in teenage mothers changed over the given time period.

MATERIALS AND METHODS

The study was a retrospective cohort review of all pregnancies in NHS Lothian during the period 2002 – 2014. Data was derived from NHS Lothian maternity records database, which includes maternity records for all obstetrics patients cared for at the Royal Infirmary of Edinburgh and St John's Hospital, Livingston. All women who had a singleton pregnancy during the period January 1st 2002 to December 31st 2014 were included in the present study. Patients were subdivided according to age into mothers aged 17 and under, 18–20 and all mothers. Size for gestational age, gestational age at delivery, mode of delivery and neonatal outcome were compared. The significance in trends of birth outcomes from 2002 to 2014 were analysed for mothers in each age category.

CLINICAL CASES AND SUMMARY RESULTS

100,001 births were included; 1637 in those aged 17 and under and 6330 in mothers aged 18–20 at time of delivery. Pregnancy in those aged 20 and under was associated with increased risk of small for gestational age babies (8.52% in age 17 and under, 8.82% in 18-20's, 6.09% in all mothers), preterm delivery (9.90% under 17’s, 8.27% 18-20, 7.14% all mothers), and neonatal death / still birth (0.93% age 17 and under, 0.94% 18-20's, all mothers 0.63%).

Between 2002 and 2014 rates of small for gestational age babies, preterm deliveries and rates of neonatal death and still birth in teenage mothers have reduced. Small for gestational age reduced by 4.63% in 17 and under, 3.58% in 18-20s. Preterm deliveries reduced by 1.26% in 17 and under, 0.82% in 18-20's. Neonatal death / stillbirth reduced by 1.54% in 17 and under, 0.22% in 18-20's. Rates of operative deliveries have increased in all mothers but most notably in those aged 18-20 (Increased by 4.62% in 17 and under, 5.85% in 18-20s.)

CONCLUSIONS

Improvements are being made in reducing the numbers of adverse birth outcomes in young mothers in Lothian; however, more resource is required in reducing rates of operative delivery and in evaluating cases of preterm birth in young mothers. NHS Lothian has a dedicated preterm birth clinic and it is felt that attendance of young mothers for more targeted care may reduce rates of preterm birth if specific risk factors can be identified.
INTRODUCTION

Monteégie Hospital in Canada is a level 2 hospital for perinatal care. We compiled all of the cases that we referred to one of Montreal’s two level 3 hospitals between 1998 and 2017. The transferred cases are classified in 3 categories: Prematures (< 34 weeks), Malformations or Others. We studied the type and rate of malformations in this period.

MATERIALS AND METHODS

To observe the rate of change from the beginning of the study to now, we divided the timeframe into two sub-periods: Period 1 from 1998 to 2010 and Period 2 from 2010 to 2017. Only transferred cases were included in order to exclusively observe severe problems. The cases in the Malformations category were subdivided into cardiac malformations (transposition of the great arteries, tetralogy of Fallot, hypoplastic left heart syndrome...), digestive malformations (esophagus atresia, anus imperforate...), and other malformations (teratoma, diaphragmatic hernia, trisomy 18). We calculated the ratio of the number of malformations over the number of births that occurred during each of the two periods. A statistical analysis was done to confirm the difference in the rates for the two periods.

CLINICAL CASES AND SUMMARY RESULTS

A significant decrease in cardiac malformations was noted in period 1 (30 cases out of 34173 births) when compared to period 2 (4 out of 22145 births) with a p-value <0,002. Among the most common cardiac abnormalities, Tetralogy of Fallot decreased from 8 cases out of 34173 to 0 out of 22145; Transposition of great arteries decreased from 9 out of 34173 to 1 out of 22145, and hypoplastic left heart syndrome decreased from 1 case out of 34173 to 0 out of 22145. However, a significant increase in the number of digestive malformations was observed between period 1 (21 cases out of 34173) and period 2 (23 out of 22145), with a p-value <0,01; the number of esophageal atresias increased from 4 out of 34173 to 6 out of 22145. The number of other malformations did not change (29 out of 34173 to 19 out of 22145).

CONCLUSIONS

To explain the changes in rates between the two periods, we suggest that the decrease in the number of cardiac malformations could be explained by changes in the population such as economic status, alimentary modifications or use of supplements such as folic acid and omega-3. The increase in digestive abnormalities could be better explained by differences in the rate of viral infections. Other studies need to be done to explain these changes.
INTRODUCTION

The opinion of researchers about thrombophilia and its contribution to obstetric complications and miscarriage is not fully formed. The majority of researchers recognized the role of some of its forms, called «criterial» thrombophilia. Large number of patients with the history of obstetric complications and recurrent pregnancy loss have hemostatic activation in the absence of «criterial» thrombophilia. This can be explained by the presence of «non-criterial» thrombophilia. Non-thrombogenic mechanisms of it can disrupt normal implantation and lead to obstetric complications. «Non-criterial» thrombophilia includes polymorphisms of the main parts of hemostasis genes and «non-criterial» antiphospholipid antibodies, the combination of which corresponds to «criterial» mutation.

MATERIALS AND METHODS

A 37-year-old woman had no history of gynecological, cardiovascular and other somatic diseases, thrombosis of her own and in her family. Obstetric history: 1 pregnancy - preterm birth at 28 week, cervical insufficiency, hypercoagulation; 2 pregnancy - delivery at 35 week, cervical insufficiency; 3 pregnancy - undeveloped at 6 week (normal karyotype). 4 - pregnancy with hypercoagulation, enoxaparine 0.8 started due to significant activation of intravascular coagulation at 30 week and stopped at 32 week because of light bleeding. Emergency cesarean section due to acute fetal hypoxia at 35 week. Pulmonary embolism in the postoperative period.

CLINICAL CASES AND SUMMARY RESULTS

The patient was examined. Identified heterozygous mutation VLeiden, heterozygous polymorphism PAI-I, homozygous polymorphism 1565T/C Gp-IIIa platelet, significant activation of intravascular coagulation. Ultrasound of the leg veins without changes. A course of hirudotherapy was performed. Enoxaparine started before pregnancy and lasted the entire pregnancy under the control of hemostasis. Planned cesarean section at 38 week. Newborn girl 3100 g 49 sm Apgar score 8-9. Neonatal and postoperative period without complications.

CONCLUSIONS

The article presents a clinical case, characterizes the role of thrombophilia in the development of obstetric complications and vascular complications in the postpartum period. The patient had a heterozygous form of «criterial» thrombophilia (mutation V Leiden), but the combination of it with «non-criterial» thrombophilia polymorphisms increased the impact of hemostasis.
INTRODUCTION

Embryo implantation is one of the highest challenges to overcome in the field of assisted reproduction. The improvement in culture media, vitrification and optimisation in the development of embryos in laboratories, has supposed a great advance in the selection of embryos in later stages (blastocyst) and higher quality (evolutionary capacity). Likewise, progress in the freezing embryo field allow us a way to evaluate its effect on the quality of implantation and/or the possible adverse effects that this technique can have on perinatal outcomes.

The objective of the present study is to compare the perinatal results of pregnancies achieved by ET (embryo transfer in fresh) and those achieved by FET (frozen embryo transfer), as well as the differences in the implantation capacity.

MATERIALS AND METHODS

Observational retrospective study included 191 patients whom underwent an assisted reproduction treatment between March 2015 and January 2017, at the Assisted Reproduction Reference Unit on Canary Islands at our hospital. The couple was studied and the patients were stimulated to obtain the oocytes used to perform IVF and/or ICSI. The embryos were cultured in vitro to blastocyst stage and ET (n = 81) or FET (n = 110) were performed.

The implantation rate, pregnancy rate (single and twin) and pregnancy-related complications (first, second and third trimester), malformation, delivery and gestational age at delivery (GAD); birthweight (BW), percentile and gender of newborn; APGAR and umbilical artery PH were evaluated. A p-value ≤ 0.05 has been considered statistically significant.

CLINICAL CASES AND SUMMARY RESULTS

More positive βhCG-14-days results were obtained in ET group (p= 0.027) with higher implantation rate (35.8% vs 24.5%; n.s.). Higher miscarriage rate was observed in FET (37% vs 18.8%; n.s.). Miscarriage in FET group is significantly higher when BMI> 25 (p-value = 0.005) and this group of patients required higher doses of gonadotropins (p= 0.05). The ongoing pregnancy rate is higher in ET (28.4% vs 15.5%, p= 0.03). No differences were observed between ET/FET groups in the parameters of the first trimester screening, nor in the twin incidence (21.7% vs 26.3%) nor in the pregnancy-related complications rate. The mode of delivery didn’t show any correlation according to ET/FET: caesarean (38.1% vs 40%). The mean BW in FET group was significantly higher (3,350.31 ± 490.539g vs 2.996,64 ± 558.11g, p= 0.05). The GAD didn’t show significant differences between groups. The male/female ratio, percentile, APGAR and umbilical artery pH didn’t vary significantly either.

CONCLUSIONS

Current published studies show no great differences in perinatal results between fresh ET and FET ) in agree with the results of our study. A significantly higher bithweight was found in our FET group, in accordance with meta-analysis by Sha.

In the evaluation of implantation (βhCG-day-14; implantation, pregnancy and miscarriage rate) our cohort does not present statistical significance, although it may be due to the sample size. Articles published report conflicting results.
INTRODUCTION

Cardiotocography (CTG), during different periods of pregnancy, differ in the variability of the fetal heart rate (FHR). A quantitative assessment of the influence of the ANS on the cardiovascular system of the fetus can be performed by spectral analysis of heart rate fluctuations. External non-invasive registration of FHR rate with the help of non-invasive ECG allows the use of spectral analysis of heart rate fluctuations for diagnostic purposes. The purpose of the study. Study of the development of the fetal autonomic nervous system (ANS) of the fetus during low risk pregnancy as a function of gestational age, development of percentile limits of wave power in the low-frequency (LH) and high-frequency (HF) ranges of the FHR for evaluation of fetal ANS in low risk pregnancy.

MATERIALS AND METHODS

Methods and materials. Twenty-nine women with low risk pregnancies were examined in the course of 20-24, 30-32 and 38-40 weeks. The FHR was recorded using the fetal monitor Monica AN24 (MonicaHealthcareLtd, UK), transabdominally, using ECG electrodes. The resulting graph of R-R beat to beat intervals was divided into 3-minute intervals in which the vegetative balance was tested by spectral analysis in indices using Fast Fourier Transform algorithms. From this data, the spectral profile of the FHR variability were analyzed, represented by a plot of wave power in the LF and HF ranges (absolute value) of the FHR. To calculate the percentile limits of wave power in the LF and HF ranges of the FHR, the averaged power values of all 3 minute intervals of the graph were used.

CLINICAL CASES AND SUMMARY RESULTS

It was shown that the power of waves in the LF range of the FHR increases with increasing gestational age. The wave power in the HF range increases with the gestational age until the 30th weeks of gestation with no further changes registered. Most of the heart rate wave power is concentrated in the LF range, mainly due to the sympathetic department. The values of the power ratio of the LF and HF waves of the FHR range stabilize after the 30th week of gestation. Thus, this term is important in the formation of vegetative control of cardiac fetal activity. The extremely low wave power in the LF range was a good predictor of severe fetal acidosis, in connection with which it seems promising to use spectral analysis to detect a vegetative imbalance during pregnancy. Therefore, the percentile limits of wave power in the LF and HF ranges of the FHR rate were calculated to monitor the state of the vegetative balance of the fetus during pregnancy.

CONCLUSIONS

During gestation there is an increase in wave power in the LF and HF of the FHR range, which characterizes the development of the fetal autonomic nervous system. Most of the heart rate wave power is concentrated in the LF range, mainly due to the sympathetic department. The data of the percentile limits of heart rate wave power allow to assess the state of the fetal autonomic nervous system during screening studies and before labor.
INTRODUCTION

Both acute and chronic placental inflammation is related to various severe adverse effects for the fetus and neonate. Similarly, the intrauterine environment and more specifically maternal allergy as well as the childhood environment have been shown to affect the development of allergic disease later in life. However, the links between placental inflammation, maternal allergic sensitization, lifestyle and early child sensitization to allergens are unexplored.

MATERIALS AND METHODS

Placentas from term uncomplicated pregnancies (n = 275) in the ALADDIN study were analyzed for the presence of acute chorioamnionitis and chronic villitis. Stepwise logistic regression was performed to estimate the relative risk of placental inflammation in relation to maternal allergic sensitization and lifestyle, and the association between placental inflammation and sensitization of the child up to 5 years of age.

CLINICAL CASES AND SUMMARY RESULTS

Parity and delivery at home were independently associated with chorioamnionitis, home delivery only with low grade. Maternal allergic sensitization was associated with increased risk of villitis in the univariable and bivariable model, however, not in the multivariable model. No significant associations were detected between placental inflammation and the outcome of sensitization to allergens at 5 years of age.

CONCLUSIONS

Our data do not support the hypothesis that the increased risk for sensitization of a child when the mother is allergic is mediated via placental inflammation. On the other hand, our results suggest potentially important associations between maternal sensitization and acute as well as chronic inflammation in the placenta, which must be further explored in future studies.
**INTRODUCTION**

Aim. Evaluating the indication and the impact of the amnioinfusion technique on the outcome of newborns.

**MATERIALS AND METHODS**

We conducted a comparative analytical study on different periods of time regarding the use of amnioinfusion technique and its results reflected on the outcome of the newborns. The study took place in "Alessandrescu-Rusescu" National Institute for Mother and Child Health, Polizu Maternity, Neonatology Clinic.

**CLINICAL CASES AND SUMMARY RESULTS**

The meconial incidence of amniotic fluid was 4.7% between 1997-1998, 8% between 2001-2003, 8% in 2016-2017. Between 2001 and 2003, amnioinfusion was performed at 1% of all births, of which 9.7% were cesarean section; 10.9% preterm infants, 28% term newborns and 4.8% postterms; Apgar Score <7 23.1%, perinatal infection in 3.6% of cases.

In the group of those born in 2016-2017 amnioinfusion was performed in 10.6% of meconial stained amniotic fluid births, of whom 38.4% were extracted by caesarean section; 88.4% term newborns, 15.3% postterms; Apgar Score <7 26.9%; perinatal infection in 30.7% of cases.

**CONCLUSIONS**

Meconial amniotic fluid may have hypoxic but also infectious etiology; the infectious type has increased remarkably in the last studied period. Amnioinfusion significantly reduces meconium aspiration syndrome and decreases the number of days of hospitalization in NICU.
SUBCLINICAL HYPOTHYROIDISM IN PREGNANCY AND ITS EFFECT ON MATERNAL AND PERINATAL OUTCOMES

INTRODUCTION

The prevalence of subclinical hypothyroidism is higher in the iodine-deficient belt of Northern India, reported in up to 11.4% of the population, as compared to the rest of the world (4% in United Kingdom and 6% in the United States). Hence the published guidelines for management of hypothyroidism in pregnancy may not be applicable to this selected population. The present study was therefore conducted to assess the effect of subclinical thyroid dysfunction on pregnancy, and its maternal and perinatal outcome.

MATERIALS AND METHODS

This is a retrospective observational study of 100 women conducted from December 2016-February 2017. Routine 1st trimester screening was performed, and women were classified as euthyroid (TSH< 2.5), subclinical hypothyroid (TSH 2.5-5.0) and overt hypothyroid (TSH >5.0). The maternal and perinatal outcomes were compared between the groups.

CLINICAL CASES AND SUMMARY RESULTS

Of 88 women analysed, 46(52.2%) were euthyroid, 26(29.4%) subclinical hypothyroid and 16(18.2%) were hypothyroid on treatment. Mean age of study population was 26.5±4.2 years, did not differ between the groups. Primigravidae were 55.7% (49/88) and multigravida were 44.3%(39/88) of the study population. Gestational Diabetes Mellitus developed in 42.9%(18/42) of subclinical hypothyroid women compared to 21.7%(10/46) of euthyroid women, this was statistically significant(p=0.03). There was also increased incidence of Gestational Hypertension in 26.2%(11/42) in subclinical hypothyroid compared to 17.4%(8/46) of euthyroid women, though this was not statistically significant (p=0.316). The mean gestational age at delivery was significantly lower (p=0.037) in the hypothyroid group (37.1weeks) compared to euthyroid women (38.4weeks). The neonatal APGAR score, NICU stay, incidence of respiratory distress syndrome and hyperbilirubinemia in euthyroid and hypothyroid women were comparable.

CONCLUSIONS

Though the sample size of the present study is small, it suggests that the incidence of Gestational Diabetes Mellitus and Gestational Hypertension is higher in women with subclinical hypothyroidism. These women also have an increased risk of preterm delivery. However, larger well-designed trials are required to make a conclusion regarding their treatment.
**TOPIC:** Miscellaneous Perinatology

**ABSTRACT ID:** 306

**TITLE:** The Association Between Depression Symptoms and Social Support Levels of Women with Pregnancy, and Maternal Attachment

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**INTRODUCTION**

The type of maternal attachment is known to be effective during all life-long process. Maternal attachment begins during pregnancy. The number of studies determining the factors affecting prenatal attachment, and how social support and depressive symptoms affect the attachments are limited. Additionally, no studies have investigated all these topics together. So, the present study was planned to investigate the effects of depression symptoms and social support levels of women with pregnancy on maternal attachment.

**MATERIALS AND METHODS**

Into the descriptive study, 104 women with 20≥ week-pregnancy were included. To compile data, a 24-item questionnaire, the Beck’s Depression Inventory (BDI), the Multidimensional Perceived Social Support Scale (MPSSS) and the Prenatal Attachment Inventory (PAI) were used. Descriptive statistics were assessed with number, percentage, mean and standard deviation, and as significance, the chi-square test was used. In comparison of parametric values between groups, the student’s t test was performed. Values at p<0.05 were accepted to be statistically significant.

**CLINICAL CASES AND SUMMARY RESULTS**

Within all participants, mean age was 26.41±5.38, mean age level at marriage was 20.88±3.21, mean age of first pregnancy was 21.64±3.28, mean pregnancy period was 34.47±6.08 weeks, and mean number of previous births was 1.02±1.23. Of all participants, 29.8% were graduated from colleges, 84.6% were housewives, and 64.45% were from middle income families. Mean MPSSS, PAI and BDI scores of participants were found as 62.9±14.3, 68.7±10.8 and 10.7±7.1, respectively. Based on some sociodemographic variables, the comparisons of MPSSS, PAI and BDI scores are presented in Table 1. While there was a negative medium-level association between depression and prenatal attachment (r=−0.359, p=0.000), a positive medium-level association was found between social support and prenatal attachment (r=0.383, p=0.000).

**CONCLUSIONS**

MPSSS and PAI scores were found higher among those with a profession, intended pregnancy and no problems with partners during pregnancy, while BDI scores were higher in those with no profession, unintended pregnancy, illiterate or graduated from primary school, problems with partners during pregnancy and perceiving economic status as poor. It was observed that if prenatal attachment level decreases, as depression increases, and it increases, as social support rises.
Introduction: Opioids addiction during pregnancy is often seen among pregnant women in our country. Mainly we can record abuse of heroin, which is related with numerous risks upon the women and the health status of her fetus. If patients abruptly discontinue the drug abuse, immediately when the pregnancy had been diagnosed, we can face with risks such as premature labor, intrauterine growth restriction, fetal demise, severe fetal damages and placental abruption. Throughout the past year we created a standardized and specialized protocol for treatment of drug abusers with opioid agonists during pregnancy. Aim of the study: Promotion of all positive effects from the treatment with substitution drug, such as buprenorphine, in pregnant women.

Material and methods: We present a case series of nine patients which were on a continuous buprenorphine treatment at the University clinic for toxicology. They were all hospitalized, treated and delivered at the University clinic for obstetrics and gynecology.

Results: The treatment was fully successful in all of our patients. Doses of buprenorphine were given by a clinical toxicologist, who controlled the patients during the entire pregnancy, with slightly higher doses during the third trimester. None of the patients discontinued the therapy, neither had a fetus with congenital anomalies. Seven patients delivered in term and two delivered before term. Four babies were small for gestation age and five were appropriate for gestational age. In six of the newborns we recorded typical syndrome of abstinence with hyperactivity of the central and autonomous nervous system, uncoordinated neonatal reflexes, inappropriate feeding and irritability. These symptoms usually lasted 12-24 hours, with a complete regression after seven days.

Conclusions: Pregnant women, who are drug addicts, usually do not visit their toxicologist during pregnancy, do not have regular perinatal controls, have lower weight, poor health status, symptoms of light sedation and they do not pay appropriate attention to their pregnancy. We have to spot this group of women and put them on the buprenorphine protocol in order to control their health status and their pregnancy.
**INTRODUCTION**

A healthy and aware mother for it’s baby is needed, to have a vital and strong infant. She needs to visit her obstetrician as many times as it is prescribed. She needs to have a healthy lifestyle, if she wants to have a healthy pregnancy. Bochdalek hernia is a congenital abnormality in which an opening exists in the infant’s diaphragm, allowing normally intra-abdominal organs (particularly the stomach and intestines) to protrude into the thoracic cavity. In the majority of patients, the affected lung will be deformed, and the resulting lung compression can be life-threatening because of pulmonary hypoplasia of the infant. Bochdalek hernias occur more commonly on the posterior left side (85%, versus right side 15%). It can be diagnosed using ultrasound during the pregnancy.

**MATERIALS AND METHODS**

In our case we had a 25 year old patient, in her second pregnancy, who have had a regular ultrasound screening exam in 21 wg (second trimester). During this exam, Bochdalek hernia was diagnosed in the fetus. We explained the risks of the surviving and quality of life of the infant, with this congenital anomaly. Also a pediatric surgeon was consulted. Prenatal genetic exam (amniocentesis) was made right after the ultrasound diagnosis. The baby was with 46,XX cariotip and no abnormalities in the result.

**CLINICAL CASES AND SUMMARY RESULTS**

During the pregnancy, the patient had a consultation with medico-ethical committee and once again faced the risks and benefits of keeping vs ending the pregnancy. Neonatologists, psychologists, obstetricians and pediatric surgeons were included in the whole treatment, besides the support of the family in this very emotional state for her. The patient’s decision was to continue with the pregnancy and because of that, she had examinations (laboratory, ultrasound, NST) more often than in the regular pregnancy. The pregnancy was ended in 39 wg with elective C Section and neonatologist from intensive care was present during the operation. The infant condition was stable for the first 24 hours, during which, it was transferred to pediatric surgery, where an operation for the correction of the diaphragmatic defect was made.

**CONCLUSIONS**

Besides of the quick surgical treatment of the neonate and it’s intensive care, it exited 5 hours after the surgery. From this case we can make a conclusion, that not only a good treatment from the doctors can help the neonate to survive. The quality of life and surviving, in majority of cases with extensive diaphragmatic defect, depends of the degree of the pulmonary maturation of the infant.
INTRODUCTION

In the last decade the sharp growth of number of the women who are giving birth at late reproductive age, including giving birth for the first time is observed [1]. The later age of pregnancy becomes more common as a result of infertility treatment, including the use of assisted reproductive technologies (ART) [2]. The group of women of late reproductive age is dominated by diseases of the cardiovascular system, mainly arterial hypertension (56%), obesity (64%), gastrointestinal tract diseases (35%) [2,3]. Age pregnant women are subject to larger risk of emergence of such complications as a hypertonia of 7-9%, gestational Diabetum of 3-14%, not incubation of pregnancy up to 23%, a placental failure of 45-60%, a preeclampsia to 25%, becomes perceptible high percent of operational births to 85% [3,4,5].

MATERIALS AND METHODS

A retrospective analysis of 350 birth histories of women older than 35 years for 5 months of 2016 of the perinatal center was conducted. All cases of the birth of the older age group were divided into 2 groups: a group of 1-304 patients aged 35 years and older with a spontaneous pregnancy; group 2 - 52 patients aged 35 years and older with induced pregnancy after ART.

CLINICAL CASES AND SUMMARY RESULTS

In the second group a high percentage of abortions was observed 80,7% compared to 49,7% in the 1st group (p < 0.01). Infertility occurred in the anamnesis in 100% of cases in patients of the 2nd group. In this case both primary and secondary significantly more often: primary 4,6% in the 1st group, 44,2% - in the 2nd; secondary 9,2% in the 1st group, 55,8% - in the 2nd (p < 0.01). The prevalent somatic pathologies in both groups were arterial hypertension, thyroid disease and impaired fat metabolism. Gestational diabetes in the 1st group was diagnosed significantly more often than in the 2nd group: 52,9% and 36,5% respectively (p < 0.05). Placental insufficiency, preeclampsia in both groups met with the same frequency. In the 2nd group pregnancy has been finished by operation of Cesarean section in 76,9% of cases and in the 1st group - in 52,9% (p < 0.01). In the group with induced pregnancy, preterm birth was significantly more frequent than in the group with spontaneously occurring pregnancy.

CONCLUSIONS

Thus, both the spontaneous, and induced pregnancies at late reproductive age have freight of reproductive problems. However, spontaneously occurring pregnancy is most often complicated by gestational diabetes mellitus. In contrast, induced pregnancy - the formation of multiple birth, istmiko-cervical insufficiency and, as a result, premature birth. Therefore, in induced pregnancy, an extremely high rate of cesarean section.
Rhesus hemolytic disease and intrauterine therapy-case report

INTRODUCTION

Rhesus hemolytic disease in newborns is very rare nowadays due to prevention with RHOGAM in Rhesus negative women after abortion, missed abortion, early invasive genetic diagnostic procedures and delivery. But in some cases, women do not want to take RHOGAM due to religious reasons or they did not plan new pregnancy and put themselves in position to struggle for babies life and normal psychomotor development during new pregnancy.

MATERIALS AND METHODS

We present a baby that is conceived as second child of Rhesus negative mother whose first child suffered from severe jaundice due to Rhesus hemolytic disease. She has refused to take RHOGAM after delivery for religious reasons.

CLINICAL CASES AND SUMMARY RESULTS

In second pregnancy high level of specific antibodies was detected so intrauterine blood exchange occurred twice successfully but third attempt resulted with premature birth in 30 GA. After delivery baby got immediately blood transfusion of reed blood cells because of severe anemia and afterward she spent a month in the neonate care unit /intensive care in incubator/ and prolong treatment with phototherapy for long lasting jaundice. Later in she has got three blood transfusion in order to cure severe hemolytic anemia. Baby was dismissed from the hospital with weight 2000 g, length 47 cm and HC 32 cm and Hemoglobin 96 g/l RBC 3,14 HCT 29,8 We continued therapy of anemia with per oral therapy first 8 mg/kg and afterwards 4 mg/kg. Finally we have succeeded in correction of anemia. During 1. year of life, the child was under early neurodevelopment treatment as severe anemia and prematurity separately and even more when they are both present as can cause delay in development.

CONCLUSIONS

Due to fetal monitoring and prenatal therapy of Rhesus hemolytic disease and prompt transfusion afterbirth and later on oral therapy of anemia combined with early neurodevelopment treatment, we can avoid neonatal problems, occurrence of anemia in infancy and delay in psychomotor development.
INTRODUCTION

The occurrence of cancer and pregnancy is relatively rare, occurring in about one in 1000 pregnancies. The most common tumors diagnosed during pregnancy are breast and cervical cancer followed by melanoma, leukemia and lymphoma. The incidence of acute lymphoblastic leukemia (ALL) during pregnancy is low. Management of these cases are challenging for hematologists and obstetricians. A key point in management should be the optimal therapeutic treatment given to the patient with the least possible exposure and burden of the fetus.

MATERIALS AND METHODS

CLINICAL CASES AND SUMMARY RESULTS

We present a case with a 36 years old patient diagnosed with Acute Lymphoblastic Leukemia and 23 weeks. Patient was informed about the risks of the treatment protocols for the fetus and she decided to carry on with the pregnancy. Initially she was treated with corticosteroides regimen in order to control the disease before initiation of chemotherapy. At 29th week of pregnancy modified GMALL protocol was administered and at 31 weeks she delivered due to fetal distress. Three months after delivery patient received allogenic bone marrow transplant and she is free of disease for more than a year. Her baby is growing normally with no problems so far.

CONCLUSIONS

The diagnosis of acute lymphoblastic leukemia (ALL) during pregnancy is easy but the treatment requires high-dose chemotherapy and can raise concerns for risks to both the mother and fetus. Special consideration to chemotherapy regimen and its doses and to fetal gestational age at the time of chemotherapy administration should be taken.
INTRODUCTION

The development of the fetoplacental unit is influenced by numerous internal and external factors. Tobacco ingredients have multiple negative effects on pregnancies and increase perinatal morbidity and mortality. Women who smoke during the pregnancy have a much greater chance of giving birth to a child too little for its gestation.

MATERIALS AND METHODS

From 1.1. 2008 to 9.9. 2009 a prospective, transversal, study was conducted, which included 128 newborn babies whose mothers gave birth within the predicted deadline for delivery. The study had two observed groups - the target group which consisted of 64 newborns whose mothers smoked cigarettes during pregnancy, and control group which consisted of 64 newborns whose mothers didn't smoke cigarettes during the pregnancy. The observation units of newborns were BW, BL, WI at birth of the newborn infant. The statistical significance of the difference was tested by Student's t-test, and Pearson's linear correlation coefficient (r) estimated the correlation between the mothers' characteristics (age and education) and the anthropometric characteristics of newborns.

CLINICAL CASES AND SUMMARY RESULTS

There is a positive correlation between maternal age, BW and the WI of infants (p <0.05), however there is statistically no significant effect on BL. The middle value of BW in the target group was 3176.56 g, while the median value of infants in the control group was 3531.25, which is less by 354.69 g. The difference in BW is statistically significant (p <0.01). The middle value of the BL of newborns in the target group was 51.47 cm while in the control group the BL was 52.56 cm which indicates that newborn babies of mothers who smoked during their pregnancy had a lower BL by 1.09 cm than the newborns of non-smoking mothers. The difference is statistically very important (p <0.01). The middle value of the WI of the target group was 2.33, while the control group 2.43 which further indicates that the babies of mothers who smoked had a lower WI of 0.10 than did the newborn babies of mothers who did not smoke. The difference is statistically very significant (p <0.01).

CONCLUSIONS

The mother's age is statistically proven to be related to the body weight and the weighting index of her newborn child. The anthropometric characteristics of newborns of mothers who smoked during the pregnancy were significantly lower than those of newborns whose mothers did not smoke during the pregnancy.
INTRODUCTION

To evaluate if Antenatal Corticosteroids (CS) administration among women at risk of preterm delivery is associated to neonatal hypoglycaemia.

MATERIALS AND METHODS

This is a retrospective cohort study. All fetuses delivered from 2015 to 2016 at our university Hospital after antenatal exposure to steroids (two doses i.m of Betamethasone 12 mg 24 hours apart) were considered eligible for the study purpose. Exclusion criteria were congenital anomalies, multiple pregnancy, maternal diabetes. The first normal-sized full-term neonate delivered immediately after each case and matched for sex was selected as control. The z-scores of the main pregnancy characteristics and the occurrence of neonatal hypoglycaemia (<50 mg/dl) were compared between cases and controls. Moreover, the effect on neonatal glycaemia due to timing (interval from exposure to delivery) and type (single completed, single partial or repeated course) of CS administration was also assessed.

CLINICAL CASES AND SUMMARY RESULTS

A total of 74 fetuses who received antenatal CS at 32,55 3,42 weeks of gestation were included in the study and compared with 74 controls. Neonatal glycaemia was significantly lower among neonates exposed to antenatal CS compared with controls (-0.173 vs 0.175 z-score p=0.44) whereas the occurrence of hypoglycaemia was more frequent in the former group (55.4% vs 8.1% p<0.0001). At multivariable analysis the number of CS doses (partial/complete (p=0.44) or repeated course (p=0.89)) and interval time between CS administration and delivery (p=0.25) did not influence mean glycaemic values within the first 48 hours of life.

CONCLUSIONS

Antenatal CS exposure is significantly associated to the occurrence of neonatal hypoglycaemia. The clinical consequences of this are still to be determined.
TOC: Miscellaneous Perinatology

ABSTRACT ID: 451

TITLE: ADVERSE PERINATAL OUTCOMES IN TERM AND POST-TERM DELIVERIES – A POPULATION-BASED STUDY OF 831 281 DELIVERIES IN NORWAY

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INTRODUCTION

MATERIALS AND METHODS

CLINICAL CASES AND SUMMARY RESULTS

CONCLUSIONS
INTRODUCTION

The presence of cancer in pregnant women is a serious threat to the health of the patient and her fetus. Over the years, cancer complicates one in a thousand pregnancies. In recent decades, there has been a trend towards an increase in the incidence of the neoplastic diseases among pregnant women. Of the cancers diagnosed during pregnancy, the most common are breast and cervical cancers, lymphomas, thyroid cancer, melanoma and leukemia. The choice of the program for the treatment of pregnant women with cancer depends on the nosological group, the stage and the aggressiveness of the disease.

MATERIALS AND METHODS

We observed 130 women who had active stages of breast cancer and lymphoma during pregnancy. The first group consisted of 89 women who received chemotherapy during pregnancy, the second group - 41 women without treatment. In the first group, pregnant patients with breast cancer underwent various treatment programs: AC, EU and FAC. In lymphomas treatment differed from monochemotherapy (vinblastine) to polychemotherapy: CHOP, ABVD, EPOCH, BEACOPP-14. All patients underwent venous thromboembolism prophylaxis with low molecular weight heparins. We evaluated the complications of pregnancy, delivery and the postpartum period, as well as the health of newborns.

CLINICAL CASES AND SUMMARY RESULTS

In the first group, the main complications of pregnancy were anemia (55.1%) and threatening preterm labor (21.3%). In the second group, anemia was in 31.7% of cases, and threatening preterm labor was in 29.3%. Intrauterine growth restriction in pregnant women who received chemotherapy was 5.6% and 4.9% in patients of the second group. The preeclampsia occurred in 1 (1.1%) patient in the first group. In 6 (6.7%) patients with non-Hodgkin lymphoma during chemotherapy, the pregnancy was complicated by thrombosis of veins of different localization. In the first group, 91 live children (2 twins) were born, in the second group they were 44 (3 twins), of them 49 (53.8%) and 16 (36.7%) were full-term children in both groups, respectively. The weight of newborns who received chemotherapy antenatally did not differ from the weight of children born to mothers without treatment (2646.9±658.7g vs 2794.1±687.1g, p = 0.87). The health of newborns was directly influenced by their prematurity.

CONCLUSIONS

The main complication of pregnancy in oncology patients was anemia. We did not find the correlation between the newborn's health and the chemotherapy used to treat his mother during pregnancy, children did not have hematologic disorders and congenital malformations. However, the prolongation of pregnancy until the term will reduce the incidence of neonatal morbidity.
TOPIC: Miscellaneous Perinatology

ABSTRACT ID: 554

TITLE: PREGNANCIES IN WOMEN UNDER 18 YEARS OLD

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INTRODUCTION

The aim was to review the perinatal results of teenage pregnancies which took place in “Virgen de las Nieves” University Hospital, Granada, Spain between 2003-2013.

MATERIALS AND METHODS

Retrospective study where perinatal variables were analyzed in two groups of pregnant women: 636 under 18 years old and 1272 controls over 18 years old (randomly selected in the same period of time)

CLINICAL CASES AND SUMMARY RESULTS

When study group (18) were compared, the results were the following:

- Delivery: in the study group there were a higher percentage of cases with preterm labour <259 days (16,6% vs 7,2%), clear amniotic fluid (84,5% vs 80,3%), spontaneous delivery of the placenta (82,4% vs 63,7%), breech presentations (3,4% vs 0,9%) or transverse situation (0,5% vs 0,2%), spontaneous delivery (72,6% vs 62,5%), without perineal tears (83,7% vs 63,5%) and with episiotomy (59,9% vs 40,3%) (p<0,05 in all the comparisons)

- Neonatal outcomes: in the study group there were a higher percentage of cases with newborns who weighed less than 2,500 grams (12,9% vs 7,6%), low Apgar score at 1 minute (1,3% vs 0,5%) and at 5 minute (2,4% vs 1,2%), low umbilical arterial pH (25,5% vs 21,2%) and admission to the neonatal intensive care unit (4,9% vs 1%). A lower percentage of macrosomas who weighed more than 4000 grams were observed too (3% vs 5,1%) (p<0,05 in all the comparisons)

CONCLUSIONS

Adolescent pregnancy is considered a risk one due to both biological immaturity and the association with worse neonatal outcomes.

This study shows association between pregnancies<18 years with preterm delivery, a lower rate of c-sections, low birth weight and worse neonatal parameters.

The anatomical differences suppose a higher percentage of non-cephalic presentations and episiotomies, but a lower number of perineal tears, which could be due both to the episiotomy and to a lower weight of the newborns.
INTRODUCTION

Heart murmurs are common in infants. Being able to distinguish a murmur associated with heart disease from a benign etiology is important for diagnosis. Usage of an electronic stethoscope in combination with digital recording of cardiac sounds and computer analysis significantly expands the possibilities of auscultation in the diagnostics of structural heart anomalies.

Purpose. The current research is aiming at studying the structure of echocardiographic symptoms in clinically healthy newborns in comparison with the electronic auscultation analysis data.

MATERIALS AND METHODS

The total sample includes of 195 healthy term newborns were examined, in which prenatally no structural features in the heart and large vessels were have been found. No pathological changes have been identified using traditional auscultation after birth. During the first 5 days of life, doppler echocardiography, differential pulse-oximetry, electronic auscultation have been performed. The analysis of the received phonocardiograms has been carried out with the developed computer program "Hearttone-D" with the analysis of 17 parameters of tone I and II and 16 parameters of intervals between tones at five standard listening points.

CLINICAL CASES AND SUMMARY RESULTS

During the Doppler echocardiography study, all children have had a functional oval window. In 5 children (2.6%) the small size defects in the interventricular membrane were have been found. Signs of the patent ductus arteriosus (PDA) during the observation period were have been found identified in 54 (27.6%) newborns.

For the computer analysis, 27 phonocardiographs of newborns with PDA and 28 neonatal phonocardiograms of newborns with closed ductus arteriosus were selected. The inclusion criterion was the size of a functioning oval window of 2.5-3.0 mm, the absence of any structural anomalies, the quality of recording of the phonocardiograph. The largest statistically significant difference between the parameters was has been observed at the II auscultation point (the maximum amplitude of tone I, the average value of tone II, the average amplitude module in the first interval, the mean amplitude module in the last quarter of the second interval, the width of the second interval).

CONCLUSIONS

Phonocardiogram monitoring on newborns is one of the most important and challenging tasks in the heart assessment in the early ages of life. The presence of clinically undetectable PDA is detected by electronic auscultation. The highest statistical significance is characterized by parameters registered in the II point of auscultation. Indicators characterizing the shape of the tones and the intervals between them for interpretation of phonocardiograms have been proposed.
INTRODUCTION

Our aim was to retrospectively analyze perinatal results in women above 35-40 years of age and compare them to younger group and to published data.

MATERIALS AND METHODS

We have retrospectively analyzed all births from 1.1.2012 to 29.2.2016 in our department. We defined three cohorts of women based on age at delivery: in cohort A were women up to 35 years old, cohort B consisted of women from 35 - 40 years old and in cohort C were women above 40 years old. We have compared our results of older women (above 35 or 40 years old) to young group (up to 35 years).

CLINICAL CASES AND SUMMARY RESULTS

During study period we had 8307 deliveries. Cesarean section was done on 1208 (14.5%). Perinatal mortality was 4.8 ‰. We had 6614 deliveries in cohort A (79.6%), 1420 in cohort B (17.1%) and 273 in cohort C (3.3%). Cesarean section was performed in 13.2% in group A, 18.4% in group B and 27% in group C. Perinatal results are as follows (for cohorts A, B and C): preeclampsia (2.8% - 5.7% - 4.4%), HELLP syndrome (0.3% - 1% - 0.6%), type 1 diabetes (0.4% - 0.7% - 0.4%), type 2 diabetes (0.09% - 0.4% - 0.7%), gestational diabetes (2.5% - 3.7% - 2.6%), intrahepatic cholestasis of pregnancy (1.5% - 1.7% - 1.8%), IUGR (1.9% - 3.6% - 2.6%), twin pregnancies (2.1% - 1.9% - 1.8%), fetal macrosomia (10.4% - 8.2% - 8.4%), pregnancy after ART (1.8% - 4.5% - 5.9%), breech position (4.1% - 6.1% - 6.6%), premature birth (9% - 7.8% - 7.3%), vacuum-assisted delivery (1.3% - 0.6% - 0%), and induced labor (17.3% - 16% - 16.8%). Perinatal mortality was 4.5‰ in group A, 5.6‰ in group B and 7.3‰ in group C.

CONCLUSIONS

We have observed higher probability of cesarean delivery in women above 35 years, this probability significantly rises in women above 40 years. Conversely, incidence of vaginal instrumental delivery declines with increasing maternal age. We have confirmed age-dependent relationship of some perinatal results to the maternal age. Considering that maternal age is increasing and family planning is being delayed, these data are important for development and direction of perinatology.
INTRODUCTION

Emotions respond to environmental messages, guide individuals to establish communication and affect every aspect of human life, such as health, learning, and interpersonal relations. Young individuals who have improved emotional intelligence skills, who know their emotions and establish and manage an effective communication can become more successful, happy and productive adults in their family and occupational lives. According to Bandura, self-efficacy involves beliefs of an individual about abilities and skills to organize and perform actions or behaviors necessary for doing his/her duty, and producing. This study was planned to evaluate emotional intelligence and emotional self-efficacy levels of midwifery students.

MATERIALS AND METHODS

The universe of the study consisted of 410 students who have been studying in the department of midwifery in a university. 279 students who agreed to participate in the research between 28 May - 07 June 2018 were included in the sample without sample selection. In the research, "Personal Information Form", "The Emotional Intelligence Scale" and "The Emotional Self-Efficacy Scale" were used as data collection tools. Questions that would reveal the identities of the participants were not included in the data collection tools. Institutional permission was obtained in order to carry out the research, the participants were informed about the research and their written consents were taken prior to the data collection.

CLINICAL CASES AND SUMMARY RESULTS

The average age of midwifery students (n=279) was 20.42±1.44 in the study. Among the students who willingly chose the department of midwifery (68.1%), 28.3% have chosen since they liked the department, 17.9% have chosen since the profession is related to health, and 16.1% have chosen since their exam score was sufficient only for this department. The average score of midwifery students from the Emotional Intelligence Assessment Scale was 128.37±29.58. When the sub-dimensions of the scale were examined; the average scores of awareness of emotions, control of emotions, self-action, empathy and social skills were 23.63±6.06, 26.72±7.12, 26.17±6.98, 26.24±6.75 and 25.59±6.58, respectively. The average Emotional Self-Efficacy Scale score was calculated as 117.67±21.77. In our study, there was a correlation determined between the total Emotional Intelligence Assessment Scale score and the total Emotional Self-Efficacy Scale score of students (r=0.480, p=0.00).

CONCLUSIONS

There is a correlation between emotional intelligence assessment and emotional self-efficacy of students. Development of emotional intelligence skills in midwifery students becomes more of an issue for the increase of good quality care in midwifery profession. To support the development of emotional self-efficacy and emotional intelligence of midwifery students, programs such as empathy, emotional intelligence skills training should be planned and included in undergraduate education.
INTRODUCTION

HELLP syndrome is a form of severe preeclampsia, characterized by hemolysis, elevated hepatic enzyme activity, thrombocytopenia. It is also a non-specific metabolic syndrome. This syndrome is associated with an increased maternal mortality of 2-24%. The increased mortality rate can be explained by the fact that it occurs in the second half of the second and in the third trimesters of pregnancy or postpartum. It lacks specific clinical signs which create problems in diagnosis and delayed treatment initiation. It is suggested by changes in the laboratory findings such as hemolysis, elevated liver enzymes, and low platelets. These changes are due to the developing of MODS with the prevalence of hepatic dysfunction/failure and dysfunction/failure of the hemostatic system.

MATERIALS AND METHODS

In the study were included 63 patients, which were evaluated according to the clinical form of HELLP: HELLP 3 (100<150*10³/mm³), HELLP 2 (50<100*10³/mm³), HELLP1(<50*10³/mm³) and the period it had laboratory findings: pre – or postpartum. The average age of the patients was between 28 ± 9,63 years old. All patients were monitored by BP(invasive and non-invasive), CVP, HR, Ps, SpO2, ABB, ionogram, coagulogram, biochemical blood analyses, blood glucose, hourly diuresis.

CLINICAL CASES AND SUMMARY RESULTS

We attested to the presence of classic signs of general body suffering, some of which are characteristic to the physiological state of the pregnancy. All of the patients presented with fatigue and slow nasal breathing. Neurological status was characterized by the presence of multiple clinical manifestations of varying intensity: 80, 7% of the patients presented with headaches of different intensity, nausea and vomiting, and seizures of different types (7,69%). A wide range of consciousness disturbances was attested: euphoria – 5,7%; anxiety – 76.9%; obtundation – 75%; come in 11,5%. Thrombotic disseminated microangiopathy characteristic of HELLP syndrome, induced multiple lung complications: ALI/ARDS -50,0%; pneumonia -17,31%; pulmonary thrombosis – 21.15%; non-cardiogenic pulmonary edema – 17.3%. Cardiac manifestation such as dilated cardiomyopathy, rhythm, and conductivity disturbances was present at – 21.1% and – 59.6% respectively. Hepatic failure was shown in 71%, DIC -57.7%.

CONCLUSIONS

Establishing HELLP syndrome is an indication for solving the problem by interrupting the pregnancy. All pregnant women with HELLP should be treated and monitored in ICU’s. High incidence of ALI/ARDS imposes treatment with corticosteroids. Platelet deficiency requires platelet concentrate substitution to thrombocytopenia <50,000 / mm³. The pulmonary capillary coagulogram and pulmonary scintigraphy demonstrated the presence of local DIC syndrome with heparin therapy.
INTRODUCTION

HELLP syndrome is a form of severe preeclampsia, characterized by hemolysis, elevated hepatic enzyme activity, thrombocytopenia. It is also a non-specific metabolic syndrome. This syndrome is associated with an increased maternal mortality of about 2-24%. The increased mortality rate can be explained by the fact that it occurs in the second half of the second and in the third trimesters of pregnancy or postpartum. It lacks specific clinical signs which create problems in diagnosis and delayed treatment initiation. It is suggested by changes in the laboratory findings such as hemolysis, elevated liver enzymes, and low platelets. These changes are due to the developing of MODS with the prevalence of hepatic dysfunction/failure and dysfunction/failure of the hemostatic system.

MATERIALS AND METHODS

In the study were included 63 patients, which were evaluated according to the clinical form of HELLP: HELLP 3 (100<150*10³/mm³), HELLP 2 (50<100*10³/mm³), HELLP 1(<50*10³/mm³) and the period it had laboratory findings: pre- or postpartum. The average age of the patients was between 28 ± 9.63 years old. All patients were monitored by BP (invasive and non-invasive), CVP, HR, PS, SpO₂, ABB, ionogram, coagulogram, biochemical blood analyses, blood glucose, hourly diuresis.

CLINICAL CASES AND SUMMARY RESULTS

We attested to the presence of classic signs of general body suffering, some of which are characteristic to the physiological state of the pregnancy. All of the patients presented with fatigue and slow nasal breathing. Neurological status was characterized by the presence of multiple clinical manifestations of varying intensity: 80, 7% of the patients presented with headaches of different intensity, nausea and vomiting, and seizures of different types (7,69%). A wide range of consciousness disturbances was attested: euphoria – 5,7%; anxiety – 76.9%; obtundation – 75%; come in 11,5%. Thrombotic disseminated microangiopathy characteristic of HELLP syndrome, induced multiple lung complications: ALI/ARDS -50,0%; pneumonia -17,31%; pulmonary thrombosis – 21.15%; non-cardiogenic pulmonary edema – 17.3%. Cardiac manifestation such as dilated cardiomyopathy, rhythm, and conductivity disturbances was present at – 21.1% and – 59.6% respectively. Hepatic failure was shown in 71%, DIC -57.7%

CONCLUSIONS

All pregnant women with HELLP should be treated and monitored in ICU's. Establishing HELLP syndrome is an indication for solving the problem by interrupting the pregnancy. High incidence of ALI/ARDS imposes treatment with corticosteroids. Platelet deficiency requires platelet concentrate substitution to thrombocytopenia <50,000 / mm³. The pulmonary capillary coagulogram and pulmonary scintigraphy demonstrated the presence of local DIC syndrome with an required heparin therapy.
INTRODUCTION

Adolescent pregnancy is a serious health and social problem worldwide. The aim of this study was to determine the obstetrical and perinatal outcomes of nulliparous adolescent pregnancies in a tertiary care centre in rural India.

MATERIALS AND METHODS

This is a prospective case-control study conducted at a tertiary care teaching hospital in rural India between April 2017 and March 2018. Adolescent primigravidae completing 28 weeks of gestation with singleton pregnancy were included in the study group. Primigravidae aged between 20 and 25 years were taken as a control group. Pregnancy complicated with overt diabetes, chronic hypertension, renal, thyroid, cardiac diseases were excluded from the study. The factors under study included obstetric complications, mode of delivery, intrapartum and postpartum complications, neonatal outcomes including Neonatal intensive care unit (NICU) admissions and perinatal mortality rate. All the patients were interviewed regarding contraceptive knowledge and its use preceding the pregnancy.

CLINICAL CASES AND SUMMARY RESULTS

450 women were included in the study group and 460 to the control group. The incidence of adolescent pregnancy was 18.3% during the study period. The adolescent mothers had a significantly higher incidence of preeclampsia (12.8 % vs 8.4 %; p = 0.03), eclampsia (3.5 % vs 1.5%; p = 0.01), preterm delivery (18.6% vs 10.8%; p = 0.0009), low birth weight (39.1 % vs 24.2 %; p = 0.00001) and very low birth weight babies (13.7 % vs 8.7 %; p = 0.01) compared to control group. There was higher proportion of NICU admissions in adolescent group (20.8% vs 12.3 %; p = 0.0005) compared to control group. There was a significantly decreased incidence of cesarean section in adolescent group (33.7 % vs 43 %; p = 0.004). No significant difference was found regarding postpartum complications (Postpartum Hemorrhage) and still birth. However, contraceptive knowledge and its use was found to be poor among adolescent mothers.

CONCLUSIONS

Adolescent pregnancy is associated with poorer feto-maternal outcomes. Widespread health education and extensive campaigning for easy accessibility of Adolescent health clinics may play significant role in reducing adolescent pregnancies. Regular antenatal visits, adequate nutritional supplementation and early detection of high risk factors may contribute in decreasing the obstetric risk of childbirth in adolescent mothers.
INTRODUCTION

The development of ALI / ARDS in pregnant women may be both infectious and noninfectious causes. All of the infectious causes are due to viral or bacterial infections. Causes of ALI / ARDS development of viral and/or bacterial origin in pregnant women were the lack of vaccination prior to viral outbursts, the late inception of antiviral therapy, delayed admission to ICU, aggravated obstetric status, and smoking. The range of clinical manifestation is very wide and can be found as well as infectious or noninfectious cases of pneumonia or pulmonary edema due to cardiac failure. Often, ALI/ARDS in pregnant women are accompanied with severe complications regarding the CNS, renal and hepatic systems as well as MODS.

MATERIALS AND METHODS

In the study were included 35 pregnant patients, which were evaluated according to the clinical form of ARDS: primary ARDS due to an infection (viral or bacterial) and secondary ARDS. The average age of the patients was between 28.2 ± 3.6 years old. All patients were monitored by BP(invasive and non-invasive), CVP, HR, Ps, SpO2, ABB, ionogram, coagulogram, biochemical blood analyses, blood glucose, hourly diuresis, doppler ECO, pulmonary scintigraphy, pulmonary CT or MRI.

CLINICAL CASES AND SUMMARY RESULTS

All of the patients presented with fatigue and slow nasal breathing. Clinical signs of respiratory failure were presented by tachypnoea in 92.3%, dyspnoea at rest, acrocyanosis and forced breathing (with the implication of the auxiliary respiratory muscles) in 100%. Neurological status was characterized by the presence of multiple clinical manifestations of varying intensity with a wide range of consciousness disturbances attested: cerebral edema – 100%; coma in 73.1% and polyneuropathy of different phases -15.6 %. We have certified infectious complications with the development of toxic-septic shock in 46%, and development of MODS in 30.8% of the patients. 65.3% of the ARDS onset was in the patients on their third trimester of pregnancy, which had imposed fast delivery in order to save both mother and child. 57.8% of the delivery was by C-section. Only one patient had died.

CONCLUSIONS

During the third period of pregnancy, ARDS Phase II-III is an urgent indication of pregnancy resolution. Early association of polymorphic superinfection requires the administration of antibacterial and antifungal therapy with state-of-the-art medication. Recruiting alveoli in ALI / ARDS of viral origin by using elevated pressures requires particular caution, as it is possible to facilitate barotrauma accompanied by pneumothorax or spontaneous pneumomediastinum.
**TOPIC:** Miscellaneous Perinatology

**ABSTRACT ID:** 656

**TITLE:** GIVING BIRTH AFTER FERTILITY SPARING TREATMENT OF EMBRIONAL CARCINOMA FIGO III c

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**INTRODUCTION**

Malignant ovarian germ cell tumors account for 2-5% of all ovarian cancers and among them pure embryonal cell cancer is rare condition. Indications for fertility preserving surgeries in ovarian cancer patients depend on age of the patient, histology of tumor, obstetric history and above all her own desire to retain fertility. It is found predominantly in children and adolescents (average age 14 years), out of them majority is unilateral and they are all good chemo sensitive. Here we report successful pregnancy after unilateral salpingooopherectomy and chemotherapy in a girl with embryonal carcinoma of ovary.

**MATERIALS AND METHODS**

**CLINICAL CASES AND SUMMARY RESULTS**

A 11 year old girl presented in January 2008. with pain in abdomen and abdominal wall hardness. CT revealed a 12x10x11 cm heterodense mass. Right sided salpingoophorectomy, omentectomy, biopsy left sided ovary was done. Histopathology examination and immunohistochemistry revealed embryonal cell cancer of ovary. Patient had FIGO stage III c disease. After the surgical removal of the tumour, the patient underwent six cycles of adjuvant chemotherapy with bleomycin, etoposide and cisplatin. Within eight year after the completion of chemotherapy she conceived spontaneously. At 39th gestational week, laparotomy as well as a C-section was done and the patient was managed successfully in giving birth to a healthy female baby (birth weight and lenth 3,430 gm/53cm, Apgar score: 9/9). At the last follow-up visit (May 5, 2018), all the tumor markers were negative, and the control MRI and ultrasound examinations did not reveal tumor recurrence or pathological lymph nodes.

**CONCLUSIONS**

Fertility preservation surgery followed by chemotherapy may be considered as standard care of treatment in embryonal carcinoma of ovary in young girls, who want to retain fertility. Even after proper chemotherapy, a conception is possible and the birth of a healthy child is feasible. These cases should be appointed as high-risk pregnancies and minor possible post-surgical considerations should be expected. There are no current guidelines for surveillance of such patients during pregnancy.
INTRODUCTION

The World Health Organization (WHO), in the declaration of Fortaleza, made recommendations in the assistance to childbirth to promote a non-medicalized or interventionist care. Until now, several studies have associated the type of center of public or private ownership with good clinical practices in delivery assistance recommended by the WHO. Although has spent more than 30 years since WHO made recommendations on childbirth assistance, studies show the resistance of private hospitals to incorporate into clinical practice these recommendations mainly reducing the cesarean rate. Objective: To know the association between the type of hospital (private or public) and different good clinical practices in perinatal care

MATERIALS AND METHODS

Cross-sectional study in puerperal Spanish women during 2017. For the collection of information, an online self-made questionnaire containing 35 items (3 open questions, 32 closed questions) about sociodemographic and clinical characteristics, obstetric results and newborn data was used. The questioned had been piloted previously. This study was approved by the Ethical Committee in Clinical Investigation of Mancha-Centro Hospital. The Pearson Chi-square test was used and calculated, crude and adjusted OR and its 95% confidence interval through binary logistic regression. The non-parametric Mann-Whitney U test was also used

CLINICAL CASES AND SUMMARY RESULTS

2907 women participated. Public hospitals account for 79.5% compared to 20.5% of private hospitals. Multiparous women who received assistance in private centers had a greater use of regional analgesia [ORa: 2.58; 95% CI: 1.83-3.63] and a greater cesarean delivery [ORa: 2.50; 95% CI: 1.81-3.46]. In primiparous women, an inverse association between giving birth in a private hospital and performing an episiotomy was identified [ORa: 0.67; 95% CI: 0.47-0.96] and a higher likelihood of ending in dystocic delivery: instrumental [ORa: 1.53; 95% CI: 1.09-2.15] or cesarean [ORa: 1.76; IC95%: 1.32-2.35] than those who did it in a public one. Newborns who were born to first-time mothers in private hospitals had a positive association with the realization of early skin to skin contact at birth [ORa: 1.65; IC95%: 1.17-2.34]. There were no differences in the duration of hospitalization (p> 0.05).

CONCLUSIONS

In conclusion, the clinical practices in delivery care in public hospitals follow the recommendations of World Health Organization and scientific evidence to a greater extent than in private hospitals. Private hospitals should implement WHO recommendations and try to reduce cesarean rates in these centers.
INTRODUCTION

Toll-like receptors (TLR) are receptors of innate immunity, recognizing ligands of viruses, bacteria, protozoa and fungi and initiating immune response to them (Iwasaki A, Medzhitov R., 2015). TLR in female reproductive system not only provide defense in response to pathogenic microorganisms, but also participate in regulation of ovulation, capacitation of spermatozoa, fertilization, implantation and course of pregnancy (Sheldon I.M. et al., 2017). In spite of this, there are no data about their expression in decidua depending on the age of pregnant woman and gestational age during early pregnancy. The aim of the research was to define correlation between age of pregnant woman, gestational age and mRNA expression of TLR 1-10 in decidual tissue in 6-10 weeks of gestation.

MATERIALS AND METHODS

Decidual tissue of 57 patients with progressive pregnancy, admitted for medical abortion, was taken by uterine abrasion on 6-10 weeks of gestation. Patients with severe extragenital diseases, infections, antiphospholipid syndrome and endocrine disorders were excluded from the research. Expression of mRNA of TLR1-10 was detected by reverse-transcription qPCR. Correlation was estimated by Spearman criteria. Peptidylprolyl isomerase А (PPIA) and beta-actin were used as housekeeping genes. Expression of mRNA was counted in relative units as delta-delta cq. Correlation was estimated by Spearman criteria using Statistica 13.2 (Statsoft, USA).

CLINICAL CASES AND SUMMARY RESULTS

No correlation was found between gestational age and TLR mRNA expression in decidual tissue in 6-10 weeks of gestation. It was found, that age of pregnant woman had significant weak negative correlation with mRNA expression of TLR2 (recognizing lipopeptides of Gram-positive microorganisms) (R=-0.28; p=0.03), as well as with mRNA expression of TLR7 (recognizing single-stranded viral RNA) (R=-0.30; p=0.03). Thus, the older is pregnant woman, the lower is TLR2 and TLR7 expression in decidual tissue. In the literature there are no data about specialties of TLR mRNA expression in decidual tissue during early pregnancy depending from age of the patient. But there are some data, that quantity of TLR in dendritic cells and macrophages, as well as their capability to induce immune response after stimulation by specific TLR ligands, decreases in older patients (Shaw A.C. et al., 2010).

CONCLUSIONS

Thus, with increase of age of the patients occurs slight significant decrease of TLR2 and TLR7 mRNA expression in decidua, which can affect antibacterial and antiviral immune response. Supported by grant of President of Russian Federation MD-2326.2017.7.
INTRODUCTION

Out of hospital unexpected delivery is an uncommon (2%) but not rare event that requires specific knowledge. Because of its frequency and the lack of theoretical and especially practical training received during studies in France, according to emergency doctors, this situation remains stressful in pre-hospital practice. The objective of this study was to make an inventory in France on the training received by the doctors of Emergency Medical Service and the practices that they implement in intervention.

MATERIALS AND METHODS

All SAMUs (services regulating medical emergencies) in Metropolitan France and DOM-TOM (overseas department and territories) were invited to answer a standardized online questionnaire in order to evaluate their number of out of hospital unexpected delivery, training received, scores allowing them to assess situation (to stay home or go to hospital) and the techniques used in case of out of hospital unexpected delivery. We were also able to compare practices with recommendations of SFAR (Society of Anesthesiology and Intensive Care).

CLINICAL CASES AND SUMMARY RESULTS

Two hundred and ten doctors from 44 different French departments answered. They were trained in physiological delivery (91.4%) and in complex obstetric situations (delivery haemorrhage (81%), breech (67.8%), cord prolapse (66.5%), shoulder dystocia (57.8%) by simulation on a manikin (69.5%), during training course in delivery room (57.6%) and with multimedia (39.2%). They were 66% satisfied with the training received, 84.9% noted an improvement in their skills and 59.9% a reduction of stress in situation. Of these, 92.8% were seeking complementary training. They were 81.3% to have performed a vaginal birth, 76.9% used the Malinas score, 26.1% the SPIA score and 37% performed 2 vaginal examinations at 10 min intervals before deciding to go to hospital. Delivery occurred in 95.5% of the cases in supine position on an elevated plane, with episiotomy for 2.5% of them. They were 33.5% to perform bladder evacuation, 43.2% a directed delivery and 62.2% an uterine massage.

CONCLUSIONS

This work has shown that the practices implemented in intervention during an out of hospital unexpected delivery are in agreement with the recommendations of experts apart from the use of decisional scores and prevention of the haemorrhage of delivery. It is now necessary to continue to evaluate training and practices. We are considering the creation of a smartphone tool to help them, a didactic guide, with videos and a direct phonecall to the maternity ward if telephone support is needed.
INTRODUCTION

In the last decades triplet pregnancies, though spontaneously infrequent, have increased by 400% in western countries. This boost is mainly attributed to highly costly Assisted Reproductive Technologies (ART). Since 2010, Greece suffers a severe financial crisis (FC). Adverse health outcomes have been reported but studies on perinatal health with special focus on triplet pregnancies are sparse (scarce). In the present study, we aimed to investigate the impact of FC on the incidence and on the perinatal outcomes and complications of triplet pregnancies (TP) during the early and established crisis period.

MATERIALS AND METHODS

Data regarding TP, referring to neonates hospitalized in our NICU between April 2004 - December 2017 were studied retrospectively. The study period was divided in 3 sub periods: the term before FC (2004-2010, period A), the term of early FC (2011-2013, period B) and the term of established FC (2014-2017, period C). Birth records of all TP were reviewed for maternal (mode of conception, delivery mode) and neonatal (gender, birth weight, gestational age) variables. All possible perinatal and antenatal complications (RDS, sepsis, NEC, ROP, BPD, PDA, PVL, IVH) were also recorded.

CLINICAL CASES AND SUMMARY RESULTS

Over the study period of 14 years there were recorded 76 triplet deliveries which were equivalent to 218 triplet neonates per 7447 hospitalized neonates. The number of born triplet neonates throughout the 3 examined time periods was 134/3611 hospitalized neonates (3.7%), 63/1557 neonates (4.0%) and 30/2279 neonates in total (1.3%), respectively. IVF was reported as the predominant way of conception accounting for 37 out 48 TP in period A, 15 out of 21 TP in period B and 8 out of 10 TP in period C. The mortality rate of triplet neonates in period A was estimated at 6.7% (9/134 neonates) while the overall NICU mortality was counted 3.7%. The respective mortality rate of triplet neonates in the other 2 periods was 6.3% in period B (compared to 3.33% overall mortality of the NICU) and 16.6% in period C (compared to 3.01% overall mortality of the NICU at the same time frame). Demographic characteristics, morbidity and mortality of neonates for the 3 study periods are showed on table 1.

CONCLUSIONS

Although IVF remains the principal mode of conception between TP, the incidence of TP remains similarly before FC and in the early period of FC but this decreased during established FC. It is also noteworthy that the percentage of triplet neonates among the hospitalized neonates during the period of established financial crisis showed an almost three-fold decrease compared to the previous 2 time periods.
**INTRODUCTION**

The Subtelomeric rearrangements are increasingly being investigated in cases of idiopathic intellectual disabilities (ID) and congenital abnormalities (CA) but have also been suspected to be responsible for unexplained recurrent miscarriage (RM). We have noticed a higher risk of subtelomeric translocations in association with CA and ID. Such rearrangements can go unnoticed through conventional cytogenetic technique and cannot be detected even with high-resolution molecular cytogenetic techniques as Comparative Genomic Hybridization (array CGH) especially when DNA of stillbirth or families are not available.

**MATERIALS AND METHODS**

In this study, Fluorescent in Situ Hybridization (FISH), using ToTelVysion telomeric probes, was performed for 21 clinically normal couples, having at least two abortions and exhibiting a “normal” Karyotype. Around 62% had RM with a history of stillbirth or CA/ID and 38% had only RM.

**CLINICAL CASES AND SUMMARY RESULTS**

FISH detected one cryptic rearrangement between 3q and 4p chromosomes in the in a one woman who presented a history of recurrent miscarriage and a family history of intellectual disabilities and congenital abnormalities. Investigation of other members of the woman’s family showed that her two sisters and her brother were also carriers of the same subtelomeric translocation t(3;4)(q28;p16). Prenatal diagnosis has been offered to the subsequent pregnancies. A derivative chromosome 4 was found twice and both pregnancies were terminated.

**CONCLUSIONS**

We conclude that subtelomeric FISH should be indicated in cases of recurrent miscarriages especially when couples have not only abortions but also at least one child with ID and or CA and or clinically recognizable syndromes. Being balanced and cryptic anomalies, subtelomeric fluorescent in situ hybridization is still the most suitable and useful tool to characterize such chromosomal rearrangements in RM couples especially when the anomaly is known.
INTRODUCTION

Vitamin D is a fat-soluble vitamin that plays a major role in calcium and phosphorus homeostasis and bone metabolism. Type II alveolar cells express vitamin D receptor (VDR) and stimulate the synthesis and secretion of surfactant in response to vitamin D. The role of vitamin D in pulmonary development, maturation, and postnatal respiratory disease has become a new field of study. In case of very low birth weight infants (VLBWI), vitamin D deficiency is more common because of the short gestational period, delays in enteral nutrition, and inability to be exposed to sunlight during NICU hospitalization. This study aimed to evaluate vitamin D status in very-low-birth-weight-infants (<1500g) at birth and to determine the association between vitamin D level and respiratory morbidities.

MATERIALS AND METHODS

A retrospective study was conducted in Soonchunhyang University Bucheon Hospital from November 2013 to November 2017. We collected blood samples and data about respiratory morbidities from 230 VLBW infants on the first day of life. Patients who were 1) transferred to other hospitals (n=19); 2) died before 36 weeks’ gestational age (n=18); or 3) whose blood samples were not collected immediately after birth (n=5) were excluded. Finally, 188 patients were enrolled. VLBW infants with different 25(OH)D levels were compared with regard to demographic features, maternal diseases, respiratory morbidities, and other neonatal diseases.

CLINICAL CASES AND SUMMARY RESULTS

The mean serum 25(OH)D level was 13.4±9.3 ng/ml. The incidence of vitamin D deficiency (<20 ng/ml) was 79.8%, and 44.1% of preterm infants were severe vitamin D deficiency (<10 ng/ml). Of 188 preterm infants, 133 (70.7%) developed respiratory distress syndrome and 55 (29.3%) developed bronchopulmonary dysplasia. Logistic analysis shows that low serum 25(OH)D level (<20 ng/ml) is a risk factor for respiratory distress syndrome (odds ratio [OR] 4.87, p<0.0001) bronchopulmonary dysplasia (OR 6.19, p=0.004), pulmonary hemorrhage (OR 3.91, p<0.0001) and retinopathy of prematurity (OR 6.11, p=0.016).

CONCLUSIONS

The results show that 79.8% of preterm infants in this study had vitamin D deficiency at birth. Low vitamin D status was associated with respiratory morbidities, but the exact cause is unknown. The small study sample limits our observations. Additional studies on the association between vitamin D level and neonatal morbidities are required.
INTRODUCTION

Bronchopulmonary dysplasia (chronic pulmonary disease) is the most frequent and severe complication associated with prematurity, especially extreme prematurity. Bronchopulmonary dysplasia is a chronic pulmonary disease that develops in preterm infants who have benefited from oxygen therapy and positive pressure ventilation, representing a late complication of prematurity with retinopathy, anemia and osteopenia. Despite significant advances in premature therapy, pulmonary bronchospasm remains a major cause of neonatal morbidity. The incidence is increased in premature babies with low birth weight, because in them the pulmonary immaturity is associated with a higher sensitivity to hyperoxia, inflammatory and infectious factors.

MATERIALS AND METHODS

The present study proposes the evaluation of predictive factors for the prevalence of bronchopulmonary dysplasia in preterm. The work was done through the direct observation of the cases and the study of the medical documents, within the Neonatology Section of the Oradea County Emergency Clinical Hospital, during 01.01.2012-31.12.2016.

CLINICAL CASES AND SUMMARY RESULTS

Of the 20,224 new born cared at Neonatology III level, in the analyzed period, 1752 were premature, 281 had gestation age <32 weeks and birth weight <1500g of which 131 preterm weight <1000 g. and 150 weighing between 1000-1500 gr. 21 developed bronchopulmonary dysplasia. Of the preterm diagnosed with DBP 14 were <1000gr and 7 between 1000-1500 gr. As a predictive factor in newborns diagnosed with bronchopulmonary dysplasia, there was asphyxia, severe respiratory distress, low Apgar score, need for surfactant, positive pressure ventilation, low birth weight, oxygen dependence for more than 28 days, presence of infection and other associated conditions.

CONCLUSIONS

A patient with low gestational age, low birth weight, low Apgar score with severe respiratory distress requiring surfactant followed by mechanical ventilation with FiO2> 40% and oxygen dependent for more than 28 days, will most likely develop bronchopulmonary dysplasia.
INTRODUCTION

Perinatal asphyxia is a state of hypoxia and hypercapnia caused by failure to breathe spontaneously soon after birth. Heat shock proteins (HSPs) play a key role in maintenance of normal cell metabolism and function. Since there was no study investigating the relationship between neonatal asphyxia and HSP27, the present study was undertaken to determine whether there is a relation between serum levels of HSP27 and neonatal asphyxia in a small sample of newborns.

MATERIALS AND METHODS

In this case-control study, cases were 25 newborns with neonatal asphyxia diagnosed at Imam Reza Hospital, Mashhad, Iran. Controls were 25 normal newborns with no symptoms of neonatal asphyxia. Serum Hsp-27 antigen concentrations were determined using a sandwich enzyme-linked immunosorbent assay (ELISA) in-house. The data were subjected to statistical evaluation using IBM SPSS, version 19 and p value less than 0.05 considered significant.

CLINICAL CASES AND SUMMARY RESULTS

Out of 50 infants, 23 (46%) were male and 27 (54%) were female. The mean birth weight of newborns in the case and control groups were 3110.47±613.5 g and 3230.4±584.83 g, respectively (p=0.45). The mean Apgar score was significantly lower in the case group compared to the control group (5.6±1.7 vs 9.6±1.2) (p=0.005). Although the level of HSP27 was higher in the case group than control group (0.23±0.08 vs 0.19±0.09), but no statistically significant difference was observed between two groups (p=0.09).

CONCLUSIONS

In the present study, levels of HSP27 were found to be higher in newborns with perinatal asphyxia compared with control subjects but it was not statistically significant.
INTRODUCTION

The passage from the uterine to the external environment requires multiple physiological, respiratory, and haemodynamic modifications for the new-born's successful adaptation. Throughout this adaptation, a series of disorders might occur, such as the respiratory distress syndrome, new-born's transitory tachypnoea, the meconium aspiration syndrome, and pneumonia. Respiratory disorder is one of the common manifestations due to which the new-born is admitted to the ICU. Despite the neonatal intensive therapy progresses, respiratory disorders remain an important cause of mortality and morbidity in the new-born. The early acknowledgement of the respiratory distress and the initiation of adequate treatment are paramount to ensuring optimum results.

MATERIALS AND METHODS

A descriptive, retrospective study was conducted on all the patients diagnosed with respiratory distress such as bronchopneumonia or pneumonia, age ranging from 1-28 days, admitted to the neonatology section of “Sfantul Ioan” Infant Emergency Clinical Hospital Galati, on a 3-year period, who required thoracic CT for diagnostic confirmation.

CLINICAL CASES AND SUMMARY RESULTS

Of the 132 cases with clinical and radiological aspect of bronchopneumonia, 7 patients with intricate or treatment-obstinate symptomatology required CT. The CT confirmed the bronchopneumonia or pneumonia diagnostic, with the visualisation of pulmonary consolidation areas, the presence of air bronchogram, the presence of perifocal atelectasis with various localizations. The CT also indicated other ailments that were not visible on the cardiopulmonary X-ray; a 5-day patient with consolidation area within the right upper lobe, associated to the presence of average size bilateral pneumothorax, #2 bifid left rib, within the abdomen, small size pneumoperitoneum with meconium ileus. Another case of consolidation areas involved the inferior lobes, bilaterally and right side small pneumothorax mostly located within the anterior mediastinum pleura, which was invisible on the standard X-ray.

CONCLUSIONS

In most cases included in the study, it was the pulmonary X-ray that established the diagnostic, other imagery investigations being unnecessary. Yet there were circumstances when the X-ray could not reveal small-size pneumonia foci, sometimes mistaken with the thymus or other localizations that were hard to see on the X-ray and, not lastly, affections having a major clinical impact; it was the CT that revealed them and exactly specified the extent of the congestive nidus.
Fetal hydrothorax is a rare prenatal condition with an incidence of 1/15,000 births. It's defined by the presence of liquid in the pleural cavity with different degrees of severity. The evolution varies from spontaneous resolution to high morbidity and mortality when it evolves to hydrops and hydramnios. The optimal management is yet unknown. It's mandatory to study etiology searching for structural anomalies (25%), chromosomal defects (7%) intrauterus infection, isoimmunization with severe anemia and other conditions.

CLINICAL CASES AND SUMMARY RESULTS

We present a case managed at our Hospital in a 34-year-old II gesta. At 24 weeks of gestation a fetal pleural effusion is detected in the right lung with slight levoposition of the heart. Mild pericardial effusion is also observed. All hemodynamic parameters remain normal, including peak systolic velocity of MCA. Karyotype informs normal 46,XX female fetus. TORCH infection is also negative. Maternal immunization negative. The pleural effusion evolves rapidly the next two weeks and pleural drainage is questioned to diminish lung and cardiac involvement. When the effusion remains mild to moderate an expectant management is preferred with weekly or quincenal scans, as was our case. Finally in the serial scan pleural effusion diminishes spontaneously until its resolved at 30 weeks of pregnancy. Finally a normal female is born at term with 2650 g of weight, Apgar 9/9, and pH 7.35.

At three months of age the girl shows normal development and lung function.

CONCLUSIONS

Fetal hydrothorax is a challenging prenatal condition which requires searching for several causal illnesses but that can also remain idiopathic. The management is complicated by its variable evolution which varies from spontaneous regression as our case to high morbidity and mortality. In some cases prenatal invasive procedures are required to allow postnatal lung function.
TOPIC: Neonatal Lung

ABSTRACT ID: 393

TITLE: Hydrocortisone in the prevention of bronchopulmonary dysplasia


AFFILIATIONS: Children's Hospital #17 Saint-Petersburg Russia

INTRODUCTION

Bronchopulmonary dysplasia is a multifactorial disease. How to prevent this disease: dexamethasone in first 7 days in the live or laster. Hydrocortisone in neonatology practice in last period (hyponatremia) and low doses in first 10 days of live. To determine whether early hydrocortisone treatment in extremely preterm infants affect neurodevelopment outcomes at 2 years of age to gestational age of birth.

MATERIALS AND METHODS


CONCLUSIONS

1. use of the intravenous hydrocortisone course allows reducing the frequency of BPD course without increasing the frequency of short-term and long-term complications. 2. In extremely preterm infants the rate of survival without bronchopulmonary dysplasia at 36 weeks of postmenstrual age was significantly increased by prophylactic low dose of hydrocortisone. 3. Hydrocortisone treatment was not associated with any adverse effects on neurodevelopment outcomes at 22 months of corrected age.
INTRODUCTION
Обосновать эффективность применения транскраниальной церебральной оксиметрии в качестве метода мониторинга за состоянием оксигенации тканей головного мозга у новорожденных с тяжелой дыхательной недостаточностью.

MATERIALS AND METHODS
Обследовано 75 доношенных новорожденных, из которых 24 отнесены в группу "условно здоровых", а 51 имели дыхательную недостаточность, что потребовало проведения ИВЛ. Всем детям проводилось измерение показателей транскраниальной церебральной оксиметрии при помощи церебрального оксиметра "Fore-sight" (США). Пациенты II группы рандомизированы в 2 подгруппы. Подгруппу "А" (n=28) составили новорожденные, которым режимы ИВЛ и FiO2 определялись на основании показателей церебральной оксиметрии, так, согласно возрастной норме, установленной в ходе обследования здоровых новорожденных I группы (75-85%). В подгруппе "В" (n=23) подбор режимов ИВЛ и FiO2 осуществлялся на основании парциального напряжения кислорода в капиллярной крови.

CLINICAL CASES AND SUMMARY RESULTS
Применение метода транскраниальной церебральной оксиметрии с целью подбора оптимального содержания кислорода во вдыхаемой смеси у новорожденных, позволяет проводить ИВЛ с FiO2 = 29,82 ± 3,22 %, что в 2 раза ниже, по сравнению со стандартным подходом, основанном на оценке показателей газового состава "артериолизированной" капиллярной крови с уровнем достоверности р < 0,001 уже через 12 часов от начала проведения вентиляции. При этом, несмотря на значительную разницу в FiO2 во вдыхаемой смеси, парциальное напряжение кислорода в крови не имеет статистически значимых различий в течение всего периода наблюдения (р > 0,05). Коррекция FiO2 на основании показателей транскраниальной церебральной оксиметрии, позволяет статистически значимо (р < 0,001) уменьшить длительность ИВЛ и продолжительность госпитализации у новорожденных с тяжелыми дыхательными расстройствами.

CONCLUSIONS
Проведенные исследования доказывают, что применение транскраниальной церебральной оксиметрии с целью выбора содержания кислорода во вдыхаемой смеси при проведении ИВЛ, позволяет существенно снизить используемые концентрации кислорода, приводя при этом к сокращению длительности ИВЛ и продолжительности госпитализации у новорожденных с тяжелыми дыхательными расстройствами.
INTRODUCTION
Alveolar surfactant (AS) provides stability during breathing by maintaining low surface tension. AS consists of 80% phospholipids and about 10% proteins, four of which, SP-A, SP-B, SP-C, and SP-D, are specific for AS. They play a crucial role in stabilization of alveoli at exhalation, as well as in the immune defense. The specific surfactant proteins are synthesized after 24th week of gestation. Therefore, in risk children born before 32nd week of gestation different respiratory pathologies, some of them of lethal outcome, can be observed. In the present study we tested the presence of specific surfactant proteins in gastric aspirates (GA) from newborns by Western blot with the aim to consider the advantage of GA as an adequate sample for assessment of surfactant maturity at birth.

CLINICAL CASES AND SUMMARY RESULTS
In this study we analyzed 9 clinical samples GA, 2 of which are after application of betamethasone to the mothers, for detection of SP-A, SP-B, and SP-C. The separation of the proteins were carried out by 12% SDS-PAGE under reducing conditions followed by wet Western blotting. The blots were probed with specific polyclonal antibodies against human SP-A (28-36 kD), premature (40 kD) and mature SP-B (8 kD) and premature SP-C (21 kD) surfactant proteins in GA. The results obtained showed that GA from newborns with Neonatal Respiratory Distress Syndrome (NRDS) express the lowest concentrations of all analyzed surfactant proteins in contrast to GA from full term children (Fig. 1). In addition, the applied corticosteroid therapy did not show enhanced protein biosynthesis.

CONCLUSIONS
Early diagnostics of lung maturity is crucial for the prompt therapy of the risk newborns. Until now lung maturity is determined by invasive and traumatic analyses of amniotic fluid from mothers and tracheal aspirates from the newborns. GA collection is fast, noninvasive procedure, realized in the first minutes after the delivery. Our results proved that GA can be used as adequate and reliable approach for assessment of surfactant maturity at birth.

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INTRODUCTION

Congenital ciliary dyskinesia in its neonatal presentation is exceptional. We present a family case involving two siblings in the neonatal period. The first clinical case is presented as a picture of recurrent migratory atelectasis (AMR) in a newborn without risk factors. The second case corresponds to her brother who presents as severe respiratory failure at one week of life.

MATERIALS AND METHODS

Communication of two cases of neonatal presentation of primary ciliary dyskinesia in a same family with newborn respiratory distress and revision of literature.

CLINICAL CASES AND SUMMARY RESULTS

Admission a term newborn in NICU at 40 h. of live due respiratory distress. TPAL 1081. Cosanguini parents. Normal fetal ultrasounds. SGB carrier. Apgar 9/10. At admission, cyanosis and respiratory distress stand out. Bilateral hypoventilation, scattered crackles. Xray Thorax: Atelectasis upper and lower lobe rights and left lower lobe. Infection screening was negative. Respiratory support CPAP, oxygen and antibiotic therapy was started. Computed tomography confirms MA without anatomical pathology. After improvement and weaning ventilatory support, atelectasis reappears in different locations, Fibrobronchoscopy shows normal bronchial tree. Echocardiogram and immune study were normal. Weaning at 21 days with Azithromycin and nocturnal CPAP.

Male brother born after two years. After one week of life, he presented severe respiratory insufficiency requiring mechanical ventilation several days. Thorax X-ray thorax: AMR. After two months he re-enter for the same reason in PICU.

CONCLUSIONS

Atelectasis is an infrequent pathology in RNAT without a history of assisted ventilation or meconium aspiration, especially if they are relapsing and migratory. After the radiography CT or ultrasound are diagnosis tools. Bronchoscopy is a diagnostic and occasionally therapeutic technique. We consider the ciliary ultrastructural study, the suspicion of primary ciliary dyskinesia despite the absence of other associated malformations. And it was the rare final diagnosis.
INTRODUCTION

Cystic adenomatoid malformation of lung (CAML) is rare. It represents 25% of congenital lesions of lungs and 71% of lung malformations diagnosed in utero. Prenatal diagnosis has profoundly changed their management.

The objective of our study was to evaluate the contribution of antenatal ultrasound in the diagnosis of this type of malformation, and to specify the place of the MRI in the lesion balance.

MATERIALS AND METHODS

This is a retrospective study that collects four personal observations of Cystic adenomatoid malformation of lung diagnosed in our center between January 2016 and January 2018. The variables analyzed included maternal age, gestational age at diagnosis, the characteristics of the lesion, associated malformations, severity degree estimated, results of the fetopathological examination, the evolution of pregnancy, results of complementary exams after birth and evolution after birth.

CLINICAL CASES AND SUMMARY RESULTS

The main maternal age was 28 years, and the main age of discovery of the abnormality was 23 weeks. Morphologic US diagnosed in all cases and fetal MRI helped us in 2 cases. CAML was associated with hydropsfetalis in 2 cases, and a cardiac malformation in 1 case. One pregnancy was brought to term after refusing the therapeutic termination of pregnancy (TTP). The indication of the TTP was raised in 3 cases due to the severity of the pulmonary involvement.

TTP resulted in the expulsion of two males; one female fetuses. On the fetopathological exam, no dysmorphic syndrome was found and the histological analysis of lungs confirmed the disease in all 3 cases.

For the completed pregnancy, thorax US revealed, at birth, in the upper lobe of the left lung an heterogeneous echostructure with a hyperechoic mass within which a cystic image was highlighted. The abdominal US showed no renal structure. The newborn died around the 6th hour of life. Fœtopathological exam confirmed the diagnosis.

CONCLUSIONS

The prognosis of CAML depends on the extent of lesions, associated malformations and hemodynamic repercussions.
INTRODUCTION

Preterm infants requiring prolonged mechanical ventilation are at high risk for death or bronchopulmonary dysplasia (BPD). BPD is still a serious and common complication of prematurity and significantly associated with respiratory morbidity in later life.

MATERIALS AND METHODS

We present the cases of two very birth low weight neonates with BPD. First case is a boy with gestational age of 24 weeks, weight of birth 580 grams. Second case is a boy of gestational age of 29 weeks, weight of birth 670 grams.

CLINICAL CASES AND SUMMARY RESULTS

First case required mechanical ventilation for 82 days. He was admitted in pediatric ICU at 5 months of age for apnea, with blood oxygenation around 85% without oxygen, and he needed CPAP support almost 1 month. He was discharged at home with permanent oxygen administration. Until one year of life, he needed prolonged hospitalization due to apnea episodes, severe pulmonary infections and had 3 cardio-respiratory arrests. At 2 years of life is currently without need of oxygen supplementation and the frequency of respiratory infections decrease after sincitial respiratory virus vaccination. Second case needed mechanical ventilation 69 days. He was admitted in PICU at 4 months of age due to the need of permanent oxygenation, with blood oxygenation between 80-90 with oxygen 100% on nasal cannula and frequent desaturation until arterial saturation of 40%. At 3 weeks of hospitalization, due to apnea and milk aspiration, he developed massive aspiration pneumonia that conducted to death.

CONCLUSIONS

Subjects of very low birth weight with bronchopulmonary dysplasia in the newborn period have poorer lung function and their lung function may be deteriorating at a more rapid rate. Bronchopulmonary dysplasia outcome can be different in preterm infants, an intensive pediatric care being needed frequently during life.
INTRODUCTION

Recurrent respiratory infections are too great in number, too severe, or too long lasting and represent a common cause of malnutrition in young infants. The purpose of this study was to highlight the effects of recurrent respiratory infections on the nutritional status of infants.

MATERIALS AND METHODS

The authors carried out a retrospective study which included 55 cases diagnosed with recurrent respiratory infections in the 3rd Pediatric Clinic of the "St. Mary" Hospital from Iaşi between 2016 and 2018. The infant age observed was between 21 days and 6 months old. All infants with repeated pulmonary infections were evaluated using haemoleucograms, complete immunogram, Fe, ferritin, protein electrophoresis, phosphocalcic metabolism, cardio-pulmonary radiography, iontophoresis, hypopharyngeal aspiration with the bacteriological examination, ENT exam. Nutritional status was evaluated on the basis of the weight index, the nutritional index, the growth curves for weight and height of the CDC.

CLINICAL CASES AND SUMMARY RESULTS

The spectrum of respiratory manifestations was represented by a number of conditions such as bronchiolitis, pneumonitis, recurrent wheezing, acute otitis media. Risk factors were prematurity, gemelarity, low birth weight, transient immunodeficiency, anemia, early rickets, cystic fibrosis, malnutrition during pregnancy, maternal age and nutritional status of mother in pregnancy. Other risk factors included the presence of food allergies or respiratory disorders in parents, cardiac congenital malformations, gastroesophageal reflux disease, allergy to cow's milk proteins, older brothers who attend collectivities, refusal to vaccinate, as well as the socioeconomic status of the family. In these patients, correlations were established between the moment of identification of symptoms, the frequency of infectious episodes, identified bacterial agents, the presence of nutritional deficiencies (anemia, rickets) and infant nutrition.

CONCLUSIONS

Early identification of risk factors involved in respiratory infections in young infants is essential in order to successfully prevent recurrent infections which have an effect on the state of nutrition. Ultimately, it leads to the creation of a vicious circle of infection - malnutrition.
INTRODUCTION

Advances in obstetrical and neonatal care have increased the survival of infants with Neonatal respiratory distress syndrome (RDS). Objective: Evaluate neonatal mortality and associated factors in newborn infants admitted to a neonatal intensive care unit (NIUC) for RDS.

MATERIALS AND METHODS

Retrospective study conducted during two years at a Tunisian NIUC. All preterm infants with a well characterized hyaline membrane disease, were included.

CLINICAL CASES AND SUMMARY RESULTS

During this period, 297 preterm infants, with RDS, were hospitalized in our NIUC. The prevalence of RDS was 0.96% live births. The mean gestational age (GA) was 31 (+/-4) Weeks. The mean weight birth was 1591(+/6624) g. GA was between 28 and 32 in 56.7% of cases. Antenatal corticosteroids were administrated in 50% of cases. Third of the cohort has intubation in the delivery room. Initial chest radiograph findings before pulmonary surfactant (PS) replacement therapy were classified as Stage III or IV in 53.6% of cases. 93.9% of our neonates have required PS, among them 21.8% have needed two doses. The overall incidence of nosocomial infection was 47.1%, patent ductus arteriosus 7.7%, ventricular hemorrhage 12.5% and chronic lung disease 7%. The mortality rate was 33%.

Risk factors of mortality were: birth weight under 1000g, Reanimation in room delivery, severity of RDS (III-IV / I – II), Nosocomial infection, duration of ventilation (>15 days).

CONCLUSIONS

RDS is a frequent emergency and still causes high mortality in our center. More efforts have to be performed in order to improve neonatal outcome.
INTRODUCTION

Bronchopulmonary dysplasia (BPD) remains the most common severe complication of preterm birth. Pulmonary hypertension (PH) is well recognised as a complication of BPD. A meta-analysis found an incidence of the PH of 17% of infants with BPD and in 24% of infants with moderate/severe BPD. A number of risk factors were described, but the precise mechanism of the development of pulmonary hypertension is not clear. The clinical presentation of the BPD-associated PH is not specific and a method of diagnosis is the echocardiography. There is no consensus statement about the risk population and the time for PH screening. The aim of the present study was to describe the characteristics, treatment and outcome of the PH in preterm infants.

MATERIALS AND METHODS

68 preterm infants with GA < 32 weeks were included. They were treated in the NICU of the University Pediatric Hospital in Sofia, with a diagnosis of BPD and echocardiography was performed in the period 10-th - 20-th day after birth and after the 36-th week PMA. The mean gestational age was 27.7 weeks ± 2.2 weeks (24-36 w) and the mean birth weight was 1099 ± 299 g. 41 of the infants (60%) had severe BPD, 18 (26%) had moderate BPD and 9 (13%) had mild BPD. We investigated the risk factors for PH (infections, multiple pregnancies, PROM, antenatal steroids, Apgar score, mechanical ventilation, PDA, interstitial emphysema, postnatal steroids etc.), the incidence of early and late pulmonary hypertension, the type and efficacy of the administered treatment.

CLINICAL CASES AND SUMMARY RESULTS

Pulmonary hypertension was diagnosed in 23 infants (36.7%), in 8 infants - early PH and in 17 patients - late PH. Two infants had PH on echocardiograms in both periods. The median age of diagnosis was 75 days (10-216) - 12 days for the early PH and 97 days (28-216 days) for the late PH. The percentage of severe BPD and the use of postnatal steroids were higher, the duration of mechanical ventilation, oxygen therapy and hospital stay were longer in infants with BPD associated pulmonary hypertension. The prevalence of PDA, ROP and IVH/PVL was similar between the both groups. The PH was observed mainly in infants with severe BPD - 49% of the group with early PH. Severe BPD was diagnosed in all infants with late PH. Significant association was found only with the duration of mechanical ventilation. Treatment was administered in 9 infants - 9 sildenafil and 2 inhaled NO, improvement was noted in 6 infants, 3 patients died before the control echocardiography.

CONCLUSIONS

Pulmonary hypertension in preterm infants with bronchopulmonary dysplasia is a significant factor for increased morbidity and mortality. It is associated with the duration of mechanical ventilation. The echocardiographic screening may improve the diagnostics and may give a chance for earlier start of a vasodilator treatment and for better outcome. The elaboration of a consensus for pulmonary hypertension screening and further studies for the management of the PH in premature infants are needed.
INTRODUCTION

Among the pleural effusions, chylothorax is the most common in newborns and can cause respiratory morbidity and immunodeficiency if not treated. The diagnosis of chylothorax is based on the measurement of triglycerides and cholesterol in the pleural fluid. If triglyceride levels are greater than 110 mg/dl and the ratio between pleural and serum cholesterol is <1, the diagnosis is made. The causes of chylothorax are varied: congenital, traumatic, venous hypertension, tumors. Among the congenital the most common is that associated with syndromes including Noonan. Noonan Syndrome (NS) is an autosomal dominant disorder characterized by short stature, congenital heart defects, developmental delay, dysmorphic facial features and lymphatic dysplasias. The features of NS have variable expression.

CLINICAL CASES AND SUMMARY RESULTS

M.G. born at 34.3Wks CS. Prenatal US showed the presence of hydrops with maternal negative virological exam. At birth the baby presented: bradycardia, diffuse subcutaneous edema, paraphonic cardiac tones, hepatomegaly. For massive hydrothorax, bilateral pleural drainage was positioned at birth. The drained liquid of a lactescent color, was analyzed and chylothorax. The baby was assisted with MV for an RDS complicated by chylothorax and was practiced therapy with iNO for pulmonary hypertension. In order to reduce chylothorax formation, a low-fat milk was used for the baby nutrition. It was practiced longastatin and hydrocortisone therapy to reduce chylothorax formation. Echocardiogram showed hypertrophy of ventricular walls and of septum. A bilateral PVL in the frontoparietal site was reported at the cerebral US. Due to the suspicion of Noonan S., confirmed by the presence of dysmorphic notes and cardiac abnormalities, genetic investigations were perfomed and the diagnosis confirmed.

CONCLUSIONS

Chylothorax is the most common cause of pleural effusion in the newborn. Early drainage and octreotide therapy reduce cyclical reform of chylothorax and improve prognosis, but it is also essential to find the cause to avoid complications associated. Noonan syndrome is a genetic disorder with AD transmission characterized by short stature, facial dysmorphism, congenital heart defects. The study of the PTPN11 gene allows a confirmation of the clinical diagnosis in 50% of the affected subjects.
INTRODUCTION

In recent years, the rescue inhalation nitric oxide (iNO) has been widely used in term infants with hypoxic respiratory insufficiency, and studies have shown that early rescue iNO therapy is effective on mortality and morbidity in term infants with hypoxic respiratory failure. However, in very small preterm infants, there is no consensus on the use of iNO in the early period and iNO treatment is not recommended as a routine treatment in preterm infants. The pathophysiology of hypoxic respiratory failure and potential risks of iNO treatment differ in preterm infants and more studies should be performed in this group.

MATERIALS AND METHODS

Herein, we present the results of four preterm infants with resistant hypoxic respiratory failure who were treated successfully with iNO as a rescue therapy.

CLINICAL CASES AND SUMMARY RESULTS

Case 1 was born after prolonged preterm rupture of membranes (PPROM) at 27 4/7 weeks’ gestation. The baby was diagnosed with respiratory distress syndrome (RDS) and pulmonary hypertension (PH). The oxygenation index (OI) was 22. iNO treatment was initiated at the sixth hours of life and he responded in 20 minutes. The infant was discharged.

Case 2 was born after PPROM at 27 3/7 weeks’ gestation and was diagnosed with RDS and PH. OI was 30. iNO was started at the sixth hours. The response was achieved in 15 minutes. The infant was discharged.

Case 3 was born after PPROM at 26 4/7 weeks’ gestation. He had hypoxic respiratory failure. The OI was 24. iNO was started at eighth hours of life and he responded at 30 minutes. During the clinical course, he died due to disseminated intravascular coagulopathy.

Case 4 was born after PPROM at 29 2/7 weeks’ gestation. He had hypoxic respiratory failure. The OI was 33. iNO was started at thirteenth hours of life and the response was achieved in 10 minutes. He was discharged.

CONCLUSIONS

The preterm infants who were born after PPROM and had resistant hypoxic respiratory failure presented here responded to iNO as a rescue therapy in the early postnatal period. Inhaled NO can be an option as a rescue therapy for severe hypoxic respiratory failure after PPROM in extremely low gestational age babies. Precisely targeting this subset may be beneficial in future trials of iNO.
INTRODUCTION

Among the complications of blood and blood product transfusions, the least recognized and life-threatening "transfusion-associated acute lung injury (TRALI)" is clinically similar to the acute respiratory distress syndrome. TRALI typically occurs in 1 to 6 hours after the administration of plasma-rich blood products, with acute deterioration of lung function, hypoxia and hypotension. Despite its importance, TRALI is believed to be largely under recognized and underreported in neonatal population. We report two cases of TRALI after undergoing exchange transfusion for severe hyperbilirubinemia in order to draw attention to this diagnosis which is not mentioned so much in neonatal literature.

MATERIALS AND METHODS

We report two cases of hypoxic respiratory failure within 6 hours of exchange transfusion in the absence of preexisting prominent lung disease.

CLINICAL CASES AND SUMMARY RESULTS

Case 1: A male baby with Rh incompatibility was born on 34 3/7 weeks of gestation. He had minimal tachypnea. The exchange transfusion performed for severe hyperbilirubinemia. After one hour of the exchange transfusion, the respiratory distress was worsened and he was intubated. Diffuse alveolar infiltration and pulmonary edema were detected. Because of pulmonary hypertension, inhaled nitric oxide was given. He was extubated on the 9th day and was discharged on the 25th postnatal day.

Case 2: A male neonate was admitted for severe hyperbilirubinemia on the postnatal 5th day. He had no evidence of respiratory distress. The exchange transfusion performed for severe hyperbilirubinemia. After two hours of blood exchange, he had respiratory distress. Because his respiratory distress progressed, he was intubated. Paracardiac infiltration and pulmonary edema was detected. Antibiotics and a dose of surfactant was administered. He was extubated after 2 days of recovery. On postnatal day 16, he was discharged.

CONCLUSIONS

TRALI is an unrecognized diagnosis due to the low awareness in the neonatal intensive care unit. The necessity for increased respiratory support after blood transfusion in critically ill neonates hospitalized is often considered that it associated with the patient's existing problems. When there was no previous prominent respiratory distress, if the infant's respiratory symptoms deteriorate after exchange transfusion or blood transfusion, it should be kept in mind TRALI may be developed.
INTRODUCTION

Minimally invasive surfactant administration has found wide application in the practice of a neonatologist. The protocols of introduction and their modifications have been developed. However, when conducting a survey of specialists using the LISA method in their practice, more than half found it difficult to determine the distance to which the catheter should be inserted beyond the vocal cords. The purpose of our study is to search for the anatomical dimensions of the trachea of preterm neonates with birth weight less than 1000 grams for safe minimally invasive surfactant administration.

MATERIALS AND METHODS

Our work was carried out with autopsy studies of fetuses and newborns without anatomical developmental defects of the respiratory system. Total number of observations 14 corpses. For the study we used data from the history of the disease of the newborn: gestational age, weight and length at birth. Gestational age was from 23 to 27 weeks. Body weight in the range from 540 to 930 grams. Body length in the range of 25 to 35 cm. The measurement is made from the first length of trachea cartilage of the trachea under the vocal cords to the last cartilage before bifurcation. The study was carried out on non-fixed in formalin material using a metal ruler GOST 427-75.

CLINICAL CASES AND SUMMARY RESULTS

The average length of the trachea from vocal cords to bifurcation was 34,0±6,0 mm positive weak force correlation between gestational age and tracheal length (r=0,129). Discovered a positive correlation between body weight at birth and length trachea (r=0,584). A positive correlation of weak force between the length of the body was revealed at birth and tracheal length (r=0,334).

CONCLUSIONS

The obtained data can be useful in choosing the depth of catheter placement in the trachea for safe minimally invasive surfactant administration.
INTRODUCTION

Galen malformation is a rare brain vessel abnormality. Although it is the most common arteriovenous malformation in the newborn, the anomaly is rare and its true incidence is unknown. Family cases have been reported and a mutation of the gene RASA1, with dominant autosomal transmission was implicated. It results from persistent shunting of primitive choroidal vessels into the median of the prosencephalic vein of Markowsky. There is an aneurysmal dilatation and a direct communication between the arterial and cerebral venous system that lead to high-output congestive heart failure. The increased cerebral venous pressure caused lead to cerebral ischemic damages and hydrocephalus. Larger arterio-venous shunts correlate with severe hemodynamic effects, early onset of symptoms and high mortality.

CLINICAL CASES AND SUMMARY RESULTS

The aim of this paper is to review the literature about the diagnosis, medical treatment and endovascular embolization of the disease. We present a 37 weeks gestational age male newborn, born by caesarean section. Antepartum follow-up has revealed a significant expansion of brain vessels. Early onset severe congestive heart failure was present. Serial echocardiography were performed and first diagnosis of tight aorta coarctation was suspected. Head ultrasound revealed a significant expansion of the cerebral blood vessels and a hypoechoic mass behind the third ventricle; moderate dilatation of lateral ventricles was present. Cerebral AngioCT transcends the diagnosis. Cardiac management of high-output congestive heart failure consist of cardiotonic agents: Dopamine and Dobutamine, and finally digoxin and diuretics; drug closure of the patent ductus arteriosus was performed. Endovascular embolization with partial occlusion finally was done, that will be repeated after the age of 6 months.

CONCLUSIONS

Galen malformation with high flow arteriovenous shunts of the brain in neonates are among the most challenging conditions treated in modern medicine. Although the children presenting during the neonatal period have generally a poor prognosis, the development of catheter embolization techniques has improved the survival rate of these children. Endovascular techniques must be performed before significant brain damage has occurred, but the results are better when embolization is delayed few months.
TOPIC: Neuroscience (the fetal and neonatal brain)

ABSTRACT ID: 237

TITLE: HIF-signaling in neonate animals is induced by apo-lactoferrin of maternal milk.

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INTRODUCTION

We had shown that lactoferrin (LF) in its apo-form (iron-free) rescues hypoxia-inducible factors (HIF-1alpha and HIF-2alpha) from hydroxylation. Injected to pregnant rats, it caused persistence of HIF-1a and HIF-2a in their brain, liver, spleen and placenta, but not in embryos. Erythropoietin (EPO) content increased in brain and placenta. Fe-LF had no such effect. Apo-LF injected to lactating rats appeared in the milk in 4-24 hrs. LF in the stomach of suckling pups remained non-proteolyzed. HIF-1a, HIF-2a and EPO were revealed in their brain, liver, heart and spleen. Three groups of lactating rats had unlimited access to (a) potable water, (b) water with 5 mg/ml apo-LF or (c) with 5 mg/ml Fe-LF. In 3 days the sucklings of group (c) had HIF-1a, HIF-2a and EPO in the brain, liver and spleen.

MATERIALS AND METHODS

Human and bovine LF was purified as described [1], which yielded ca. 75% iron-free protein. Holo-LF was prepared by saturating apo-LF with iron. Pregnant or lactating Wistar rats (200g) were injected intraperitoneally with apo-LF (50 mg/rat) or allowed drinking ad libitum water with apo- or holo-LF (5 mg/ml). Animals (pregnant or lactating rats, or suckling pups) were sacrificed by decapitation under ether anesthesia and centrifuged ice-cold homogenates of their organs were studied either by Western blotting after electrophoresis in SDS-containing gel or by ELISA with anti-HIFs or anti-EPO.


CLINICAL CASES AND SUMMARY RESULTS

Western blotting revealed HIF-1a and HIF-2a in the brain, liver, heart, spleen and placenta of pregnant rats injected with bovine or human apo-LF (50 mg/animal) 48-72 hrs prior to delivery, but not in embryos. No HIFs were revealed in control pregnant rats. Fe-LF had no such effect. EPO was revealed in the same organs of pregnant rats, but neither in their serum, nor in embryos.

Some lactating rats got an injection of bovine apo-LF (100 mg/rat). In 24 hrs pups from each mother were examined. HIF-1a, HIF-2a and EPO were found in the brain, liver and spleen. EPO remained in the brain after 25 hrs. Fe-LF had no such effect.

3 groups of lactating rats drank ad libitum (a) potable water, (b) water with 5 mg/ml apo-LF or (c) 5 mg/ml Fe-LF. LF was found in their milk and stomach content of pups. In 3 days in group (c) lactating rats had stabilized HIF-1a and HIF-2a in their brain, liver and spleen. The sucklings had these proteins and EPO in the same organs. Fe-LF (group 3) had no such effect.

CONCLUSIONS

1. Introduced per os or bypassing the digestive tract, LF appears in the milk of lactating animals.
2. LF does not cross the placental barrier in rats.
3. Only apo-LF induces the HIF-signaling system in tissues of neonate animals.
4. Apo-LF is important for the development of central nervous system in a neonate mammal. It is important to consider LF content in the breast milk and to develop approaches to correct therapeutic usage of LF provided as a pharmacy.
**INTRODUCTION**

The septum pellucidum is a thin, midline structure which separates the lateral ventricles. Septal agenesis may be associated with various congenital brain malformations, namely holoprosencephaly, septooptic dysplasia (SOD), schizencephaly or agenesis of the corpus callosum. Language delay and behavioral disorders were the main abnormalities at follow-up. Ultrasound findings: communicating square frontal horns and absent cavum septum pellucidum. It may be difficult to differentiate from the lobar holoprosencephaly. Absence of the cavum pellucidum, optic nerve hypoplasia and pituitary hypoplasia are present in SOD. MRI is helpful to detect a hypoplastic optic nerve, schizencephaly or cortical dysplasia.

**CLINICAL CASES AND SUMMARY RESULTS**

This is a case of a 41-year-old patient, primiparous with personal history of fibroids. She got pregnant by in vitro fertilization. Her pregnancy was uneventful. Under the suspicion of pathology at 21 weeks of gestation a neurosonography was performed and revealed an absent septum pellucidum. Communication between the frontal horns was noted. Corpus callosum was of normal appearance and length. No other cranial or extracranial anomalies were detected. A fetal MRI and showed the isolated partial agenesis of the septum pellucidum. The optic nerves were normal which apparently excluded SOD. Parents did agree with suggested amniocentesis and karyotype was normal, 46 XX. The rest of the obstetric control was normal and the fetal growth agreed. Posterior fetal MRI did not find suggestive images of cortical development pathology. Patient delivered at term after a failed induction at 41 weeks. Postnatal MRI confirmed prenatal findings and the girl is currently doing well at 6 months of age.

**CONCLUSIONS**

The discovery of an isolated SA reveals the difficulties of prenatal diagnosis to correlate the neurological and functional prognosis to morphological findings. The prognosis seemed to be good. It appears necessary to improve the diagnostic performance of fetal brain imaging and to follow-up these children prospectively to assess their long-term cognitive-behavioral outcomes.
INTRODUCTION

Periventricular leukomalacia (PVL) or white matter injury of newborn is affecting the periventricular zones and may result in cavitation and periventricular cyst formation. Periventricular leukomalacia is more common in preterm infants; however, it is not uncommon in term infants subjected to hypoxic-ischemic insults. The ischemia of periventricular leukomalacia occurs in the white matter adjacent to the lateral ventricles. Babies with PVL have a higher risk of neurologic abnormalities such as cerebral palsy, seizure disorders, developmental delays, intellectual disabilities, and visual disturbances. The aim of this report is to present term newborn with periventricular leukomalacia.

MATERIALS AND METHODS

Clinical, neurological, physiatric, ultrasound examination, MRI, total blood cells, glycemia, C-reactive protein, Elisa on TORCH.

CLINICAL CASES AND SUMMARY RESULTS

Newborn is from the first pregnancy of a 20-year-old woman. In the 9th month of pregnancy, the mother had urinary infection. Delivery was finished per vias naturalis. Amniotic fluid was green. The female newborn had BW 2570g, BL 49cm, head size 29cm, Apgar score 8, born in term. Newborn was hypertonic, systolic murmur was present, other normal clinical findings. Lab analyses suggest leucocytosis and thrombocytopenia and excluded intrauterine infection. Endocranial ultrasound in the 5th day of life showed cyst in the right choroid plexus and hemorrhage in regression bilateral subependimaly, periventricular hyperechogenicity, hypoechogetic zone on the right occipital side. Echocardiograph showed ASD II. Hearing screening was normal.

We did endocranial MRI in the 12th day of life: periventricular leukomalacia bilaterally. On the right occipital side, posterior to lateral ventricle trigonum, there was clearly confined cystic change 20x10x17mm. Neurological exam showed hypertony, Moro reflex incomplete.

CONCLUSIONS

Infants with periventricular leukomalacia require close neurodevelopmental follow-up from a team consisted of following: pediatrician, neurologist, physiatrist, radiologist, and ophthalmologist. After discharge from the hospital, it is necessary to provide cranial ultrasound and MRI. All babies with problems in motoric development had to be included in habilitation treatment on time.
INTRODUCTION

Introduction. In neonatal pathology, seizures represent a major cause of morbidity, being present both isolated and as associated affections in severe comorbidities. The incident in NICU varies, primarily according to neurological maturity, leading to slow evolution and reserved long-term prognosis.

Aims. The authors intend to study the etiology of early onset neonatal seizures, the clinical features and evolution according to etiology.

MATERIALS AND METHODS

The study was performed for one year in the Preterms and Neonatology Department of "Louis Turcanu" Children’s Emergency Hospital, Timisoara, on a group of 34 patients. We included in the study term and preterm neonates with seizures onset in the first 24 hours of life. We performed laboratory analyses, cranial ultrasound, electroencephalogram (EEG) and/or EEG integrated in amplitude (aEEG). Computer tomography (CT) or magnetic resonance imaging (MRI) performed only patients with major cerebral changes in ultrasound investigations.

CLINICAL CASES AND SUMMARY RESULTS

The most frequent etiology of neonatal seizures in the first 24 hours of life in term neonates was hypoxic-ischemic encephalopathy (63.6%), followed by neonatal meningitis (18.2%) and neonatal hypoglycemia (18.2%); in preterm neonates, intraventricular hemorrhage (47.1%), hypoxic-ischemic encephalopathy (38.5%) and neonatal hypoglycemia (14.3%). Most of the patients presented subtle seizures: 45.4% of term, 50% of preterm neonates. Patients with hypoglycemia had slow, favourable evolution, without long-distance neurological sequelae. Catastrophic evolution, towards multicystic encephalomalacia and cerebral atrophy had 33.3% of newborns with severe neonatal hypoxic-ischemic encephalopathy. Also, 50% of patients with early onset neonatal seizures and neonatal meningitis had severe progressive neurological deterioration and hydrocephalus.

CONCLUSIONS

The evolution of early onset neonatal seizures depends on etiology, but also the degree of cerebral maturity. Severe hypoxic-ischemic encephalopathy is the most common cause of early onset seizures in term neonates, and also in preterm neonates, together with intraventricular hemorrhage.
INTRODUCTION

Neuronal heterotopia (NH) are pathological, extracortical accumulations of gray matter that are the result of partially incomplete migration (arrest of migration). NH belong to the highly epileptogenic malformations of the brain. Epilepsy with NH is manifested by the development of focal and generalized seizures. In most cases, pharmacoresistance is formed. Changes in the EEG are correlated with the form of epilepsy. The source of generation of neuronal discharges is often cells of band heterotopy. The ictal and interictal EEG does not have pathognomonic electrographic patterns. The degree of intellectual disorders varies from mild to moderate, and severe cognitive impairment is much less common.

MATERIALS AND METHODS

The study included 25 patients with heterotopia. Distribution by sex: 15 boys (60%), 10 girls (40%). Patients with NH in neuroimaging imaging have a statistically significant (p <0.05) prevalence of localization of malformation in the region of the lateral ventricles (44%). Less often in the frontal region (28%), in frontotemporal region (12%), frontal parietal area (8%), frontotemporal parietal (4%) and occipital (4%). In most cases, periventricular nodal NH was detected (52%), rarely subcortical banded (28%), periventricular tape (12%), mixed (8%), subcortical nodal (4%). In 24% of cases, NH is associated with the consequences of hypoxic-ischemic and infectious brain damage. In seven patients (28%), the NH was combined with other malformations (schizocephaly, lissencephaly et al).

CLINICAL CASES AND SUMMARY RESULTS

The debut of epileptic seizures in the studied group of children in the age period from birth to 6 months in 32% of cases, in the period from 7 months to 1 year - in 20%. The predominance of focal epileptic seizures with secondary generalization and without secondary generalization was revealed (68%). In four patients (16%) epileptic seizures were not recorded and typical epileptiform activity on EEG was not registered. In 24 patients (96%) motor and intellectual disorders were detected in varying degrees of severity. Anatomico-electroencephalographic correlation was noted in 66.7% of children. In the treatment of epileptic seizures, valproate (79,2%), less often topiramate (25,0%), ACTH (25,0%), carboxamide derivatives (20,8%), phenobarbital (20,8 %), levetiracetam (20,8%) et al. Analysis of the results of treatment of epilepsy in children with NH showed that remission of seizures was observed in 38.1% of cases, and pharmacoresistance in 19,1% of cases.

CONCLUSIONS

Thus, one of the common causes of severe forms of epilepsy in children are developmental defects of the brain, therefore their early visualization, verification and adequate antiepileptic therapy correlate with the prevention of pharmacoresistance and disability of children.
TOPIC: Neuroscience (the fetal and neonatal brain)

ABSTRACT ID: 503

TITLE: Perinatal stress – easy fetal life?

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INTRODUCTION

Psychic health condition in early life periods and its prognosis is very disturbing. In world regions with unfavorable psychosocial situation, the total number of children aged less than 5 years with psychosomatic health problems is approximately 53 mln. So, what is the contribution of prenatal development to the statistics of early psychosomatic disorders? For the fetus, the external environment which has an impact on its subsequent development is the maternal body. The fateful impact on subsequent human health may be related to her somatic health, but also to medical & social factors being the background of her pregnancy.

MATERIALS AND METHODS

The main group comprised 130 patients under stress related to previous pregnancy losses, child death, prolonged infertility, use of new reproductive technologies. The control group comprised 100 patients with physiological pregnancies.

CLINICAL CASES AND SUMMARY RESULTS

Personality female features, relation to occult or overt maternity reluctance, immaturity, stress conditions, increased anxiety negatively affect the antenatal condition of brain structures and functional features of the fetal brain. Such patients significantly more frequently demonstrated family and occupational relation disorders, and decreased interpersonal social support. We found several behavioral fetal reactions emerging in response to chronic stress maternal conditions: fetal movement decrease or increase, changes of rest and motor activity periods, hiccup movement increase, fetal attitude disorders, emergence of sucking movements. Prolonged stress leads to blood flow disorders in the placenta and the fetal body. Abnormal fetal position and presentation also persists in delivery, which often leads to amniotic fluid aspiration, and increases the frequency of complicated course of the newborn adaptation period due to transition of chronic fetal hypoxia to ischemic damage.

CONCLUSIONS

Nowadays there’s an acute need in promoting the child birth culture, the unification of doctor, teacher, and psychologist efforts. Information on extreme sensitivity of the unborn fetus to maternal and paternal stresses, on the existence of birth memory in humans, on the intensive development of the child’s mind during the perinatal period could allow many fathers and mothers to perceive their unborn children as personalities more responsibly and consciously.
INTRODUCTION

Approximately 60% of healthy newborns and 90% of premature babies have jaundice during the first days of life. The challenge is to distinguish infants presenting with severe hyperbilirubinemia risk of bilirubin encephalopathy in the larger number of infants with jaundice harmless. Several reports mention in recent years, an increase in cases of encephalopathy associated with bilirubin. This increase is mainly due to early discharge of maternity, as well as an underestimation or trivialization of the toxic effects of bilirubin on the central nervous system.

Objectives:
Analyze the clinical, etiological, therapeutic and evolutive characteristics of a population of infants with a bilirubin encephalopathy (kernicterus) after installation of intensive phototherapy.

MATERIALS AND METHODS

36 newborns were collected from 2003 to 2007 retrospectively and from 2008, 08 newborns admitted to neonatal unit were followed prospectively.

CLINICAL CASES AND SUMMARY RESULTS

2696 infants were hospitalized for jaundice, 44 (1.63%) are affected by bilirubin encephalopathy with a mean annual incidence of 6.2. The average age for admission is 3.5 days [12 H - 10 J]. Jaundice appeared on average 1.9 days [12 H - J 4] with an average time from onset of jaundice and hospitalization of 1.6 days. Hyperbilirubinemia is an average of 275 mg / [188-429 mg / l]. Rhesus D incompatibility (28%) and ABO incompatibility (25%) account for almost half the cases, subgroups incompatibility in (2 cases), G6PD deficiency (1 case), Criggler Najar disease (1 case). Jaundice is not labeled in 36% of cases. In 78% of cases, the first-line intensive phototherapy (1-3 sessions) was performed, whereas exchange transfusion has been used in 19% of cases. The average hospital stay is 4.8 days [1-19 days]. The hospital case fatality was 22% (because of the land or neurological disorders).10 infants (23%) were lost to follow; the installation of cerebral palsy was observed in 2/3 of cases.

CONCLUSIONS

Although the prognosis of neonatal jaundice has greatly improved his last years with the help of intensive phototherapy, the prognosis for infants with bilirubin encephalopathy requires early detection of jaundice prior to discharge maternity and monitoring of newborns with jaundice (Transcutaneous bilirubinometry interest). Efforts should be strengthened in terms of prevention and treatment of maternal-fetal incompatibility Rhesus D whose frequency remains high in our country.
INTRODUCTION

Brain malformations rank among the most common fetal abnormalities with about one out of 100 live births featuring a central nervous system abnormality. Ultrasonography (US) is the first-line screening tool to diagnose fetal pathologies or to detect aberrations in fetal development in early pregnancy. In inconclusive or suspicious US findings, fetal cerebral magnetic resonance imaging (MRI) can be used as an additional diagnostic tool in the second and third trimester of gestation in order to confirm or refute the findings suspected on US, to gain further information and to search for associated pathologies.

The objective of this study is to evaluate the diagnostic value of fetal (MRI) performed after antenatal ultrasound detection of central nervous system malformations.

MATERIALS AND METHODS

This is a descriptive retrospective study. Inclusion criteria was the existence of an ultrasonographic morphological abnormality of the fetal brain diagnosed between 20 and 41 weeks of amenorrhea (WA).

23 fetuses were included.

Ultrasound and MRI results were compared and correlated with postnatal morphological examination data, and fetopathological examinations in case of medical termination of pregnancy.

CLINICAL CASES AND SUMMARY RESULTS

The average term of malformation diagnosis was 30.5 weeks of amenorrhea and 32 weeks of amenorrhea for MRI.

Ventricular dilations and hydrocephalus accounted for 66%, posterior fossa malformations 11%, cerebral cysts and parenchymal abnormalities 10%, gyration disorders 10%, various malformations 3%.

CONCLUSIONS

The diagnosis of cerebral haemorrhage, gyration abnormalities, cerebral cysts and porencephalic cavities is more efficient with MRI.

Ultrasound remains superior to MRI for the diagnosis of cerebellar vermis abnormalities.

MRI must complete the morphological assessment of the fetus when a malformation of the brain is detected by ultrasound. It makes it possible to specify the malformation diagnosis, to orientate on the etiological mechanism and to specify the cerebral prognosis of the fetus.
INTRODUCTION

The aneurysm of the vein of Galen is a cerebral vascular malformation producing a pseudoaneurysmal dilation of Galen's bulb. The objective of this case is to analyze prenatal diagnosis’s elements and neonatal prognosis of fetal vein of Galen aneurysms.

CLINICAL CASES AND SUMMARY RESULTS

This is a 30-week finding at antenatal ultrasonography of fetal hypotrophy associated with a lack of visualization of medial brain structures, moderate ventriculomegaly, and oblique paramedian fluid image posterior to the thalamus (Figure 1) with a turbulent flow to the color Doppler. There was also dilation of the right heart cavities with hypertrophy of the wall of the right ventricle. All these elements recall an aneurysm of the vein of Galen. Therapeutic interruption of the pregnancy was refused by the couple. Delivery occurred at 41 weeks of vaginal amenorrhea of an eutrophic boy who died very quickly in a severe cardiac failure chart. The diagnosis was confirmed by the anatomopathological study of the brain, which showed a cerebral aneurysm of the Galen vein (Figure 2), a massive dilation of the meningeal vessels and the presence around the brain stem and cerebellum of very large arterial and venous afferences.

CONCLUSIONS

The Galenic vein aneurysm is a complex and rare cerebral vascular malformation, which performs a pseudoaneurysmal dilation of the Galenian bulb. It is characterized by its particular semiological aspects and its therapeutic difficulties.
TOPIC: Neuroscience (the fetal and neonatal brain)

ABSTRACT ID: 637

TITLE: NEONATAL FACTORS AND AUTISM SPECTRUM DISORDER

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INTRODUCTION

Autism spectrum disorder (ASD) is associated with a range of prenatal, perinatal, and neonatal factors.
We propose to describe the neonatal factors observed in ASD.

MATERIALS AND METHODS

It is a cross sectional study. We included the first 150 child diagnosed with ASD starting from March 2015 to April 2016, in the out patient unit of child and adolescent psychiatry in Monastir, Tunisia.
The 150 child with typical development were randomly chosen from kindergarten in the same region. We excluded from both group children with sensory abnormalities due to physical condition.
The ASD diagnosis was done based on the DSM-5 criteria, the CARS and the clinical evolution of the child during the period of the study. We investigated neonatal factors using a checklist that we elaborated in the team based on meta-analysis results. Analytic analysis were done using Chi-Square test and ANOVA.

CLINICAL CASES AND SUMMARY RESULTS

The mean age of the ASD group was 2.66 years ± 0.55 years with a sex ratio of 3.2.
We found that 12% of the ASD group were born premature versus only 2% in the control group (p<0.001). Thirty percent of children with ASD was delivered by caesarean section versus only 16% of the typical developed children (p=0.015).
Thirty five percent of the ASD group suffered acute fetal distress and only 14% of the control group (p<0.001).
There wasn't any differences between the two groups regarding number of hospital admission for the newborn child, but there was a statistical significant differences regarding the duration (p=0.002), the medium duration was of 20 days for the ASD group and 13 days for the control group.
Finally, children with ASD had a lower weight at birth than the control group (p=0.002).

CONCLUSIONS

According to our finding, children with ASD were more exposed to neonatal distress than the control group. More studies needed to elucidate the relationship between both of them.
INTRODUCTION

When rehabilitating newborns having perinatal affection of central nervous system in anamnesis, it is required to take into account a huge number of data that are rapidly changing over a short time period. New computer technologies are used for rehabilitation of such newborns at the present time.

MATERIALS AND METHODS

Annually 507 pretermature and mature newborns that have various clinical forms of perinatal brain injury in anamnesis are rehabilitated at Altai Krai Clinical Children’s Hospital. The following mathematical methods of computer-assisted learning: support Vector Machine, logistic Regression, Random forest, gradient boosting, and artificial neural networks were used.

CLINICAL CASES AND SUMMARY RESULTS

Various mathematical models were constructed using 83 blood counts, 34 parameters of neurosonography, 28 clinical data of the newborns and 44 indicators of the course of pregnancy and childbirth. Analysis of the use of treatment and rehabilitation algorithms has shown that along with other methods of rehabilitation, the effective impact on newborns is provided by the use of the dry immersion method, music therapy and the recording of biorhythms of physiological parameters.

CONCLUSIONS

The use of artificial intelligent technology in the rehabilitation of newborns with perinatal affection of central nervous system gives the opportunity to fasten the choice off the most optimal tactics for rehabilitation of newborns and to significantly reduce the routine work of the neonatologist.
Intraventricular hemorrhage (IVH) is one of the recent problems of neonatology and causes of the perinatal pathology. It has been established that the shorter the gestation age, the more often and heavier the IVH in children. That way, this pathology is found predominantly in preterm infant. In full-term newborn, IVH is found in 4-11.5% of cases according to the literature. The source of IVH in term infants would be choroid plexus of lateral ventricles (35%), thalamus (24%), germinal matrix (GM, 17%) and periventricular parenchyma (14%). In 10% of cases, the source of the IVH remains unknown. This work was caused by an increase in the number of term infants who have IVH in the absence of a clinical research, according to neurosonography (NSG) data.

MATERIALS AND METHODS

The purpose of the work is to study the structure, risk factors for development, clinical aspects and NSG investigation of IVH in term infants. The study was conducted in the "case-control" type with randomization according to gestational and postnatal age, sex, given by the NSG. The analysis of Russian and foreign literature is carried out, the design of research is developed and the medical records (neonatal record and the child) is analyzed. The study included two groups of children: the main group - full-term newborn who had an IVH on the NSG in the early neonatal period (N = 52, 32 boys, 20 girls) and a control group - term infants who had no changes with NSG (N = 52, 28 boys, 24 girls).

CLINICAL CASES AND SUMMARY RESULTS

In 88% of the children of the main group, unilateral or ambilateral subependymal hemorrhage at the level of the GM was detected in the NSG, 8% - I-II grade IVH, 2% - III grade, 2% - IV grade. In 32% of newborns, the primary NSG aged 1-5 days of life revealed subependymal cysts (SEC) and lateral ventricle choroid plexus cysts, regarded as posthemorrhagic. In dynamics on the 4th-8th day of life, partial lysis of IVH was observed in 27% of children. This does not allow to exclude the presence of cystophorous regression of the GM, since the time of development cysts does not correspond to the time of transformation of subependymal hemorrhage (Table 1). In 6% of children with IVH I-II, the diagnosis was not confirmed. In the catamnesis (mean age 2.9 years), neural maturation was normal in all children of the main group. One child with IV grade IVH developed an antecedent history of epilepsy. According to the NSG dynamics: 61% - norm, 28% SEC, 11% - ventriculomegaly.

CONCLUSIONS

Psychomotor development corresponded to the age of all children. NSG in the dynamics did not in the confirm the diagnosis of IVG in 61% of children. NSG changes regarded as IVH, coupled with normal neural maturation of the child, indicate the anatomical and physiological maker of the neurodevelopment - regression of the GM. Now therefore, more than half of children in the first year of life are diagnosed with overdiagnosis of IVH and perinatal pathology of the central nervous system.
INTRODUCTION

Corpus callosum dysgenesis occur in 0.4 – 0.7% of general population. It can be isolated or the part of the complex brain development anomalies and in 25-45% cases accompanied with neuronal migration disorders. Moreover, the risk of combined extracerebral anomalies is more than 35%. Ultrasound is the method of choice in initial fetal visualization due to the wide availability, cost, safety and accuracy. MRI has some advantages comparing to US in fetal brain evaluation because of direct visualization, high soft tissue contrast, especially in cortical development anomalies and evaluation of the middle forms of brain malformations. The aim of the present study was to evaluate the role of fetal MRI in detection and characterization of callosal anomalies and it’s impact on treatment strategy.

MATERIALS AND METHODS

This retrospective study was performed by analysis of patients, who underwent fetal brain MRI from 2015 and 2018 because of suspected by US callosal malformation. MRI was performed using 1.5 T MR-system with no sedation. The follow-up included at least one postnatal visualization results or autopsy data. SSFSE T2-WI in three orthogonal planes with slice thickness 3-4 mm, FoV was 24-30 upon the fetal size, axial FSCE T1-WI, axial DWI (b-values: 0,800 ms) with ADC-mapping. The size and morphological evaluation was performed in the midsagittal/ coronal/ axial planes from the anterior to posterior aspects of the splenium and compared with expected normal with respect to gestational age (Manevich-Mazor M., 2017; Gat I., 2014) as well as associated pathology were documented.

CLINICAL CASES AND SUMMARY RESULTS

A total of 34 patients with suspected corpus callosum dysgenesis were recruited. Quality of MRI was eligible in 99,1%. Normal MR-findings were obtained in 14,7% of cases, normal corpus callosum in presence of mild ventricular asymmetry/ ventriculomegaly – in 5,9%. The most frequent anomalies was complete corpus callosum agenesis (in 70,4%), partial callosal agenesis and short corpus callosum (29,6%). According to the US/MRI agreement analysis the total agreement was observed in 73,5%: good agreement or complete callosal agenesis, for mild forms – moderate/fair. The isolated callosal dys/agenesis was found in 33,3%, compound malformations: associations with one or more CNS malformations were observed in 66,7% (ventriculomegaly - 77,8%, followed by cortical malformations - 44,4%, posterior fossa - 27,8% and midline - 11,1%, complex combined anomalies - 16,7%). MRI provide useful information that lead to change in management in 20.6%, mostly due to the associated malformation evaluation.

CONCLUSIONS

MRI is effective complimentary to US method for visualization of callosal dysgenesis, it’s implementation to prenatal diagnostic algorithm is especially important in cases with partial agenesis or thin corpus callosum and lead to improve treatment strategy and decision-making in this patient groups.
INTRODUCTION

Uterine rupture is a rare complication of pregnancy, but it is one of the most dangerous obstetric situations threatening the life of both the mother and the fetus.

MATERIALS AND METHODS

CLINICAL CASES AND SUMMARY RESULTS

A 34 year-old woman at gestational age of 40+1 weeks admitted to emergency room with abdominal pain. Before visit, she had not been to the clinic since 36 weeks and finally visited to the doctor due to absence of fetal movement at 40 weeks, the fetus was already demised and maternal blood pressure was very high. During the induction, she complained abdominal pain and bled a lot. But the vital sign of the mother could be remained stable. After diagnosis, we did total abdominal hysterectomy.

CONCLUSIONS

We experienced a case of uterine rupture in an unscarred uterus during the labor of a demised fetus. This case emphasizes the importance of antepartum follow-up and proper management of the mother of demised fetus.
INTRODUCTION

As an emerging alternative to hysterectomy, uterine artery embolization (UAE) has been widely used in the management of fibroids and in controlling postpartum hemorrhage (PPH) unresponsive to other therapies. Research has shown UAE to be a safe, minimally invasive procedure with few complications and minimal effects on future fertility. We present two cases highlighting the use of UAE in preventing PPH in a patient with a large fibroid at the time of cesarean section and in the treatment of secondary PPH refractory to other therapies in another patient.

MATERIALS AND METHODS

CLINICAL CASES AND SUMMARY RESULTS

We present a 36 year old primiparous woman with 2 subserosal uterine fibroids in pregnancy - 13.7 cm and 10.8 cm. Prophylactic internal iliac artery occlusion balloons were placed prior to a planned classical caesarean section which were inflated once the baby was delivered and subsequent embolization of bilateral uterine arteries. Estimated blood loss (EBL) was 400 mls. Fibroids were smaller (10.4cm and 7.1 cm) on pelvic ultrasound 2 years later.

We present another case, a 40 year old presenting with secondary postpartum haemorrhage (PPH) with hypovolemic shock 3 weeks after an uncomplicated caesarean section. She had an emergency examination under anaesthesia (EUA) and evacuation of uterus (EBL 2L) and was discharged well. She returned after a week with secondary PPH. Examination and investigations were normal. Despite pharmacological and mechanical methods, she continued to bleed. A Pelvic angiogram was done showing acute bleeding from the left uterine artery which was embolized.

CONCLUSIONS

The two cases demonstrate the superior efficacy of UAE firstly as prophylactic use of intra-arterial balloon catheters in pregnant patients with large fibroids and secondly in the diagnosis and management of secondary PPH refractory to uterotonics and uterine tamponade. In both cases, the need for laparotomy hysterectomy was avoided, resulting in preservation of future fertility. UAE should be a consideration for hemodynamically stable patients in centres with access to interventional radiology.
TITLE: Unusual clinical presentation of renal choriocarcinoma, lacking a primary uterine origin: A case report on the highly malignant, human chorionic gonadotrophin (hCG) secreting tumour.

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INTRODUCTION

35-year-old female who presented with acute left iliac fossa (LIF) pain and positive urinary beta human chorionic gonadotrophin (B-hCG) with suspicion of ruptured ectopic pregnancy which turned out to be renal choriocarcinoma. This case report summarises the unusual clinical presentation and management of choriocarcinoma.

CLINICAL CASES AND SUMMARY RESULTS

35-year-old gravida 5 para 2+2 presented as emergency to a district general hospital complaining of acute LIF pain. Eight weeks earlier in Hungary, she had a complete miscarriage, where she usually resides.

Sequence of events:
Intra-operatively, there was no evidence of ectopic pregnancy. Incision was made into the left broad ligament. All haemostasis were secured using diathermy and peritoneal washing done. Two Radivac drains were sited. She was intubated and nursed in Intensive Care Unit (ICU). Serum B-hCG level reported as 69,375 IU/L and hence suspicion of choriocarcinoma. Decision to return to operating theatre for laparotomy total abdominal hysterectomy with ovarian conservation was made. Patient developed disseminated intravascular coagulopathy. The imaging showed large left perinephric haematoma tracking along the retroperitoneum. A renal mass lesion with contrast blush seen.

CONCLUSIONS

On day 3 of her admission, she made good recovery. She was extubated and transferred to the oncology ward. She was discharged well after 11 days and had nephrectomy subsequently in Hungary.
INTRODUCTION

To examine long-term effects of laparoscopic radiofrequency myolysis on uterine ruptures, fertility and pregnancy outcome.

MATERIALS AND METHODS

Laparoscopic radiofrequency myolysis was performed for twenty one patients who had symptomatic uterine leiomyomas and wished to preserve their fertility. Data on possible pregnancies, infertility treatments, hysterectomies and other reoperations during a follow-up period of ten years were retrospectively collected from the hospital records. Those who had no outpatient contacts in the hospital records were interviewed by telephone.

CLINICAL CASES AND SUMMARY RESULTS

Nine (43%) of the 21 patients tried actively to conceive and they produced 13 pregnancies: six of them had two pregnancies and three had one. The median interval between the radiofrequency myolysis and the first pregnancy was 21 months (range 16–72 months). All pregnancies were uneventful and ended in full-term delivery of a healthy infant. Uncomplicated vaginal delivery was recorded in 7 (54%), vacuum extraction in one (7.7%) and cesarean section in five (38%) out of 13 cases. Uterine rupture or heavy postpartal bleeding was not reported.

CONCLUSIONS

Pregnancies after radiofrequency myolysis for uterine myoma were uneventful and no uterine ruptures were detected during a long-term follow-up. Pregnancy rates after the procedure appear to be similar to results after abdominal or laparoscopic myomectomy. Radiofrequency myolysis for uterine myoma is a safe and feasible treatment option for selected patients wishing to preserve their ability to conceive.
INTRODUCTION

Uterine rupture is a rare complication of pregnancy, but it is one of the most dangerous obstetric situations threatening the life of both the mother and the fetus.

CLINICAL CASES AND SUMMARY RESULTS

A 34-year-old pregnant woman at gestational age of 40+1 weeks admitted to our emergency room with lower abdominal pain. Before visit, she had not been to the clinic since 36 weeks and she finally paid a visit to the doctor due to absence of fetal movement, the fetus was already demised and maternal blood pressure was very high. During the induction, she complained low abdominal pain and bled a lot. But the vital sign of the mother could be remained stable. After diagnosis, we decided to do total abdominal hysterectomy. She left the hospital without any problem.

CONCLUSIONS

We experienced a case of uterine rupture in an unscarred uterus during the labor of a demised fetus. Therefore, we can say that the demised fetus saved the mother’s life. This case emphasizes the importance of antepartum follow-up and proper management of the mother of demised fetus.
INTRODUCTION

Fear of birth in literature; is defined as evaluation cognitively negative in birth, approaching with birth fear and anxiety. It has been reported that women with high anxiety have a higher rate of birth fear and the high level of continuous anxiety is a cause of significant birth fear. The purpose of this study was to evaluate the relationship between anxiety levels of pregnancies and birth fears and to identify some demographic factors that affect them.

MATERIALS AND METHODS

This cross sectional study was realized on pregnant women in latent phase in the Sakarya between January and April 2018. The questionnaire prepared by using the literature in accordance with the purpose of the study was filled by 450 pregnant women who accepted to participate in the study by face to face interview method. The "Wijma Delivery Expectancy/Experience Questionnaire Version A" was used to assess the fear of birth and cronbach’s alpha value was 0.861 in our study. Beck Anxiety Scale was used to evaluate anxiety level, cronbach's alpha value was 0.860 in our study. Student T test, One Way Anova and Pearson Correlation Analysis were performed with the help of Statistical Package for Social Sciences (SPSS) program. Statistical significance was accepted as p<0.05.

CLINICAL CASES AND SUMMARY RESULTS

The age of the study group ranged from 18 to 43 years with an average of 27.62±5.35 years. The mean score for the Wijma Delivery Expectancy/Experience Questionnaire A version was 60.18±19.65 and the mean score for the Beck Anxiety Scale was 21.04±10.08. A positive correlation was found between the anxiety levels of pregnant women and their fears of birth (r=0.599; p=0.000). The mean score of the Wijma Delivery Expectancy / Experience Questionnaire A version and the Beck Anxiety Scale were found to be statistically significantly higher in those who quiet personality type, live in core families, in planned pregnancies and previous macrosomic fetus stories (for each; p<0.05). There was a slight positive correlation between gestational week and anxiety levels (r=0.233; p=0.000) while there was no correlation between fear of birth and gestational week (r=0.091; p=0.053). There was no correlation between the number of pregnancies and births and the anxiety and fear of birth(p<0.05).

CONCLUSIONS

It was determined that pregnant women had moderate birth anxiety and fear. It was determined that pregnant women had moderate birth anxiety and fear. It was suggested that to evaluate not only the physical evaluations but also the mental conditions of the passengers on the process, the levels of anxiety and the fear of birth were determined by midwives and timely planning of midwifery initiatives for these fears.
Effect of 12-week use of heme iron-containing supplements in anemic women

INTRODUCTION

The World Health Organization (WHO) reports that 23% of pregnant women from developed countries are anemic. Iron deficiency is the most common cause of anemia during pregnancy. Untreated iron deficiency anemia (IDA) in pregnancy can increase the risk of numerous complications for the mother and fetus, including premature labor, intrauterine growth retardation, perinatal depression, perinatal mortality, and maternal mortality from hemorrhage. Oral iron is typically used as the first line of treatment for IDA, but adherence to treatment may be poor due to gastrointestinal (GI) adverse reactions.

MATERIALS AND METHODS

Prospective observational multi-center study was performed between June 2016 and March 2017. The study was conducted in three centers in Slovakia—Department of Obstetrics and Gynecology, Jessenius Faculty of Medicine, Comenius University, Martin, Slovak republic; Department of Obstetrics and Gynecology, J.A. Raiman Hospital, Presov, Slovak republic; and Department of Obstetrics and Gynecology, Hospital in Spisska Nova Ves, Slovak republic. Data were analysed by the Multivariate ANOVA (MANOVA). Aim of this study was to assess the supplementation using fixed combination of bovine haemoglobin powder and iron sulphate in the correction of iron deficiency anaemia and to determine the extent and severity of adverse effects.

CLINICAL CASES AND SUMMARY RESULTS

Sixty pregnant women with a mean (SD) age of 30.1±5.6 (range 18-42) years were recruited into this study. The study recorded an increase in haemoglobin levels by an average of 21±5.3 g/l during the first 6 weeks of treatment. The difference in hemoglobin levels after 12 weeks of treatment was 30±6.6 g/l (p<0.0001). Hematocrit levels increased by 0.06±0.02 l/l after 6 weeks and by 12 weeks 0.09±0.03 l/l (p <0.0001). Serum ferritin levels increased significantly after the first phase of treatment 8.34±7.8 μg/l. The values were also significantly higher after 12 weeks by 30.71±8.7 μg/l (p <0.0001), what indicate gradual replenishment iron in the body. TSAT levels also increased significantly by 14.4±6.5% on average, with elevated levels of 23±6.8% (p<0.0001) up to the end of the study. Follow-up interview was conducted on 60 (100%) women. All of these women reported an improvement in their wellbeing (100% feeling “much better”) during and after the treatment.

CONCLUSIONS

The key finding of the study is that in women presenting with IDA in pregnancy, an oral using of product Globifer forte significantly increased haemoglobin levels and improved iron stores. Further, the study demonstrate that this product appears to be a safe and effective treatment modality for the correction of IDA, as no serious adverse events reported. Reassuringly, patient satisfaction rating and improvement in perceived wellbeing assessed in the posttreatment period was high.
INTRODUCTION

Antenatal care and interventions aimed at improving pregnancy outcome rely on pregnancy dating. The last menstrual period (LMP) and the crown rump length (CRL) in the first trimester are the methods of choice for pregnancy dating. However, up to 30% of women attending an antenatal clinic report unreliable LMPs. The LMP is known to be subject to recall error and has a tendency to overstate the duration of pregnancy, whereas CRL seems to be a more reliable measure. However, a significant proportion of the population still does not have access or does not adhere to prenatal screening. The aim of the current investigation was to assess the preference of certain dates of the LMP and to determine if this affects the discrepancy between gestational age by LMP and gestational age by CRL.

MATERIALS AND METHODS

We conducted a retrospective cohort study that delivered in our hospital from 2014 until 2017 with an obstetrical ultrasound examination in the first trimester and with a reported LMP. Cases with a known due date but with unknown LMP and cases of IVF were excluded from our analysis. The statistical analysis was performed with the SPSS program and was based on the non-parametric Mann-Whitney test.

CLINICAL CASES AND SUMMARY RESULTS

Overall, 2,863 cases were included in the present study. An increased preference for rounded dates (1st, 5th, 10th, 15th, 20th, 25th and 30th of each month) was observed in our study. However, this preference did not alter significantly the discrepancy between the gestational age and last menstrual period (median 0 day, range -91, 52 days vs 0 days, -55, 48 days, p=.255).

CONCLUSIONS

Number specific recall error (preference of rounded dates) is evident in the general population but does not seem to significantly deteriorate the discrepancy between the gestational age by last menstrual period and the gestational age by crown rump length.
INTRODUCTION

Recently, there has been an increase in the number of tumors and tumor-like formations of the ovaries in pregnant women, which creates serious problems for the mother and fetus and the need for surgical intervention during pregnancy. The aim of the study was to improve the results and analyze the outcomes of surgical treatment with laparoscopic access of tumors and tumor-like formations of the ovaries in pregnant women, as well as the course of the postoperative period, pregnancy and childbirth on the basis of the results of the complex analysis.

MATERIALS AND METHODS

In the period from 2011 to 2017, we observed 36 pregnant women with ovarian tumors who underwent laparoscopic surgical interventions in the 15-19 weeks gestation period. All pregnant women were routinely examined. The analysis of clinical data, assessment of pain syndrome intensity in the postoperative period, morphological structure of neoplasms, terms and methods of delivery, statistical data processing are carried out. The average age of pregnant women was 28 ± 5.7 years. In general, the indication for hospitalization was the threat of termination of pregnancy, large tumor size, recurrent pain syndrome, symptoms of blood supply disorders in the tumor. All pregnant women received basic preserving therapy in the perioperative period.

CLINICAL CASES AND SUMMARY RESULTS

All patients underwent laparoscopic one- or bilateral cystectomy without disrupting the integrity of the cyst wall with express histology, extracting the drug with the help of endobags, and revision of the abdominal cavity and pelvis. In one case, one-sided adnexectomy with resection of the collateral ovary and resections of the large omentum in connection with the revealed mucinous adenocarcinoma 1a st. (T1a N0 M0 G1). The duration of the operation was 65.7 ± 5.6 minutes. The magnitude of blood loss was 80.64 ± 29.9 ml. The postoperative period proceeded without a marked pain syndrome, prolongation of pregnancy was noted in all the subjects. The results of the histological examination were as follows: 32% - serous cystadenomas, 24% - mature teratomas, 10% - mucinous cystadenomas, 15% - endometrioid cysts, 17.2% tumor-like ovarian formations, 1.5% borderline benign tumors, 0, 3% - mucinous cystadenocarcinoma.

CONCLUSIONS

Timely operative treatment with laparoscopic access with express histology allowed prolonging pregnancy with a favorable perinatal outcome in 100% of cases.
INTRODUCTION
Infertility is defined as being unable to get pregnant although the couples want a baby and have regular sexual intercourse without using any contraception methods for one year. Since millions of couples are affected by infertility problems in modern societies, it is considered a social problem. While assisted reproductive technologies (ART) present promising treatment options for those who want to have a baby, complementary alternative medicine (CAM) has begun after many unsuccessful trials, and they seem to be increasing day by day. This study aims to investigate the use of complementary alternative therapy by women who visited a polyclinic for infertility treatment.

MATERIALS AND METHODS
The population of this descriptive research was composed of the women who had an infertility problem and visited the outpatient polyclinic of gynecology and obstetrics of a university hospital in Konya. The sample size was determined using a table (Lemeshow et al. 2000), which was proposed for "predicting the proportion of a population with a certain accuracy." The sample was 246 infertile women who met the inclusion criteria. The data was collected using a questionnaire with 35 questions prepared by the researcher on the basis of the literature between 04.06.2016 and 06.06.2016. The data were analyzed using percentages, means and chi-square analysis.

CLINICAL CASES AND SUMMARY RESULTS
The primary and secondary fertility percentages of the women were 69.1% and 30.9%, respectively. The causes of infertility of the women were: low sperm count at 17.1%, stress at 15.0%, ovulation problem at 19.5% and undefined at 36.2%. It was determined that 62.2% of the women used complementary and alternative treatments for infertility treatment. The study found that 33.7% of the women using CAM had utilized nutrition, 1.6% used acupuncture, 11.0% used spiritual healers, 28.5% used herbal treatments, and 11.8% followed traditional practices. Their reasons for using CAM were: 33.7% believed that it would absolutely treat infertility problem, 23.6% thought it would help their current treatment, 12.6% used CAM for just psychological comfort, and 15.4% were unsatisfied with treatment so far. Of the women using CAM, 43.9% reported that they had benefited from the method they used, however, 18.3% said that they had not.

CONCLUSIONS
The popularity of CAM, which is thought to support medical treatment of infertility, is increasing. Ways of herbal treatment and traditional treatment known as "spiritual healers" are the most popular in Turkey. CAM helps to increase women's motivation as well. However, it may be useful for couples to be informed by health professionals about harmful practices in the course of infertility treatment.
INTRODUCTION

A full secretion transformation of the endometrium is one of the fundamental factors for the successful onset and development of pregnancy. Disturbance of the morphofunctional state of the endometrium leads to endometrial dysfunction which in turn is the cause of infertility, undeveloped and miscarriage, ineffective cycles of ART, and with the progression of pregnancy contribute to the formation of chronic placental insufficiency and fetal growth retardation. The use of modern diagnostic methods (immunofluorescence using CLMS and ICH) along with conventional methods will reveal the main determinants of endometrial dysfunction for the choice of pathogenetically substantiated therapy.

MATERIALS AND METHODS

For verifying endometrial dysfunction, endometrial biopsy is expediently performed in the second phase of the cycle, depending on the variation of the menstrual cycle: from day 19 to day 22 of the 28-day cycle, including the induced, from day 23 to day 26 with a 35-day cycle. IFL research incubation with secondary antibodies conjugated with Alexa Fluor 647 and Alexa Fluor 488. The main markers for assessing ED are the status of the receptor profile (ER and PR), verification of chronic endometritis CD8+, CD20+, CD4+, CD138+, angiogenesis evaluation CD34+, cell cycle disorders p16ink4a, in standard dilution. Visualization of the samples by means of light and confocal microscope at magnification ×400. In addition, the use of a CLMS allows for a three-dimensional reconstruction of the tissue.

CLINICAL CASES AND SUMMARY RESULTS

Our long-term studies using these methods allowed us to fully verify the expression of sex steroid hormones (ER and PR) in the ovulatory cycle, which opens new prospects for studying steroidogenesis in patients with endometrial pathology. We have established that the main pathognomonic features of endometrial dysfunction are: high frequency of chronic endometritis, regardless of parity of pregnancy, pathological activation of angiogenesis, impaired secretory transformation of the endometrium with a decrease and imbalance in the expression of sex steroid hormone receptors and cell cycle disruption in the histogenetic structures of the endometrium. It should be noted that the use of confocal laser scanning microscopy (CLSM) allows a detailed qualitative and quantitative assessment of markers studied in various tissue structures and extends understanding etiopathogenic mechanisms disorders morphofunctional status of endometrium.

CONCLUSIONS

Timely diagnosis of endometrial dysfunction based on the data of laboratory research techniques, including confocal laser scanning microscopy, allows for a reasonable pathogenetic therapy in patients with impaired reproductive function. CLSM is a modern and progressive method of studying the morphological structure of the tissue with simultaneous imposition of sections labeled with different fluorochromes and three-dimensional imaging.
INTRODUCTION

Self-efficacy is the belief in the ability to demonstrate effective behavior regarding events that affect an individual's life. Self-efficacy influences patients', health/illness status, exchange of information, information recall and use of it, use of health care, the satisfaction level of service, and self-management and its outcome. The level of health literacy has positive or negative effects on the state of health and health behaviors. It has been determined that individuals with poor health literacy have inadequate health protection and development practices, difficulties in chronic disease management and complying with treatment and there is also an increase in the rate of incorrect medical applications, sickness and hospitalization, health care costs and deaths.

MATERIALS AND METHODS

The aim of this descriptive study was to determine the factors related to self-sufficiency and health literacy level of pregnant women. The study was conducted at a maternity hospital in the Central Anatolia region of Turkey. The population consisted of volunteer pregnant women who applied to the obstetrics clinic between June and September 2017. 175 people were calculated with the G*Power 3.1.7 program in the sample. 205 pregnant women were included to prevent data loss. The data was collected in a descriptive form containing socio-demographic and obstetric characteristics and general self-efficacy and health literacy levels. Descriptive statistics, correlation, student t-test, chi-square, variance and regression analysis were carried out.

CLINICAL CASES AND SUMMARY RESULTS

A total of 205 pregnant women with a mean age of 26.66 ± 6.30 years participated. The average self-efficacy score of the pregnant women was determined as 32.92 ± 7.131 (min = 15, max = 50) and their general health literacy index score average as 58.00 ± 8.15 (min = 42, max = 83). 11.7% of pregnant women had inadequate, 44.4% had problematic-limited, 29.8% had adequate and 14.1% had excellent health literacy. It was found that those with high health literacy received preconception counseling, had regular health checks and used folic acid, and were physically active more than three days a week. It has been determined that pregnant women with a high self-efficacy level received preconception counseling, had health checks, began using iron preparations, had blood tests and were physically active throughout their pregnancy. It was determined that there was a correlation between health literacy and self-efficacy score averages of pregnant women at p = 0.000 significance level.

CONCLUSIONS

Health literacy of pregnant women was determined at a moderate level. Individuals with higher levels of health literacy and self-efficacy displayed positive behavior in the preconception period. Self-efficacy was found to be an important factor in explaining the level of health literacy.
INTRODUCTION

Prenatal diagnostics is a subdivision of clinical genetics; it enables early diagnosis of congenital anomalies and genetic disorders. This is very important because the population risk of having a child with some congenital abnormality varies between 3 and 5%. Although such malformations and genetic disorders can interfere with quality of the life of newborns and, they can also cause the spontaneous abortion. There are varieties of methods that can be used for prenatal diagnostics. One of them, by which chromosomal abnormalities, neural tube defects and genetic disorders can be detected with high level of accuracy, is amniocentesis. Although it is invasive test which carries a certain risk of miscarriage, it is strongly recommended to a women at increased risk for chromosomal anomalies.

MATERIALS AND METHODS

During the period from 2007. to 2015. the amniotic fluid was collected from 1.441 pregnant women, who attended University Hospital Centre Split (UHC). All women were of European Caucasian origin. The analyses were done in the Department for Medical Genetics with Laboratory for Human Genetics and Genetic Counseling Unit, Paediatrics Clinic, University Hospital Centre Split, Croatia. Amniocentesis was performed between 13 and 25 weeks of gestation, with a peak at 17 week. The study was approved by the Ethics Committee of the UHC Split. Informed consent to present the amniocentesis data was obtained from each couple.

CLINICAL CASES AND SUMMARY RESULTS

Indications for amniocentesis were as follows: maternal age, family or personal history data (parental karyotype, syndrome Down in the family, previous child/children born with malformations, or spontaneous abortion or stillborn child with known or not known pathology), results of prenatal tests, 4. nuchal translucency, 5. other fetal anomaly detected by ultrasound, 6. pregnant women demand. Mother's age (>35) was the most frequent indicator for amniocentesis. The second most frequent indicator were the results of prenatal tests, followed by family or personal history data and fetal anomaly detected by ultrasound. Nuchal translucency was indication in 20 cases. The majority of AC were performed on woman between 35-40 years. The majority of samples were cytogenetically normal. In others (4.79%) some irregularities were found. In majority of samples (66; 95.65 %) de novo chromosomal changes were present. Maternal age was associated with the largest number of pathological findings.

CONCLUSIONS

De novo chromosomal changes were most abundant in samples obtained from elderly woman. Therefore maternal age is the most prominent indicator for amniocentesis.
INTRODUCTION

Colorectal carcinoma (CC) is a rare but potentially fatal disease complicating pregnancy. CC is the third most common type of cancer in women. It is mostly diagnosed at the age of 50, although some studies report that it is increasingly occurring in women under the age of 40. Since the incidence of CC is increasing in younger women, it also may occur during pregnancy. High risk groups include patients with familial adenomatosus polyposis coli, hereditary nonpolyposis colorectal cancer syndrome, long-standing inflammatory bowel disease and those with an extensive family history of colon cancer. Those groups account for a small percentage (5-10%) of all cancer cases, but CC is more likely to occur in younger patients.

CONCLUSIONS

Colorectal cancer during pregnancy is a rare although aggressive malignancy with a poor prognosis. Because presentation can overlap with the signs and symptoms of pregnancy, diagnoses are often a challenge. Diagnosis of colorectal cancer during pregnancy is usually made at an advanced stage due to unspecific symptoms. An interdisciplinary approach between a gynecologist and a general surgeon is required. In our department in last 23 years at 47,000 births, one case was diagnosed.
INTRODUCTION

The frequency of endocrine forms of infertility according to different data, ranging from 4 to 40%. Endocrine infertility is manifested by a complex of hormonal disorders leading to irregular ovulation or its absence. The aim of the work was to determine the reference values of kisspeptin level in healthy women of childbearing age and patients with female infertility associated with the absence of ovulation.

MATERIALS AND METHODS

The study included two groups of women. Group I - 22 women, 25.6±2.4 years old. They did not have severe somatic diseases, inflammatory diseases and abnormalities of the structure of the reproductive system. In all women, pregnancy did not occur, despite regular sexual activity without contraception with healthy sexual partners for 6.7±1.5 years.

Group II - 46 healthy women, same age with children.

All women included in the study were also studied levels of kisspeptin in serum by immunoenzyme analysis - kit of reagents Kisspeptin-54 (metastin) (with extraction); sex hormones (follicle stimulating hormone (FSH); luteinizing hormone (LH); prolactin; estradiol and progesterone by enzyme immunoassay in serum on 6-7 days of the cycle.

CLINICAL CASES AND SUMMARY RESULTS

In the serum of patients of the first group, a low content of hormones: follicle stimulating hormone, luteinizing hormone and progesterone.

The decrease in progesterone level, apparently, is due to low level of luteinizing hormone and decrease in its stimulating effect on the progesterone production. Estradiol and prolactin levels do not exceed the lower limit of reference values. This is due to the fact that estrogens are produced both in the ovaries and in the adrenal glands of women (their pathology is not present in this case) and have a stimulating effect on the level of prolactin.

It was found that the decrease in serum of FSH and LH levels correlates (r = 0.97) with low level of kisspeptin in women of this group. Regular measurement of rectal temperature in women of the first group during the year recorded a monophasic character of the rectal temperature curve in 100% of cases.

CONCLUSIONS

1. It was found that with a decrease of kisspeptin level at two (from 9.0 to 4.5 ng / ml), the risk of anovulatory cycles is increased at four (from 5.6% to 22.2%).

2. Treatment of women with this form of endocrine infertility should be based on the characteristics of their hormonal status and be taken into account in IVF and further management of pregnancy.
INTRODUCTION

The research has been conducted as an experimental randomized controlled study to determine the effects of foot massage practice for pregnant women during labor and delivery. The study was conducted as an experimental randomized controlled trial to determine the effects of foot massage in pregnant women during labor and delivery.

MATERIALS AND METHODS

The sample of the study consisted of randomly selected 80 primiparous pregnant women including 40 women in the experimental group and 40 women in the control group, who were recruited from pregnant women who applied to Karaman State Hospital and met the inclusion criteria for the research. After pregnant women were informed about the study and their approval was obtained during the latent phase of labor, both groups received routine nursing care during labor except for the foot massage which was applied for a total of 20 minutes - 10 minutes on each foot, when the cervical dilatation was 4-5 cm, 6-7 cm and 8-9 cm during the first stage of labor in the experimental group.

CLINICAL CASES AND SUMMARY RESULTS

As a result of the comparisons between the experimental and control groups, it was found that the severity of the pain of the women in the experimental group according to VAS decreased after application and they had less pain in the postpartum stage. Moreover, in the group with foot massages, it was found that the second and third stages of delivery were shorter, the amniotomy and fundal pressure interventions were less, the pad weight of the postpartum hemorrhage and the rate of second degree lacerations were less, and the first contact with the newborn and the breastfeeding were earlier. They had higher scores on the Labor Agentry Scale, demonstrated less adverse behavioral responses during labor and they were satisfied with the foot massages.

CONCLUSIONS

In conclusion, it was determined that foot massage could be used as an effective and reliable method in the management of labor pain.
INTRODUCTION

The aim of the study was to study the perinatal outcomes in surrogate mothers. In total, we performed an analysis in 54 surrogate mothers (the main group) and in 60 reproductive women after IVF with their own oocytes due to male or tubal peritoneal factor of infertility (comparison group), whose pregnancy ended in childbirth. All women were multiparous, the previous births in surrogates were uncomplicated. Significant somatic pathology in both groups was not revealed. The course of pregnancy was complicated by the threatening interruption in 1 trimester in 33 (61.1%) surrogates and only in 17 (28.3%) women with IVF. Moreover, 21 (63.6% of the 33 women of the main group with a threat) noted the formation of retrochorionic hematomas.

MATERIALS AND METHODS

The frequency of threatening premature births prevailed in the surrogates group and amounted to 31.5% versus 16.7% in pregnant women after IVF. In 8 (14.8%) surrogates, development of GD was noted, 9 (16.7%) had GAS, 5 (9.3%) had moderate PE, which was more common than in pregnant women after IVF. The frequency of placenta previa was comparable and amounted to 2 (3.7%) in the main group and 2 (3.3%) - in the IVF group. Multiple pregnancies (twins) in surrogates were 5 (9.3%), in women with IVF 7 (11.7%). The results of prenatal screening in the first trimester were within the low risk of XA and malformations, however, 6 (11.1%) of surrogates had a PAPP-A value of less than 0.5MoM, 7 (13.0%) had β-hCG less than 0.5MoM; in 9 (16.7%), β-hCG values were more than 2.0MoM.

CLINICAL CASES AND SUMMARY RESULTS

Disorders of uteroplacental blood flow were in 23 (42.6%) surrogates and in 12 (20%) pregnant women with IVF. It was possible to avoid unfavorable course of gestation, development of severe variants of FGRS and PE, thanks to careful monitored ultrasound monitoring, aspirin prophylaxis, prescription of gestagens, calcium preparations (up to 1g / day) and magnesium. Timely delivery occurred in 51 (94.4%) surrogates, premature in a period of 34-36 weeks - in 3 (5.6%). In women with IVF, preterm labor was present in 6 (10.0%). Operative abdominal labor (caesarean section) occurred in 8 (14.81%) surrogates and in 18 (30%) women with IVF. All women had live children without visible malformations and traumas, the average Apgar scores for 1 minute were 8.1 for pregnant women and 7.8 for women after IVF. The neonatal period was complicated by cerebral ischemia - in 4 (7.4%) surrogates and in 8 (13.3%) women with IVF, which is 1.8 times more often than in surrogates.

CONCLUSIONS

Thus, when selecting surrogate mothers, it is necessary to carefully evaluate the history, gynecological and medical status of patients, correct for abnormalities at the pre-graft stage, aspirin prophylaxis, prescribe gestagens and calcium preparations, carefully (once every 4 weeks to 32 weeks, then 1 once every 2 weeks - ultrasound + Doppler), CTG from 32 weeks - weekly; take into account the group and rhesus compatibility of the donor and recipient of the oocyte.
INTRODUCTION

Increased global interest and strong beliefs in the healing effects of complementary and alternative medicine (CAM), initiated an investigation to assess the prevalence of CAM use, its indications and users, satisfaction during childbirth and postpartum among Iranian women in Mashhad, Iran.

MATERIALS AND METHODS

In a prospective study, 106 women from obstetric wards at 26 health centers in Mashhad, Iran were selected through a multistage sampling method. Women were interviewed on the 10th and 40th day of postpartum regarding CAM use. Several in-depth interviews were made to develop a questionnaire and its content validity was confirmed by a panel of experts. It was later piloted to establish reliability and then used to collect data in domains of the CAM types in 4 subcategories, indications of use and users’ satisfaction. Descriptive statistics, t-test and chi-square test were used and set at 95% confidence level.

CLINICAL CASES AND SUMMARY RESULTS

The prevalence of CAM use in childbirth and postpartum among study subjects was high at 96% and the preferred methods were diet and nutrition (87%), herbs or herb-based pharmacological products (59%), mind-body interventions (49%) and manual healing and body-based practices (46). The main reasons for childbearing women to use CAM were body renewal in postpartum (74%), wound healing (59%), to calm down (37%), to reduce post partum bleeding (31%) and to facilitate labor and delivery (26%). Eating date fruits was the most common practice among postpartum women. Eighty one percent (81%) of mothers described CAM methods as somewhat effective and 89% stated that preferred CAM methods because of having no adverse effects or as their adverse effects are very little compared to conventional methods.

CONCLUSIONS

In Iran, the prevalence CAM use during childbirth and postpartum period is high. Results mainly focus on the use of CAM to improve labor pain during childbirth and improve healing during postpartum. Thus, clinicians should be informed to address CAM methods at each obstetric visit. Safety and efficacy of CAM must be explored and taught in every health education program.
INTRODUCTION

Glomerular diseases are common in young women of reproductive age; however nephrotic syndrome is a rare cause. Extrahepatic portal venous obstruction is a common cause of non-cirrhotic portal hypertension in women from developing countries. The presence of both these conditions together in pregnancy poses a management challenge.

CLINICAL CASES AND SUMMARY RESULTS

We present a case of a 31-year old multigravida woman with nephrotic syndrome and extrahepatic portal venous obstruction for which she had undergone splenectomy. Initially, she was normotensive and had normal blood urea nitrogen and creatinine levels. However, she had worsening proteinuria and renal functions in early second trimester and required immunosuppression with cyclosporine and high dose steroid pulse therapy. She further developed superimposed early-onset pre-eclampsia at 26 weeks of pregnancy with severe fetal growth restriction. She was admitted and intensive fetal monitoring performed. She developed severe fetal growth restriction with reversal of diastolic flow in the umbilical artery at 32 weeks pregnancy, necessitating delivery by emergency lower segment Caesarean section with the delivery of a healthy male baby. In the postpartum period, she developed anasarca and pulmonary edema treated with aggressive diuresis and IV albumin therapy which recovered.

CONCLUSIONS

Our patient posed a management challenge due to co-existence of two rare conditions, namely, nephrotic syndrome and extrahepatic portal venous obstruction. However, with multidisciplinary team management, we were able to ensure a successful maternal and fetal outcome. To our knowledge, this is the first reported case of successful pregnancy outcome in a woman with co-existence of these two rare conditions.
INTRODUCTION

Non-tubal ectopic pregnancies (NTEP) are a rare but potentially dangerous condition due to its association to a high morbidity-mortality. Its low incidence, estimated in 5/10,000 pregnancies, entails a lack of consensus regarding its management and treatment. Its management can be surgical or conservative, depending on the clinical context of the mother and the ultrasound findings. The aim of this study is to estimate the incidence of NTEP in our population as well as to describe the clinical features and possible risk factors among these patients in order to evaluate its management, treatment and results.

MATERIALS AND METHODS

This is a retrospective observational study. Using hospital’s database records and ultrasound program View Point 496 ectopic pregnancies (EP) were identified, among which 20 were non-tubal (4%) and there was one case of triple heterotopic gestation (intrauterine, tubal and cervical). They represent 7/10,000 deliveries. Categorical variables were described as absolute and relative frequencies. Continuous variables were described as median and range.

CLINICAL CASES AND SUMMARY RESULTS

Seventy per cent of cases had previous uterine surgeries, most commonly cesarean sections or uterine curettages; 60% were from Latin-America; 30% had an IVF and 25% were smokers. No history of pelvic inflammatory disease or previous EP was reported. MTX was administered in 95% of the cases, over half of them in multiple doses (MD) and the rest in single doses (SD) or intrasacular injection (SI). In 36% another cycle was required, especially those initially treated with MTX SD or MTX SI. Two patients underwent surgery: one laparoscopic horn resection and another in a previous cesarean scar. Only 3 complications were identified. Two scar ectopics initially diagnosed as differed abortion and treated primarily with Prostaglandines required a blood transfusion; and one cervical ectopic treated with MTX DM required arterial embolization. No cases of ruptured ectopic were reported. Half of the patients got pregnant afterwards. There was no recurrence of EP.

CONCLUSIONS

Patients with uterine surgeries are more likely to present gestations of abnormal location. Conservative treatment was effective and secure for most of the patients, being MTX MD the preferred approach and permitting fertility preservation. NTEP is a non common event every practitioner should be aware of, since clinical suspicion is essential to its diagnose and proper management.
INTRODUCTION

The incidence of gallstone related diseases complicating pregnancy is 0.05% to 0.33% and been associated with preterm birth and maternal, as well as neonatal morbidity. Acute pancreatitis (AP) during pregnancy has an incidence of one in 1,000 to 10,000 births. Cholelithiasis is the most common cause of AP, accounting for more than 70% of cases and is more common with advancing gestational age. AP’s clinical presentation in pregnant women is similar to that seen in non-pregnant women. Serum lipase and amylase levels are reliable markers, since the first remains unchanged and the latter is either normal or only mildly elevated during pregnancy. Abdominal ultrasound (AUS) is the choice imaging technique to identify biliary etiology.

CLINICAL CASES AND SUMMARY RESULTS

A 27-years-old, primiparous, 28 weeks pregnant, obese woman was admitted to the emergency department with postprandial nausea, vomiting and sudden, severe epigastric pain, radiating to the back since that morning. Physical exam revealed a painful right upper abdominal quadrant, but no Murphy’s sign. Blood tests showed mild leukocytosis, elevated C-Reactive Protein, elevated lipase/amylase levels (3919/2356 U/L) and mildly elevated liver enzymes. The arterial blood gases analysis showed no hypoxemia, nor acidosis. AUS revealed a distended gallbladder, filled with multiple small hyperechoic gallstones with posterior shadowing. The patient was admitted to our high risk pregnancy ward with the diagnosis of biliary AP and started conservative measures. Eleven days later, after clinical and analytical improvement, she was discharged. During the 3rd trimester, she was readmitted three times, due to AP recurrence. Nevertheless, she had a full-term uncomplicated delivery and puerperium phase.

CONCLUSIONS

Management of AP in pregnancy should be performed by a multidisciplinary team, is essentially supportive and will lead to resolution of symptoms in most cases. It includes hospitalization, intravenous fluids, analgesia and bowel rest. Among pregnant patients treated conservatively, AP has a recurrence rate of 33-70%. Nowadays, AP associated mortality in pregnancy is <5%. However, there is still an increased risk of preterm labor, prematurity and fetal death.
INTRODUCTION

Significant proportion of pregnancies both in Russia and all over the world, are unintended. According to CHOICE All-European Scientific and Educational Program, the unintended pregnancies now make 39.8 %.

Out of 10,000 Russians who had at least one pregnancy between 2006 and 2011, 37 % said that their recent conception was unintended. It means that in about 40 % of cases there is no opportunity of preventive counseling and preconceptional preparation (PP). At the moment of establishment of the fact of pregnancy (2-3 weeks after the conception) many fetal organs and systems are already generated, so most strategies for prevention of adverse outcomes of pregnancy are ineffective.

MATERIALS AND METHODS

The study was approved by local ethics committee. We have developed and assayed a simple test consisting of three mandatory analyses, two of which were for both spouses (these are karyotype and a test for heterozygous carriage of four common hereditary diseases: cystic fibrosis, Verdnig-Goffman's spinal-muscular amyotrophy, phenylketonuria and hereditary hearing loss) and one for the wife only was the test called «predisposition to habitual miscarriage» which includes polymorphic variants of genes responsible for coagulation and cellular adhesions, regulation of homocysteine synthesis and genes associated with phase II detoxification disorder.

CLINICAL CASES AND SUMMARY RESULTS

189 couples were examined, 30 % had changes in the test results, the most frequent disorders were errors in "predisposition to miscarriage" panel genes, which has helped the patients to visit hematologist in time, to choose the necessary therapy and diet.

In 5 % we have found heterozygous carriage of one of four hereditary diseases, only in one of the partners.

In 1 % we have found joint heterozygous carriage: one case of cystic fibrosis, one case of Verdnig-Goffman's spinal-muscular amyotrophy.

We recommended these couples to use modern ART IVF methods for an opportunity of conduction of pre-implantation genetic testing in order to identify a healthy embryo.

CONCLUSIONS

Thus, we receive information about possible disorders of the reproductive system of the spouses before the pregnancy, which helps us to determine the tactics of pregnancy management and to conduct an effective PP in advance.
OUTCOME ANALYSIS OF ASSISTED VAGINAL DELIVERY

INTRODUCTION

Assisted vaginal delivery is an alternative to cesarean section in the second stage of labor and can save two lives if urgent indication occurs. Possibility of decompensation of chronic maternal diseases, preeclampsia, prolonged second stage of labor, of fetal hypoxia make it necessary for every obstetrician to master methods of assisted vaginal delivery. In St.Petersburg the percentage of the use of forceps is going down in favor of vacuum extraction. At the maternity hospital №13 the use of forceps is still a method of choice in case of assisted vaginal delivery. We have analyzed the outcome of cases both for mother and neonate over a period of three years when vacuum extraction or forceps were used.

MATERIALS AND METHODS

The retrospective study of all records of vaginal assisted deliveries at the maternity hospital in 2015-2017. 257 cases total have been analyzed. Three groups have been formed: 1) 174 cases when forceps were used; 2) 80 cases when vacuum was used; 3) 3 failed attempts at vacuum extraction with subsequent use of forceps. With the position of fetus head in midpelvic forceps are always used at the maternity hospital. Vacuum extraction is used only in pelvic outlet area. Failed attempts at vacuum extraction were always associated with slipping off of the cup followed then by the use of forceps.

CLINICAL CASES AND SUMMARY RESULTS

No results showing valid discrepancy in age, term of pregnancy, body mass of neonates and Apgar scores have been revealed in the three groups. When analyzing BMI we have noted that numbers are higher in the forceps group (28,05±0,37) as opposed to the vacuum extraction group (26,05±0,47) p<0,01, which is attributed to the use of forceps for patients with chronic diseases. Results showing valid discrepancy have been obtained when analyzing blood loss: 421,30±25,91 in the vacuum group and 501,56±20,56 (p<0,01) in the forceps group. However deeper analysis showed that higher blood loss in the forceps group was associated with higher fetal head position. Maternity trauma rate was also higher in the forceps group for patients with higher fetal head position. But we haven't had any cases of anal sphincter injury in any of the groups. 29 neonates (36,25%) had cephalohaematoma in the vacuum group, 16 (9,2%) in the forceps group and 2 (66,6%) in the group of failed attempt at vacuum extraction.

CONCLUSIONS

Forceps are a reliable instrument for vaginal delivery. Forceps are a method of choice for women with chronic diseases. No valid data has been found to show any aggravation of the outcome for the fetus when forceps are used. Mediolateral episiotomy allows to minimize anal sphincter injury. Aggravation of the outcome for the mother (trauma, blood loss) is not associated with instruments being used but attributed to the level of fetus head position.
INTRODUCTION

Endometrial stroma sarcoma is a rare neoplasm and accounts for 15-25% of uterine sarcomas. Total abdominal hysterectomy with bilateral salpingo-oophorectomy, with radical cytoreductive surgery for extrauterine involvement, has been the standard recommendation for endometrial stromal sarcomas. Preservation of the ovaries may be a feasible alternative for premenopausal women with stage I disease. We present a case of low-grade endometrial stroma sarcoma, diagnosed during the 20th week of gestation.

MATERIALS AND METHODS

A 33-year-old patient in her 27th week of gestation presented to our Institution's Department of Gynecologic Oncology. She was diagnosed with endometrial stroma sarcoma after emergency laparotomy for acute abdominal pain during the 20th week of gestation. Uterine and omental masses were removed and pathology report stated low-grade endometrial stroma sarcoma. Patient's medical history consisted of total thyroidecotomy due to thyroid cancer and laparoscopic myomectomy with morcellation 2 and 4 years ago, respectively.

CLINICAL CASES AND SUMMARY RESULTS

Tumor board suggested hospitalization in the High-Risk Pregnancy department, for close monitoring of the well-being of the mother and fetus. Cesarean section was programmed after 30 weeks of gestation, due to severe oligohydramnios and intrauterine growth restriction of the fetus. Delivery of the fetus and the placenta was followed by complete cytoreductive surgery with total abdominal hysterectomy, total omentectomy and removal of masses from the right diaphragm, the mesentery of the small and large bowel, the pouch of Douglas and the pelvic peritoneum. Patient was discharged 15 days later in excellent condition. After removal of all macroscopic disease, the patient presented for the first follow-up visit, 3 months after surgery. Computed tomography scans revealed no residual disease. Patient is expected for the next follow-up visit in 3 months.

CONCLUSIONS

Endometrial stroma sarcoma is a rare neoplasm and accounts for 15-25% of uterine sarcomas. Total abdominal hysterectomy with bilateral salpingo-oophorectomy, with radical cytoreductive surgery for extrauterine involvement, has been the standard recommendation for endometrial stromal sarcomas.
INTRODUCTION

Greece is a first point entry to Europe for immigrants and refugees for more than three decades. The continuing conflict in Syria resulted in an unprecedented influx of refugees. Many women were pregnant but also many became pregnant during their stay at the so-called hot spots. Objective. We sought the clinical characteristics and pregnancy outcomes of these women delivering in Alexandra hospital and compared them with those of Greek population.

MATERIALS AND METHODS

A retrospective cohort analysis of all pregnant women attending Alexandra University Hospital from September 2015 to December 2017. Demographic data were collected together with obstetric and neonatal outcomes.

CLINICAL CASES AND SUMMARY RESULTS

Seven thousand nine hundred and eight one pregnant women deliveries were recorded in Alexandra University Hospital during between 9/2015-12/2017. Refugees accounted for 11% of this population. More than half of them were Syrian with the remaining from Afghanistan and Iraq. Compared to the native population they were younger and of higher parity. Most of them received inadequate antenatal care and one out of five had no antenatal care at all. Barriers to access to health care, inability to communicate, religious and cultural differences were identified and all posed risks for their management. Our review showed high rates of preterm delivery, both late preterm and less than 34 weeks, a high rate of primary caesarean section, especially for fetal distress, and low Apgar scores for their neonates. Preeclampsia, fetal growth restriction, low birth rates and stillbirth were all higher compared to the native population.

CONCLUSIONS

Conclusions. Our review showed that refugees pregnant women are at high risk for pregnancy related complications and their management remains a challenge for all mainly due to administrative problems.
**INTRODUCTION**

PPROM represents premature rupture of membrane which occurs before 37 week of gestation age. PPROM makes 1/4 - 1/3 premature deliveries. Interval between the rupture of membrane and beginning of delivery is called latent period. Prolonged rupture of membranes is a condition when from the time of rupture to contractions has passed more than 24 hours. PPROM significantly increases morbidity and mortality of newborn and mother.

**MATERIALS AND METHODS**

Prospective study of 24 patients hospitalized in Gynecological Obstetrics Department of General Hospital Berane due to PPROM in period from January 2008. to January 2009. Instrument of investigation was protocol for pregnant women and protocol for newborns. At reception all women underwent tests for PPROM diagnosis (KKS, C reactive protein), vaginal and cervical swabs, ultrasound, cardiotocographia. In evaluation of data we used descriptive statistics, and the importance of link with test of correlation range (Spearman).

**CLINICAL CASES AND SUMMARY RESULTS**

PPROM the average age of pregnant women was 29.7 ± 5.8, BMI 24.2±1.2 range 19.7-34. 17 (70.8%) of them lived in city, 16 (66.6%) had middle education. 18 (75%) smoked cigarettes. Average gestation age was 34.1 2.2 week of gestation. Gestation age from 30.-33.week was found in 9 (37.5%), 34-37.weeks 15 patients (62.5%), 48h 6 (25%), 24h 2 (8.3%) and 72h 1 (4.2%). Equal distribution by gender was established among newborns. 6 newborns were healthy and morbidity was present in 18 (75%). Apgar score 0-3 was present in 4 (16.7%) newborns, 4-7 12 (50%), 8-10 (33.3%). Average body mass of newborns was 2368 ± 684.3 gr, body length 48.3± 4.3 cm, head volume 32 ±2.3 cm, respiratory distress syndrome was present in 8 (33.3%), intraventricular hemorrhage in 1 (4.2%), pneumonia 2 (8.3%), moderate asphyxia 12 (50%), severe asphyxia 4 (16.7%). Urinary infection was present in 2 (8.3%), stagnation in growth (IUZR) 1 (4.2%), amelia 1 (4.2%) and pes equinovarus 1(4.2%). There were no deaths.

**CONCLUSIONS**

PPROM has significant influence on the appearance of morbidity among newborns. Mother age, level of education is not significant for appearance of PPROM. Women from cities, smoking during pregnancy were statistically important for appearance of PPROM.
INTRODUCTION

The number of infertile marriages in Russia exceeds 15% [1]. In recent years there has been growth in the number of women with HIV. Studies on the effects of blood-borne infections on the development of endometrial pathology are few. According to the available data, the pregnancy rate after IVF in HIV-positive women is lower than that of seronegative, there is also a higher percentage of pregnancy losses in the early stages [2]. The researchers do not mention any peculiarities in the formation of embryos in the ART programs, as well as in their morphology in women with blood-borne infections [4,5]. The aim of this study was the detection of endometrial pathology in individuals with HIV.

MATERIALS AND METHODS

The study involved 56 women of reproductive age with HIV infection (stages 3 and 4A) and 1 patient with co-infection of HCV and HIV, which was excluded from the further study. Ultrasound investigation of the small pelvic organs, hysteroscopy with biopsy of the mucosa of the uterine cavity, histological examination of the endometrium, determination of HIV RNA in serum and endometrial tissue by PCR method were conducted.

CLINICAL CASES AND SUMMARY RESULTS

Ultrasound and histological studies of the endometrium revealed a high incidence of development of hyperplastic and inflammatory processes of the endometrium in women with HIV (51% and 99%). When molecular biological examination of endometrial tissue of these patients was performed with the use of a set of reagents “AmpliSens HCV/HBV/HIV-FL” produced by Federal Budgetary Institution of Science (FBUN) Central Research Institute of Epidemiology of Rospotrebnadzor of Russia, HIV was detected in 14.3% of cases. In 7% of patients with HIV, pathogens were detected in the endometrium under the non-detectable viral load in the blood plasma. Lower effectiveness of IVF in women with HIV is defined compared to the women without blood-borne infections.

CONCLUSIONS

Patients with HIV require compulsory gynecological examinations including ultrasound examination of the small pelvic organs, and in case of complaints infertility- mandatory hysteroscopy with histological examination of the endometrium. It is necessary to control viral replication in the endometrium. Preconceptional preparation must be accompanied by specific antiviral therapy contributing to improvement of the endometrium quality thereby enhancing the efficiency of the ART programs.
INTRODUCTION

Due to hormonal changes occurring in pregnancy, the capacity and neovascularization of bladder increase, while muscle tone of bladder and urethra decreases. Dilatation is seen in renal calyces and urethra, and some changes are observed in renal functions. An increase may be witnessed in stress urinary incontinence (UI), because uterus puts pressure on bladder, especially in the last trimester, and increased relaxin hormone leads to relaxation in pelvic muscle and connective tissue. The prevalence of UI in pregnancy is nearly at the rate of 40%. In order to decrease such a high rate, it is important that women with pregnancy should be counseled.

MATERIALS AND METHODS

Studies published in CINAHL, PubMed/MEDLINE and Cochrane Library databases were scanned to perform this review. The keywords were chosen from the MeSH list, and the following terms were defined: ‘urinary incontinence’ AND pregnancy AND ‘pelvic floor’ AND exercise. The reference lists from the selected studies were also scanned to identify other studies that could have been ignored. When literature was scanned through the key words, 95 studies in CINAHL, 142 in PubMed/MEDLINE and three in Cochrane Library database were encountered. Of these studies, only randomized controlled experimental studies were included into our review.

CLINICAL CASES AND SUMMARY RESULTS

Pregnancy and delivery influence pelvic floor muscles negatively. To strengthen this muscle cluster, some methods, such as pelvic floor muscle exercises (PFME), strengthening abdominal muscles, biofeedback therapy, vaginal cones, sacral nerve stimulation, posterior tibial nerve stimulation and magnetic therapy. Pelvic floor exercises performed during pregnancy are known to reduce UI during nearly postpartum one year. But it is uncertain whether antenatal PFME in incontinent women decreases incontinence in late pregnancy compared to usual care. In literature it is unclear whether antenatal PFME reduces UI risk late postpartum. The effect of PFME begun after delivery on UI risk is unclear about in the late postpartum period. Those doing regular exercises are known to have stronger pelvic floor muscles, compared with sedentary counterparts. Even so, not doing exercises to strengthen pelvic floor muscles and irregular general exercises are reported to be associated with UI.

CONCLUSIONS

In light of the studies performed so far, the most beneficial approach to be recommended for women with pregnancy is to perform PFMEs and strengthen pelvic floor muscles during pregnancy and postpartum period in order to prevent UI. However, we consider that PFMEs programmed sufficiently may be important for women at the risk of postpartum incontinence to prevent the condition. The effects of PFME may be greater with targeted rather than population-based approaches.
Fetal hypoxia, usually caused by chronic maternal hypoxia on the background of tuberculosis-specific intoxication, combined with growth retardation or fetal distress, is a major risk for perinatal morbidity and mortality. It is important to perform the ultrasound examination to specify the parameters that describe the size of the fetus, the possible variations in the amount of amniotic fluid (polyhydramnios and oligoamnios), the possible deviations in the development of the placenta, some abnormalities of the fetal development and the appreciation of the well-intrauterine state of the fetus by dopplerometry. The aim of the study was to evaluate the results of the ultrasonic examination in the assessment of the fetal and placental status.

MATERIALS AND METHODS

The study included 116 women aged 18 to 41 (mean age 25.94 ± 0.4 years). The general study group was divided into 2 sub-groups: the baseline group (BG) - 58 pregnant women with active tuberculosis of respiratory organs aged 19-41 years (average age 25.48 ± 0.7 years) and the group control (CG) - 58 healthy pregnant women aged 18-35 years (average age 26.4 ± 0.5 years). Conventional USG determined the thickness of the placenta, its degree of maturity, the volume of amniotic fluid, the fetal indicators: BPD, CC, CA and FL. In the Doppler exam of the uterine artery and umbilical artery were evaluated: resistance index, pulse index and systolic-diastolic index.

CLINICAL CASES AND SUMMARY RESULTS

22.3% of cases of pathological fetometry with signs of intrauterine fetal growth retardation were detected in BG, based on the reduction of BPD, CC, CA and FL, compared to only 1.7 ± 1.7% cases in CG (p<0.05). Changes in placenta were presented more in BG (9 - 26.5 ± 5.8%) compared to CG (1 - 1.7 ± 1.7%, p<0.05): premature maturation of placenta - 1 (1.8 ± 1.8%), abnormal placental thickness - 4 (7.0 ± 3.4%), placental thickening - 3 (5.3 ± 2.9%), non-homogeneous placenta with calcinate - 7 (12.3 ± 4.3%). Frequently the pathology of amniotic fluid (oligoamnios and amniotic fluid with floating particles) has appreciated in BG compared to CG (22.8 ± 5.5% and 1.7 ± 1.7%, respectively, p<0.05), the pulsatile index - 0.89 ± 0.02 in BG and 0.88 ± 0.02 in CG (p>0.05) and S/D index - 2.45 ± 0.05 in BG and 2.43 ± 0.04 in CG (p>0.05).

CONCLUSIONS

In patients with active tuberculosis of the respiratory organs, the USG determined the signs of intrauterine fetal growth retardation, pathological changes in the placenta, such as premature maturation of the placenta, abnormal thickness of the placenta with tendency to thicken, placental calcinosis and oligoamnios. These changes are to be interpreted tangentially as signs of chronic placental failure in conditions of chronic hypoxia in patients with active tuberculosis.
TITLE: Midwifery in 21st century Europe; how strong are we as a profession?

INTRODUCTION

While infant and maternal mortality continue to decline, burden of mortality and morbidity in the perinatal period remains a major concern. Optimal maternal and infant health is critical to societal well being. Achieving optimal perinatal health involves a balance between intervening to manage and prevent complications, while minimising interventions that have negative side effects on health and induce anxiety among pregnant women and their families. Unnecessary medical interventions contribute to the costs of providing health care without achieving gains in health. There are many socio-economic factors that contribute to the health of women, newborns and families. Midwives are the key professionals caring for families bridging the public health and clinical aspects in improving outcomes.

MATERIALS AND METHODS

The role of the midwife in fulfilling the challenges in the Europe of today should be fully recognised, their autonomy and their ability to practice independently fulfilling the activities of the midwife as outlined in the EU Directive 2013/55/EU and in accordance with International Confederation of Midwives (ICM) core documents. The education of midwives and continuous professional development are critical factors to achieve this goal. We need to prepare midwives for the challenges of tomorrow. The regulation must be built on education, protected title in national legislation and continuing professional development (CPD). Recent studies on regulation, CPD and education have shown that there are variations in the state of midwifery which need to be addressed (EAHC 2015, WHOEurope 2017).

CLINICAL CASES AND SUMMARY RESULTS

The financial environment across Europe continues to impact on Health Services. In some countries this has provided unexpected opportunities for midwives to re-assess their position or shape a new role within their health services. Sexual and reproductive health services are a real investment in the future, EMA believes there is a need for a paradigm shift in the maternity services in order to develop a sustainable model of care; cost effective and more than hospital based. The inadequate utilization of midwifery personnel, the low level of continuity of midwifery care for women, limited choice for childbearing women and restricted opportunities for midwives to work independently should be addressed. The development of primary care services requires the full utilisation of midwives as the first choice health professional alongside other health care professionals. However this requires strengthening of regulation and education in some countries, enabling midwives to be fit for practice.

CONCLUSIONS

In this presentation, I will report on state of midwifery across Europe, interpreting the data from various surveys and studies, in view of defining midwives’ role that is fit for purpose in 21st century health system. Upscaling education and strengthening self-regulation of the profession to ensure autonomy and ability to deliver person-centred integrated care that impact on achieving the Sustainable Development Goals (SDGs) in the future as well as the needs of women and their families.
INTRODUCTION

The risk of perineal injury during delivery affects most women. The morbidity associated with perineal injury, specifically OASIS and repair is a major health problem for women. Therefore, it is of vital importance that midwives are educated and trained to recognize risk factors and the extent of perineal injury.

Two alternatives have been proposed, the active position versus the expectant position. While in the active position, the health professional holds the face and puts pressure on the baby's head with the belief that the flexion can be lifted, in the expectant position he keeps his hand to press lightly on the baby's head of fast expulsion. This review of the literature aims to describe the modified Viennese technique for the prevention of OASIS.

MATERIALS AND METHODS

We searched MEDLINE, EMBASE, CINAHL and the Cochrane Library until April 2018.

CLINICAL CASES AND SUMMARY RESULTS

A total of 401 articles are obtained, from which, applying the selection criteria, we analyse 21.

CONCLUSIONS

Perineal injury affects most women and it is clear from the literature that there is limited evidence available on how to reduce the risk of perineal trauma. Among some of the techniques we can find to reduce perineal tension, and thus prevent perineal injuries, are the application of the fingers on the perineal surface along with the contraction of the palmar muscles.
INTRODUCTION

There is an increase account of surgical deliveries, which causes an increase number of reproductive age women with the failure of the scar on uterus after surgery. With the increase of surgical interventions on the uterus, to avoid complications associated with the scar defect we have to diagnose scar defect precisely and prevent the further obstetric and gynecological complications. Because of the steady increase in the operatively resolved births, the probability of scar failure on the uterus after the operation is also increased, which causes the development of reliable criteria for assessing the defect of the scar on the uterus by ultrasound.

MATERIALS AND METHODS

On the base of St. Petersburg State Pediatric Medical University in the perinatal center in the gynecological department from January 2016 to December 2017, 15 patients of reproductive age who underwent at least one cesarean section were examined. The diagnosis was confirmed by anamnesis of the disease, clinical manifestations, ultrasound examination, magnetic resonance imaging and hysteroscopy. The signs of scar defect on the uterus were found: the thickness of the myometrium in the scar area is 3 mm or less, the presence of the symptom of the "niche" and the clinical manifestations of the scar defect.

CLINICAL CASES AND SUMMARY RESULTS

After the operative treatment, the most of the patients had no symptoms of scar incompetence on the uterus according to ultrasound and MRI. In 14 out of 15 (93%) of the examined patients, the "niche" was not detected. In 1 (7%) of the cases there were signs of insolvency in control ultrasound. The thickness of the myometrium in the scar area after cesarean section is more than 5 mm (93%). In 4 out of 4 (100%) patients abnormal uterine bleeding ceased; in 6 out of 7 (85%) the pains in the abdomen stopped. Six patients from the sample had a pregnancy that occurred naturally and proceeded without pathology. In this case, all 6 patients before the operation were diagnosed with secondary infertility.

CONCLUSIONS

The use of an ultrasonic method for diagnosing scar defect on the uterus after an operation by caesarean section showed high sensitivity and specificity, which makes it possible to apply this technique in practice with preconceptional preparation. All 15 (100%) patients had signs of scar defect on the uterus, which was further confirmed by MRI and hysteroscopy.
Urinary incontinence in Turkish women: A qualitative study on daily life and sexual health

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INTRODUCTION

Urinary incontinence (UI) is one of the diseases related to age level and commonly seen in industrialized countries. UI risk advances with age in both genders, but its prevalence is higher among women. UI affects individuals medically and economically, and also leads to psychosocial problems. However, only a small part of the individuals with UI call for professional assistance due to embarrassment and fear of intervention, and believing that UI is the natural occurrence of advanced age and an untreatable disease. Designed qualitatively, the study was performed to determine how UI affects Turkish women’s daily lives and sexual health, and how they perceive the condition.

MATERIALS AND METHODS

One hundred and one women with UI were included into the study. Twelve women were excluded from the study due to not wishing to respond the questions, and so a total of 89 women were included into the study. The data were compiled via the depth-interview method using a semi-structured questionnaire, and also recorded by a researcher. An approval was previously obtained from the local ethical board, and the study was performed in vocational course centers in the province of Konya after completing official procedure. Interviews were carried out in an appropriate room in the center between 45-60 minutes. To detect the main themes of findings, the content analysis method was used. Document portraits and code map of the data were created using the qualitative data analysis program MAXQDA 11.

CLINICAL CASES AND SUMMARY RESULTS

Mean age rate of the participants was determined as 46.25±11.68. As to educational status, 57.3% of the subjects were literate or graduated from primary schools. In terms of economic conditions, 79.8% were from middle-class families (balanced income and expenditures). A total of 34 codes were performed to detect the effects of UI on women’s daily lives. The influences of UI on the daily lives of women was determined by the five main themes as “religious issues, sexual problems, feeling of restriction, psychological exposure, naturalization” in the study. The “concealing”, a sub-theme of the main theme “psychological exposure” obtained as a result of the content analysis, was the most emphasized theme with a total of 111 coding numbers. In addition, “reducing fluid consumption” as the sub-theme of the same main theme showed that UI has influences on the daily lives of women with a total of 50 coding numbers.

CONCLUSIONS

The complaint of UI causes women to experience enviromental, psychological and religious challenges in daily lives. In general, women do not ask for professional assistance while coping with the condition because of concealing these problems. Therefore, healthcare professionals should counsel and give assistance for the women with UI to determine the issues and cope with such problems, and refer to to the secondary/tertiary health centers if necessary.
INTRODUCTION

The role of Th1/Th2 lymphocytes shift in pathogenesis of early miscarriages is well-described, while the data about Treg/Th17 lymphocytes shift remain contradictory. Regulatory T-lymphocytes (Treg, Th3) maintain tolerance to self-antigens and suppress excessive inflammatory response. Th17 lymphocytes (Th17) play an important role in maintaining mucosal barriers and contributing to pathogen clearance at mucosal surfaces, but also can participate in autoimmune reactions.

The aim of the research was to study mRNA expression of IL-2, IL-10, IL-12 and IL-23, participating in differentiation of Th1, Treg and Th17, in decidua of patients with sporadic missed and spontaneous abortions in 6-10 weeks of gestation.

MATERIALS AND METHODS

34 patients with sporadic missed abortions, 34 patients with sporadic spontaneous abortions and 57 patients with progressive pregnancy, admitted for medical abortion (as control group) were examined at 6-10 weeks of gestation. Patients with severe extragenital diseases, antiphospholipid syndrome and endocrine disorders were excluded from the research. Samples of decidual tissue were obtained by uterine abrasion. mRNA expression of IL-2, IL-10, IL-12 and IL-23 was detected by reverse-transcription qPCR. Peptidylprolyl isomerase A (PPIA) and beta-actin were used as housekeeping genes. Expression of mRNA was counted in relative units as delta-delta cq. Statistical analysis was performed by Mann-Whitney test using Statistica 13.2 (Statsoft, USA).

CLINICAL CASES AND SUMMARY RESULTS

mRNA expression of IL-12 was significantly higher in decidua of patients with spontaneous abortions compared with the control group (Table). Expression of IL-12 in patients with missed abortions didn't have significant changes. IL-12 provides differentiation of Th1-lymphocytes and stimulates NK-cells.

mRNA expression of IL-2, IL-10 and IL-23 had no significant differences in decidua of patients with missed and spontaneous abortions compared with the control group. IL-2 provides differentiation of Treg. IL-10 is antiinflammatory cytokine, secreted predominantly by Th2 and Treg, and inhibiting Th17 differentiation. IL-23 provides differentiation of Th17.

CONCLUSIONS

Thus, Th1 shift contributes in pathogenesis of spontaneous abortion. Further investigations should be done to define, whether Treg/Th17 imbalance is involved in pathogenesis of missed and spontaneous abortions.

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INTRODUCTION

Asthma is a common chronic respiratory disease that adversely affects the course of pregnancy and fetal development. Being an allergic disease, asthma is associated with the activation of the immune system, thus involvement of the placenta as the main immunocompetent organ in pregnancy, is of great scientific interest. Immunohistochemical features of the placenta of women with asthma are not studied enough. Role and expression of melatonin receptor 1B in the placenta of patients with asthma have not been adequately studied.

MATERIALS AND METHODS

The study involved 134 pregnant women: 60 patients with asthma without pre-eclampsia (the 1st group), 59 women with asthma and mild or moderate pre-eclampsia (the 2nd group). In the 1st and the 2nd group we distinguished the severity of asthma: mild intermittent (12 and 16 women, respectively), mild persistent (17 and 20 women) and moderate and severe asthma (31 and 23 women). Control group of 15 patients with physiological pregnancy and delivery without any pulmonary and allergic diseases, gestational hypertension and/or preeclampsia. We performed immunohistochemical study of placental samples for the expression of melatonin receptor 1B (RC-M-1B) on cryostat sections using primary rabbit polyclonal antibody to RC-M-1B, biotinilated anti-mouse immunoglobulin as secondary antibodies.

CLINICAL CASES AND SUMMARY RESULTS

In the placenta of women with asthma there was significantly higher expression of RC-M-1B in comparison with the control. Thus, in the 1st group we observed that intensity of expression of RC-M-1B positively correlated with the severity of asthma (area of expression - r=0.34, p<0.05, optical density - r=0.25, p<0.05) and was the highest in cases with moderate and severe asthma than in mild intermittent or mild persistent asthma. In the 2nd group we found that the severity of asthma inversely correlated with the area of expression (r=-0.42, p<0.05) and positively correlated with the optical density (N/S). In cases of moderate and severe asthma and preeclampsia area of expression of RC-M-1B was lower than in mild intermittent (p=0.006) and mild persistent asthma (p=0.08). Interestingly, the optical density values were significantly higher in placenta of women with uncontrolled asthma shortly before labor in comparison with women with controlled asthma (p=0.04).

CONCLUSIONS

Melatonin is known as a hormone, which has a powerful antioxidant, angioprotective effects. The increased synthesis of melatonin receptors (RC-M-1B) in the placenta of women with asthma is due, apparently, to the compensatory response to vasoconstriction and oxidative stress associated with the presence of chronic allergic maternal asthma and/or lack of asthma control during pregnancy before delivery.
Pelvic organ prolapse (POP), urinary incontinence (UI), fecal incontinence and sexual dysfunction are united by the common notion "Pelvic floor dysfunction" (PFD) [1]. The main causes of PFD are pregnancy and childbirth, PFD symptoms are already noted in this period and in most cases persist in the postpartum period and progress with time. To estimate the rate and the severity of pelvic floor dysfunction symptoms in pregnant women in the third trimester.

MATERIALS AND METHODS

395 pregnant women at the gestation period of 28-38 weeks were included in the study. They independently filled the questionnaire PFDI-20 (Pelvic Floor Distress Inventory Questionnaire).

CLINICAL CASES AND SUMMARY RESULTS

61.7% (280/395) of pregnant women listed 2 or more symptoms of prolapse, 77% (304/395) of those surveyed indicated colorectal symptoms and 73.9% (292/395) indicated urinary symptoms. Although the symptoms of prolapse were statistically less common than the colorectal and urinary, but they were more expressive. A quarter of the women experienced mild or severe prolapse symptoms and indicated the need to adjust the protrusion for emptying the intestine and bladder, indicating a possible prolapse above grade I. Every fourth woman, among those experiencing a colorectal symptom, noted that they were of medium or severe severity. Every sixth of those who indicated the presence of urinary symptoms also indicated their severity, every one of three complained frequent or very frequent loss of urine associated with coughing, sneezing, or laughing, indicating the greatest significance of this symptom.

CONCLUSIONS

The high incidence of PFD symptoms in women during gestation, indicates the need to actively identify these women through screening and providing them with timely medical care.
INTRODUCTION

Aim: The study has been conducted in order to determine the changes of the traditional practices over time that the mothers in Karaman apply to their newborn babies. Method: Designed as the cross-sectional and descriptive, this study has been carried out with a total of 328 mothers. The data in the study have been collected from two different groups in two different time periods at the same hospital. 443 mothers in total have been interviewed for an initial evaluation.

MATERIALS AND METHODS

Designed as the cross-sectional and descriptive, this study has been carried out with a total of 328 mothers. The data in the study have been collected from two different groups in two different time periods at the same hospital. 443 mothers in total have been interviewed for an initial evaluation.

CLINICAL CASES AND SUMMARY RESULTS

The following traditional practices used in infant care have been determined: salting (first 25.7% - second 35.4%), using powder to protect from nappy rashes (first 40.3% - second 12.2%), swaddling (20.1%), using fever reducers (antifebrile) to reduce the baby's fever (first 17.8% - second 32%), putting kohl on baby's eyes and eyebrows (first 10.9% - second 15.9%), rocking baby to sleep while mothers stand (first 33.6% - second 46%).

CONCLUSIONS

Although the traditional practices of the women participating in the research about infant care in their postnatal period indicate different changes over time, it has been observed that mothers continue to use them and a certain increase in a number of practices has been seen.
INTRODUCTION

Currently, there is a large-scale implementation of electronic health records that create the opportunity to identify patients with high risk of hospital readmission and apply effective interventions to reduce that risk. Significantly improved artificial intelligence technologies allow accurately diagnose and predict the course of various diseases and create the optimal treatment regimens. Artificial intelligence approach includes methods for machine learning and neural networks. The aim of the present study is the systematic review of the available scientific literature concerning studies focused on implementation of artificial intelligence in perinatal medicine.

MATERIALS AND METHODS

The database of the National Medical Library of the United States (Medline) was used until June, 2018. Sampling was conducted using the following keywords: perinatal medicine, neonatal, artificial intelligence, machine learning, artificial neural network.

CLINICAL CASES AND SUMMARY RESULTS

We analysed different sources of scientific and medical literature on the subject of artificial intelligence and perinatal medicine, machine learning and perinatal medicine as well as artificial neural network and perinatal medicine (451, 582 and 1053, respectively). The main body of work was devoted to the diagnosis and prediction of diseases of newborns. In number of scientific publications artificial intelligence methods to assess the risk of serious neonatal morbidity in preterm labour are described. Computer machine learning techniques are frequently used in predicting of extubation readiness in extremely premature infants by automated analysis of cardiorespiratory behaviour, prediction of congenital heart defects and neonatal sepsis. Interesting are works based on digital image analysis of newborn obtained by smartphone apps for assessing neonatal jaundice. Artificial intelligence methods are often used in the analysis of the different states of the neonatal encephalopathy.

CONCLUSIONS

The analysis of scientific articles on this topic shows that there is a significant increase in number of publications concerning use of artificial intelligence technologies in perinatal medicine during the last 5 years. The implementation of modern methods of artificial intelligence releases medical staff from routine work and needed to assist doctors in making decisions for the diagnosis, prognosis and treatment of complex pathological conditions.
INTRODUCTION

Sudden neonatal death occurs in a high proportion of newborns with a history of maternal substance abuse. Almost every pregnant woman with a history of opioid use has a background of additional risk factors for adverse pregnancy outcome, which may include smoking, chronic viral infection, psychiatric disorder, low socioeconomic status and inadequate prenatal care. Although substance abstinence throughout pregnancy is undoubtedly preferable, acute withdrawal is not recommended for opioid-dependent pregnant women. Substitution treatment with buprenorphine along with comprehensive prenatal care has been shown to improve neonatal outcome compared to opioid users or withdrawal, yet a high rate of neonatal abstinence syndrome (NAS) and sudden infant death syndrome (SIDS) have been reported.

CLINICAL CASES AND SUMMARY RESULTS

A 28 years old primipara with a history of heroin abuse, attended our clinic’s high risk pregnancy protocol from first visit at 8 weeks of gestation until term. She was a smoker (15 cigarettes/day) and HCV-positive with a high viral load. She was under opioid agonist medication-assisted treatment (OMAT) with 18mg buprenorphine daily. Her husband was a former addict, but her behaviors and overall socioeconomic status including financial and psychological support from her family, were assessed by hospital’s social service and found to be suitable for a successful maternity. She presented with ruptured membranes at 37 weeks of gestation and had a cesarean delivery due to arrest of fetal descent, otherwise uncomplicated. The neonate, a male 2780gr was admitted to the NICU as it presented NAS. 7 days later it was discharged and given to the mother. After 28 days, a sudden unexpected neonatal death occurred during night sleep. Cause of death remained unexplained after postmortem examination.

CONCLUSIONS

In most cases of sudden unexpected neonatal death, the cause cannot be identified. There is evidence that buprenorphine substitution treatment for opioid-dependent pregnant women improves pregnancy outcome, compared with untreated women, but these babies are still at greater risk than the infants of non-users, and NAS is a frequent complication. Nonetheless, it is not clear if buprenorphine per se increases the risk for sudden neonatal death, as these women usually have multiple risk factors.
Acute kidney injury (AKI) in newborns is rare as an isolated pathology, and in most cases develops after birth asphyxia or accompanies the development of septic complication. One of the problems is the lack of common criteria for diagnosis and treatment, which leads to the lack of caution of neonatologists, and as a consequence to the late detection and inadequate therapy in the early stages of treatment. From the methods of renal replacement therapy (RRT) in newborns, peritoneal dialysis is used in various modifications depending on the duration of gestation and prolonged venous hemodialysis and hemofiltration.

According to the data of modern authors, the incidence of AKI is 27% and significantly varies depending on the group of patients and the method of determining AKI. Given the lack of similar data for our country, at present, the center conducts a prospective study "Determination of the frequency of occurrence of acute kidney injury in newborns in the intensive care departments of different levels." Currently, data on more than 650 newborns, neonatal resuscitation patients in 15 cities of Russia are collected. Another study was conducted in 2017 and included a survey of 70 neonatologists in neonatal intensive care unit in Moscow.

The frequency of AKI according to our study is 21.6% of the total number of patients in neonatal intensive care unit. According to our center, 18.1% of newborns who come to the center for treatment for RRT from maternity hospitals or neonatal resuscitation come on 3 days from the beginning of anuria, 42.4% at a later date. According to another study, the tactics of neonatologists at the earlier stages of AKI in most cases is reduced to limiting protein load (63%), the appointment of furosemide (44.9%) and correction of electrolyte disorders (82.6%). The mortality rate among such patients worldwide remains high and ranges from 25 to 74 %, depending on the group of patients under study, in our center at present -59.5%.

In conclusion, that it is necessary to inform neonatologists about the problem of AKI, the development of algorithms for the diagnosis and treatment of AKI in newborns and therapeutic management of patients on dialysis.
**INTRODUCTION**

Gestational diabetes mellitus (GDM) is a heterogeneous group of disorders that is defined as carbohydrate intolerance with onset or first recognition during pregnancy. GDM may present as overt diabetes and misdiagnosed as type 1. On other hand, a significant proportion of GDM cases are associated with monogenic forms of DM. We evaluated frequency of monogenic diabetes among the patients with overt-GDM. The aim of our study was to define molecular basis of overt-GDM using a targeted NGS.

**MATERIALS AND METHODS**

54 pregnant women who met the IADPSG criteria of overt diabetes in pregnancy were studied according to the following inclusion criteria: fasting venous plasma glucose greater than 7.0 mmol/l, spontaneous >11.1 mmol/l or glycosylated hemoglobin (HbA1c) >6.5 % before 20 weeks of gestation. All study participants had negative antibody status (GADA, IAA, ICA, IA2). 'Diabetes panel' genes were sequenced using a custom Ion Ampliseq gene panel and PGM semiconductor sequencer (Ion Torrent). Bioinformatic analysis was carried out using Torrent Suite 4.2.1 and ANNOVAR software packages. Assessment of the pathogenicity of sequence variants was performed according to ACMG guidelines. This study was supported by the Grant 16-15-10408 of the Russian Science Foundation.

**CLINICAL CASES AND SUMMARY RESULTS**

In 53.7% of patients (29/54) were identified 29 different sequence variants (all heterozygous) that were classified as pathogenic, likely pathogenic or variants of unknown significance. The mean age of the subjects was 31.0 [27.0;35.0] years, mean BMI was 22.7 [20.1;26.6] kg/m2. The median gestational age at the diagnosis of diabetes in their current pregnancy was 13.0 [5.5;18.5] weeks. A family history of diabetes was positive in 51.8% (28/54) subjects. The majority of variants were detected in GCK gene (37%; 20/54), including missense mutations (n=18), deletions with frameshifts (n=1) and splicing mutations (n=1). Missense variants were also detected in HNF4A (n=2), HNF1A (n=1), HNF1B (n=1), NEUROD1 (n=1), KLF11 (n=1), WFS1 (n=2) and PTF1A (n=1) genes.

**CONCLUSIONS**

The results demonstrate high frequency of mutations in patients with overt-GDM. This study suggests that frequency of monogenic variants of diabetes in the Russian population might be underestimated, especially in women with overt diabetes in pregnancy.
INTRODUCTION

Fibreoptic Phototherapy (FPT) allows to lower total serum bilirubin (TSB) levels in healthy neonates maintained in rooming-in with their mothers. Light is delivered through a pad placed directly in contact with the infant skin. The 2004 Cochrane review showed that, differently from preterm neonates, FTP was not as effective as traditional phototherapy in term neonates (TN), unless two FTP devices were used simultaneously. Our previous study proved that new high intensity blue light devices, wrapped around the infant body, are able to lower TSB in TN as well as in late preterm neonates (LPN). We tested the hypothesis that a new FPT device (BiliCocoon, CremascolieIris), equipped with a double pad, might be more effective than the previous device with the pad wrapped around the infant body.

MATERIALS AND METHODS

We studied 52 healthy neonates (43 TN and 9 LPN), born between June and September 2017, that were submitted to FPT for non-hemolytic hyperbilirubinaemia during their hospital stay in rooming-in unit with their mothers. All newborns were treated with a new model of neonatal phototherapy lamp (BiliCocoon, CremascolieIris).

We compared the results with those of our previous study on a group of 57 LPN and 57 TN treated with Bilisoft LED Phototherapy System (GE Health Care).

FPT effectiveness was evaluated as follows: TSB hourly variation during FPT, treatment duration, percentage of TSB reduction after FPT, TSB maximum rebound, percentage of TSB increase after FPT discontinuation and number of after-discharge checks.

Body temperature was strictly controlled during treatment.

CLINICAL CASES AND SUMMARY RESULTS

Duration of FTP was 42.67 ± 16.77 hours in NT and 50.89 ± 23.22 in LPN, in comparison with 47.58 ± 18.82 (p=0.18) and 50.49 ± 18.37 (p=0.95) in NT and LTN treated with Bilisoft, GE Health Care. TSB hourly reduction was 0.14 ± 0.15 in NT and 0.07 ± 0.07 in LPN vs 0.11 ± 0.06 (p=0.17) and 0.08 ± 0.06 (p=0.65). With the new system we reached a 29 ± 10 % TSB reduction after treatment in NT and 20 ± 16 in LPN, while it was of 27.64 ± 10.39 in TN (p=0.51) and 28.86 ± 14.51 in LPN (p= 0.10) with the previous one. After stopping FPT, our TN showed 13 ± 19% rebound vs 11.09 ± 26.65 % (p= 0.69), in LPN this percentage was 28 ± 15% vs 24.4 ± 20.2 (p=0.61) recorded previously. Finally, TN needed 1.56 ± 1.22 and LPN 2.22 ± 1.64 check numbers after discharge, not differently from 1.88 ± 1.43 (TN, p=0.24) and 1.91 ± 1.24 (LPN, p= 0.51) of the previous study. Seven babies in the group treated with BiliCocoon experienced hyperpyrexia. The problem was solved displacing arms outside the pad.

CONCLUSIONS

The new model of neonatal phototherapy lamp (BiliCocoon, CremascolieIris) with its double pad has an equal effectiveness in TN as well as in LPN, in comparison with the single pad wrapped around the infant body, thus acting as a double one. FPT was easily managed in the rooming-in unit without significant interference in breastfeeding. The evidence of hyperpyrexia in some of our infants during treatment with BiliCocoon, enhances the importance of a strict temperature control during FTP.
INTRODUCTION

Modern lifestyle and socioeconomic situation in Western society has led to an increasing trend of mid-life pregnancies. The average age of giving birth has increased over time, while there is an increasing incidence of pregnancies over the age of 40. The following study analysis aimed to establish the correlation between advanced maternal age, risk factors associated with it, and potential obstetrical complications in pregnancy.

MATERIALS AND METHODS

Data for all elderly gravidae aged between 40 and 47 years was collected from the archives of the Department of Obstetrics and Gynecology of University Hospital Centre Sestre milosrdnice in 2017. Given data was compared with the control group of gravidae aged between 20 and 24 years. Categorical data is displayed in absolute and relative frequencies. Statistical analysis has been performed using the Statistical Package for Social Sciences (SPSS V19).

CLINICAL CASES AND SUMMARY RESULTS

The survey has been carried out on a total of 356 gravidae, 32.9% of which gravidae were aged between 40 and 47 years old, while 67.1% of the gravidae were aged between 20 and 24 years. Subjects of comparison included: incidence of chronic and gestational diseases, onset of labor and characteristics of each labor stage, as well as the mode of delivery and neonatal outcome. The incidence of gestational diabetes was higher in the group of gravidae aged between 40 and 47 years; 37.6% compared with 25.5% incidence in the control group. The frequency of chronic illnesses, such as hypertension, did not differ significantly between two age groups, accounting for 5.9% in group of younger gravidae compared to 4.3% in the group of older gravidae.

CONCLUSIONS

Management of pregnancies in advanced maternal age requires knowledge of all risk factors and potential complications that can pose a risk to a successful maternal and neonatal outcome.
INTRODUCTION

In order to achieve the most optimal perinatal outcome modern obstetrics often induce labour for medical indications. Sometimes induced labour is method of programmed delivery. Based on physical findings in cervix and foetal head engagement clinician chooses a method of induced labour. Cervical length ultrasound measurement never became routine in clinical practice. New ultrasound non-invasive method, elastography, for determination of the hardness of tissue, could objectify cervical finding and facilitate the decision on labour induction and method selection for labour induction.

MATERIALS AND METHODS

A study of 20 healthy primiparas in University Hospital Center Sestre milosrdnice is performed. The data will be statistically analysed by SPSS 15.0 for Windows.

CLINICAL CASES AND SUMMARY RESULTS

Data include cervical elastography, age, height and weight, body mass index, mode of delivery (vaginal, vacuum extraction, Caesarean section), oxytocin use and epidural analgesia. Perinatal outcome will be measured by birthweight, Apgar score and intensive care unit days. Elastography was performed in three intervals. First one in weeks 36-37, second one in weeks 38-39 and last one in weeks 40-41.

CONCLUSIONS

This study should give new understanding of elasticity features of the cervix in healthy women in term pregnancies.
INTRODUCTION

Uterine fibroid (UF) triggers many problems during pregnancy. This research was conducted to not only improve our understanding of how UF affects the HRQoL of pregnant women, but also to highlight the effects of other independent factors.

MATERIALS AND METHODS

As a cross-sectional study, this work was based on questionnaires administered to sequential outpatients and inpatients at a single clinic in Guangzhou, China. Patients answered the EuroQoL Five Dimensions Five Levels questionnaire as well as another questionnaire used to gather basic information. Clinical outcomes for pregnant women with UF were also collected. Associations between UF and HRQoL were evaluated using regression models, and other independent risk factors were included.

CLINICAL CASES AND SUMMARY RESULTS

Among the 767 pregnant women completing 1043 questionnaires, mean (SD) age was 32.7 (4.8) years. Between the UF and non-UF groups, statistical differences were found in age, BMI, gravidity times, abortion times, partner smoking, partner alcoholism, advanced maternal age, and uterine scars (P < 0.05). After adjusting for age and BMI, pregnant women with UF scored significantly lower than those without (0.80 vs 0.83, P < 0.05). Furthermore, pregnant women with UF suffered more health-related problems, particularly in self care (OR = 2.09, P < 0.01) and usual activity (OR = 1.70, P = 0.01).

CONCLUSIONS

Having evaluated the influence of UF on the HRQoL in a population of pregnant women, we found that UF could change their HRQoL in self care and normal daily activities.
INTRODUCTION

It is widely known and well documented that, amongst other things, a significant consequence of the recent financial crisis is the decline in the birth rate (of mostly children of Greek nationality), as well as the increase of infectious and other type of diseases diagnosed in pregnant women. This fact has multiple and complex socio-economic and cultural consequences in the near and distant future. The purpose was to study and document the longitudinal decline in the birth rate and at the same time to evaluate the factors that affect the percentage of referrals of infants to the Neonatal Intensive Care Unit, by investigating the archives of the last five years, while focusing our analysis on the data collected for the year 2014.

MATERIALS AND METHODS

Using the Maternity & Gynecology Department’s and the Neonatal Intensive Care Unit’s hospital records, we have recorded all the births that took place within the year 2014, separating them in different categories, depending on the month, the type of delivery, the mothers’ nationality (Greek or foreign), as well as their maternity health history, focusing especially in the possible existence of any type of infectious diseases. We compared the birth records and the hospital records of referrals of infants in the Neonatal Intensive Care Unit from the year 2014 to those of the previous four years.

CLINICAL CASES AND SUMMARY RESULTS

Between 2010–2014 were recorded 4147 childbirths, of which 1049, 994, 745, 683, 676 were recorded in the year 2010, 2011, 2012, 2013, 2014 respectively. Within these years a gradual inversely proportional increase between the cesarean (CC) and the natural childbirths (NC) is noted [2010: 628 NC (59.87%) / 421 CC (40.13%), 2011: 591 NC (59.46%) / 403 CC (40.54%), 2012: 442 NC (59.33%) / 303 CC (40.67%), 2013: 393 NC (57.54%) / 290 CC (42.46%), 2014: 365 NC (54%), 311 CC (46%) ]. During the summertime, an increase in deliveries is noted and also a gradual decline in twin pregnancies, which longitudinally were: 2010: 17, 2011: 11, 2012: 10, 2013: 10, 2014: 9. In 676 childbirths overall, 685 infants were born (349 girls, 336 boys) and 144 of them were referred to the NICU (2.02%) compared to 162 in 2013 (23.38%), 218 in 2012 (28.87%), 238 in 2011 (23.68%) and 278 in 2010 (26.07%). The main reasons behind these referrals were: perinatal stress, perinatal infection, prematurity-IUGR-low weight, etc.

CONCLUSIONS

The percentage of childbirths in Greece is declining up until the year 2013, while in 2014 appears to be stable (an increase of mothers of Greek nationality, compared to foreign mothers), mainly due, primarily, to the financial crisis and secondly, to the efforts made for improving the overall management of the problems arising from this crisis. The most significant finding is that the percentage of referrals to the NICU is declining gradually, (26.10% in 2010 decreased to 21% in 2014).
INTRODUCTION

The Premature Department (PD) of our hospital, accepts newborns requiring hospitalization, but a percentage of admitted newborns cannot be tackled due to the lack of technical infrastructure or specialized expertise. So after their stabilization, they are transferred mainly to the nearest tertiary hospital, University of Thessaly for further examination and treatment. The purpose of this retrospective study was the registration and comparison of the newborns were admitted to the PD, of a general Hospital and descriptive mapping of their transfers to the care neonatal intensive care units and their health problems that accompany them, during the years 2010-2014.

MATERIALS AND METHODS

Information about newborns were taken from the admission books and history cards, that are kept in the PD files of our hospital and about the delivery, the perinatal history of newborns, and their mothers’ health history, from the Maternity unit.

CLINICAL CASES AND SUMMARY RESULTS

Among a total of 278 admissions in PD, during 2010, there were 39 (14.02%) transfers. Uninsured was the 23.07% and the transfer took place during the first 24 hours for the 69.23% of them. Among a total of 264 admissions, during 2011, there were 32 (12.12%) transfers (28.12% was transferred cannulated mainly during the first 24 hours). Among a total of 253 admissions, during 2012, there were 40 (15.81%) transfers. Uninsured was the 17.5% and destitute the 2.5%. The first 24 hours 67.5% transfers happened and the second 24 hours 22.5%. Among a total of 206 admissions, during 2013, there were 40 (19.41%) transfers. Uninsured was the 10% and 5% destitute. Among a total of 162 admissions, during 2014, 36 (22.22%) there were transfers. Main admission reasons for the newborns were transferred: prematurity, respiratory problems, perinatal stress, infections, spasms/seizures etc.

CONCLUSIONS

The admissions during the last 5 years have been gradually reduced (low birthrate and stricter transfer criteria), while the number of transfers is about the same, especially boys. The reasons of transfers were prematurity, respiratory distress and other respiratory problems, neonatal infections, perinatal stress, surgery problems, etc. The contribution of the PD is great due to the existing and cooperation among health professionals for newborns who need more specialized treatment and support.
INTRODUCTION

Gentamicin can pass through the placenta. This antibiotic also enters breast milk, but its absorption in the intestine is insignificant, so that it could be only found in half of the infants’ blood. In the present study, it is attempted to experimentally evaluate the toxic effect of gentamicin on the kidneys of newborn mice in breastfeeding.

MATERIALS AND METHODS

In this study was performed on 20 female Bulb/C pregnant mice weighing 30 to 35 grams. The female pregnant mice were randomly divided to two groups of 10. The lactating mothers were intraperitoneally injected with gentamicin at 200 mg/kg every other day sequentially, and the normal group were injected with normal saline at the same volume. Blood samples were collected from the heart of the newborns for the evaluation of renal function. The samples were passing Paraffin blocks and were staining with hematoxylin and Eosin. The data were expressed as Mean±SE and T-test was used.

CLINICAL CASES AND SUMMARY RESULTS

In the observations of kidney tissues of the newborns treated with gentamicin, there were several tissue injuries in comparison with the normal group such as Lytic necrosis with picnotic nucleus occurred in the epithelium cells of kidney tubules. Moreover, in some epithelium cells of tubules, degeneration changes of the kind of hydropic and cytoplasmic vacuolation were observed.

CONCLUSIONS

In the current study, although gentamicin had no significant effect on anomalies in newborns. However, it indicated that the intervention breastfeeding could have pathological effects and consequently, cause changes in the function factors of the kidneys of newborns.
**TOPIC:** Perinatal Nutrition

**ABSTRACT ID:** 133

**TITLE:** FOLIC ACID INTAKE BY PREGNANT WOMEN FROM NIŠ, SERBIA

**AUTHORS:** M. Nikolić 1,2, O. Stojanova 3, M. Cvetković 1, K. Nikolić 1

**AFFILIATIONS:** 1 Faculty of Medicine, University of Niš, Serbia, 2 Institute for public Health, Niš, Serbia, 3 Institute for Occupational Safety and Health, Niš, Serbia;

**INTRODUCTION**

Folic acid intake is recommended for pregnant women because it significantly reduces the risk of neural tube defects (NTD) in the fetus. It is important to estimate folate intake and knowledge in women of child-bearing age, in relation to risk of congenital anomalies. The aim of this paper was to estimate folate intake acid among pregnant women in Niš, Serbia in relation to risk of neural tube defects.

**MATERIALS AND METHODS**

The research was conducted in 2014 and 2016 and included seventy five pregnant women randomly sampled among primary care patients (26.52±4.37 years) who lived in the area of Niš city, Serbia. Using an interviewer-administered survey, we examined women for folate knowledge and the relation of folate knowledge to intake. Contribution of folate from food, and supplements was assessed by validated the 24-hour recall diet questionnaire. The average daily intake of folic acid from the surveys was calculated by using the food composition tables. The statistical analysis of the results of this research was carried out by the methods of descriptive and analytical statistics by using Excel 7.0 in Windows 2007 environment.

**CLINICAL CASES AND SUMMARY RESULTS**

In our pilot study, a high percentage of pregnant women (94.67%) in the observed sample did not meet the guidelines for the daily intake of folic acid which also brought about an insufficient intake of other nutrients that are essential for pregnancy. Only 14.6% of investigated women took folic acid in the form of supplements and most of them started supplementation after pregnancy recognition, which is too late to reduce the risk of NTD.

**CONCLUSIONS**

There is an imperative need to strategically and generally inform the female population on the importance of the folic acid intake as well as the consequences that can appear due to insufficient intake. The fortifying foods with folic acid could reduce the inadequacy of folate intake in the diet, but also alternative strategies, such as promoting folic acid fortification efforts, and providing access to practical information, are necessary.
INTRODUCTION

Introduction. Human milk provides a large complex of macronutrients, enzymes, vitamins, immunoglobulins, macrofages, antiinfectious agents, probiotics of which some have strong antioxidant proprieties to insure the defense against several oxidative stress in infancy. As breastfeeding is not always possible due to various conditions, pumped mothers milk is provided in many cases. Different methods of storage may affect the total antioxidant status (TAS) of human milk. Objective: to evaluate the effect of refrigeration or freezing on TAS of fresh human milk from term or preterm delivering mothers.

MATERIALS AND METHODS

Two groups of pumped human milk samples of colostrum (day 3), transitional milk (7 days) and mature milk (30 days) were compared after refrigerating (+4 Celsius degrees) or freezing (-20 Celsius degrees) for various duration. Group 1 included 60 cases of lactating mothers who delivered prematurely and group 2 included 30 cases who delivered at term. Total antioxidant status was determined using the ABTS® technique with Randox® reagents.

Results. The mean values of TAS in fresh milk increased from day 3 - 1.39 mmol/L (95%CI 1.28–1.51) in term vs. 1.27 mmol/L (95%CI 1.2–1.33) in preterm human milk, to day 30 - 2.55 mmol/L (95%CI 1.86–3.23) in term vs. 1.95 mmol/L (95%CI 1.73–2.18) in preterm. In each phase of lactation refrigeration generated a slight decrease in TAS. Compared with refrigeration for 3 days, one week frozen samples have significantly lower TAS. When frozen for 3 months mature human milk loses more than 50% of antioxidant capacity (mean 0.8 mmol/L). TAS was influenced by mother’s age and parity as mothers > 25 years had a significantly higher TAS than those < 25 years (β = 0.517, p = 0.013, OR = 2.3) and multipara higher than primipara (β = -0.226, p < 0.00001, OR = 2.2). Neither social, nor financial status had any influence on TAS.

CONCLUSIONS

Best antioxidant protection is provided by breastfeeding. When this is not possible, refrigerated human milk for maximum 72 hours is preferable than frozen human milk in domestic conditions for more than 1 week. TAS is significantly lost in frozen human milk for more than 12 weeks.
INTRODUCTION

The body proportion is useful method to assess the health status. One of the most favored proportions used in neonatal care is the Ponderal index (PI, fetal weight in grams X 100 / fetal length in centimeters3) as an indicator of fetal growth. In SGA, it is very important to sub-classify such as, symmetrical and asymmetrical because the immediate neonatal morbidities and long term outcomes differ and it helps making a plan for perinatal and neonatal care. LGA infants are also known to have a higher neonatal morbidity and mortality than AGA infants, however, there are few studies in LGA infants related to the body proportion. The objective of this study was to compare the maternal characteristic and neonatal morbidity between sub-classifying two groups of term LGA infants.

MATERIALS AND METHODS

Neonatal and their maternal demographic and clinical data were abstracted from electronic medical records retrospectively. One hundred and thirty term (born at a gestational age between 37 and 42 completed weeks) with LGA (large for gestational age infants, weighing more than the 90th percentile for gestational age) infants admitted at Chonnam National University Hospital from Jan. 2016 to Dec. 2017 were enrolled. Those babies were sub-classified into two groups by the Ponderal index (PI), symmetrical LGA (LGA with the PI ≤90th percentile for gestational age, race, and gender, n=113) and asymmetrical LGA (LGA with the PI >90th percentile for gestational age, race, and gender, n=17). Maternal and neonatal clinical characteristics and morbidity were compared between the two groups.

CLINICAL CASES AND SUMMARY RESULTS

Gestational week was not different between the two groups, but the birth weight was significantly heavier in asymmetrical group compared to symmetrical group. There was no statistically difference in gender, length, head circumference, the need for neonatal resuscitation, Apgar score and total hospitalization period. In mothers of asymmetrical group, pre-pregnancy body weight and the body mass index, weight gain during pregnancy, and gravity were significant. And also the incidences of overt or gestational DM, hypertensive disease and preterm labor were significantly higher than symmetrical group. In asymmetrical term LGA infant group, the incidence of birth injury, respiratory distress, septal hypertrophy, feeding problem, glucose intolerance and polycythemia were significantly higher. Overall composite outcome was significantly higher.

CONCLUSIONS

In obstetric aspect, the mothers of asymmetrical term LGA infants were heavier and had higher gravity and incidence of overt/gestational DM, hypertensive disease. In neonatal aspect, the incidences of birth injury, respiratory distress, septal hypertrophy and hypoglycemia were higher. In conclusion, antenatal management for the high risk mother anticipating the birth of asymmetrical term LGA infants is very important to improve the neonatal morbidity.
INTRODUCTION

It is hypothesized that LC-PUFA intake during pregnancy could protect against preeclampsia, pregnancy-induced hypertension or intrauterine growth retardation, and is essential for optimal neuronal development.

MATERIALS AND METHODS

We searched MEDLINE, EMBASE, CINAHL and the Cochrane Library until March and references in reviewed articles for randomized controlled trials (RCTs) comparing LC-PUFA supplementation with placebo or no supplementation in women with high-risk pregnancies.

CLINICAL CASES AND SUMMARY RESULTS

We searched MEDLINE, EMBASE, CINAHL and the Cochrane Library until March and references in reviewed articles for randomized controlled trials (RCTs) comparing LC-PUFA supplementation with placebo or no supplementation in women with high-risk pregnancies.
TOPIC: Perinatal Nutrition

ABSTRACT ID: 366

TITLE: DURATION OF BREASTFEEDING AND FACTORS ASSOCIATED WITH EARLY BREASTFEEDING CESSATION AMONG A TUNISIAN POPULATION


AFFILIATIONS: Department of Intensive care and Neonatal Medicine, Teaching Hospital of Monastir, Tunisia

INTRODUCTION

Breastfeeding benefits mothers and infants health in the short and long terms and is the most adequate option to feed infants. The World Health Organization recommends exclusive breastfeeding during the first six months of life, but only a minority of Tunisian infants, are breastfed in accordance with these recommendations. The aim of this study was to assess breastfeeding duration and to identify factors associated with early breastfeeding weaning in a Tunisian population.

MATERIALS AND METHODS

We conducted a prospective study involving infants born between March 1st and 31st 2017 at the department of neonatal Intensive Care, teaching Hospital of Monastir. Data were collected by personal interview during the first month and telephone interviews at four and six months postpartum. Information on socio-demographic characteristics, mode of feeding and reasons for stopping breastfeeding have been collected obtained.

CLINICAL CASES AND SUMMARY RESULTS

We had enrolled 145 newborns. Seventy per cent of women have not received any education on breastfeeding before pregnancy. Seventy eight per cent of infants were breastfed before the hospital discharge, of which 70% were exclusively breastfed. After a decline of 6 months, 16.5 % of infants were exclusively breastfed, 69.5% had a mixed feeding with dietary diversification and 14 % of mothers had stopped breastfeeding. The average age of breastfeeding cessation was 2 months. Factors predisposing to breastfeeding cessation in first months of life were maternal perceptions of insufficient milk supply (50%), nipple abnormalities (25%), breast milk either did not come in or dried up (10 %) and the difficulties encountered during breastfeeding at the maternity.

CONCLUSIONS

Educating expectant and new mothers, especially women who encounter multiple barriers and are at risk for early cessation of breastfeeding, of the benefits of breastfeeding and supporting them in developing efficient techniques and problem-solving skills can help increase the duration of breastfeeding.
INTRODUCTION

Neonatal hypoglycemia can be transient and is commonly observed in at-risk infants. Its management especially in asymptomatic patients remains controversial. Preferring the oral feeding and fortifying infant formula with dextrin maltose can frequently resolve asymptomatic hypoglycemia without need for IV perfusion. Aim: to precise if osmolality change when fortifying by Dextrin maltose infant formula.

MATERIALS AND METHODS

We underwent an experimental study within the department of intensive care and Neonatal Medicine, Teaching hospital of Monastir. Osmolality was calculated on different artificial milks formula fortified by dextrin maltose at different concentrations (1% to 6%). Osmolality analyses were done in the Pharmaceutics Galenic Laboratory of the faculty of Pharmacy of Monastir. Osmolality measures were performed on 384 samples; each reconstitution was measured three times and the average value was considered.

CLINICAL CASES AND SUMMARY RESULTS

The basic osmolality was between 259 and 339 mOsmol/l. Dextrin Maltose concentrated at 1% increased the osmolality of milk PRE-A and Milk E above 400mOsmol/l whereas milks PRE-B, PRE-C and PRE-D were remained less than 400 mOsmol/l for a maximum concentration of 6%.

CONCLUSIONS

Taking in account of osmolality schedule during the artificial milk supplementation is essential to prevent digestive disorders for newborns.
INTRODUCTION

Parenteral nutrition in premature infants with respiratory distress syndrome is an important issue of parenteral medicine. The selection of optimal parenteral nutritional model for such infants is a data-driven process which is usually dependent upon a dynamically changing physical condition of infants. Modern computer technologies should be used to address this issue.

MATERIALS AND METHODS

435 premature infants with respiratory distress syndrome have been treated in children’s municipal clinical hospital No.7 for three years. The optimal dose of liquid, energy, proteins, fats, carbohydrates, electrolytes, minerals and vitamins has been calculated for such infants. For this purpose we used the following mathematical methods of computer-assisted learning: support Vector Machine, logistic Regression, Random forest, gradient boosting, and artificial neural networks.

CLINICAL CASES AND SUMMARY RESULTS

The selection of optimal parenteral nutritional model in premature infants included the record of the following parameters: preterm neonate characteristics, age, weight dynamics, activity of 3 enzymes, concentration of 21 biochemical agents in blood, 21 parameters of hematology analyzer, and 12 urine values. Different mathematical models of parenteral nutrition in premature infants with respiratory distress syndrome were developed. For each model we plotted ROC-curves with AUC-evaluation, using the function ROC_auc. To evaluate effectiveness of the model in the context of independent data array we used cross-validation method. The validity of each model was tested-cross_val_score. We did the data analysis with the help of the programming language Python.

CONCLUSIONS

The use of machine learning technologies in children’s municipal clinical hospital lets simplify the selection process of optimal parenteral nutritional model in premature infants with respiratory distress syndrome. This approach also takes into consideration individual characteristics of such infants, thus helping to predict regression or deterioration in their condition. It cuts routine of neonatal specialist.
INTRODUCTION

Nutrition disorders at the early ontogenesis have been proved to play an important role in development of long-term metabolic disorders. At the same time, interconnections between intrauterine and postnatal growth are studied worse, especially in premature infants. Aim was to show interconnections between physical development, body composition and hormonal state of premature infants with IUGR between terms corrected age and the 6th month corrected age.

MATERIALS AND METHODS

A nonrandomised controlled prospective cohort single center clinical study of anthropometric measurements (weight and length z-scores) dynamics, body composition (fat and fat-free mass) and growth hormones (insulin-like growth factor-1 (IGF-1), somatotropin (STH)) in 80 premature infants with IUGR (gestational age 32.5 [29.7–36.0] weeks, weight at birth 1351.0 [877.5–2130.0] g) at term, 3 and 6 months corrected age. Anthropometric measurements were assessed according to Fenton and ANTHRO (WHO, 2009) scales, body composition was assessed by an air plethysmography method (PEA POD, LMi, USA).

CLINICAL CASES AND SUMMARY RESULTS

Low levels of somatotropin in premature infants with IUGR blood serum were found during 6 months (corrected age), especially in the first 3 months corrected age. Up to the 6th month corrected age it was combined with low length z-score growth rate. In contrast, IGF-1 levels was characterised by rapid growth by the 3rd month corrected age, that correlated with growth of fat mass in body composition. Significant negative correlation between STH level and fat mass percentage in body composition have been found.

CONCLUSIONS

Plastic processes in premature infants with IUGR have different dynamics during first 6 months of life and connections with hormonal measurements dynamic fluctuations. IGF-1 has the strongest regulatory function for both growth and body composition. Therefore, premature infants with IUGR have high risks of having fat mass surplus in body composition at least during first 6 months of life. That demands using differentiated nutrition methods.
INTRODUCTION
Obesity is a worldwide health problem; during pregnancy, this condition has a negative effect both in the mother and in the newborn. Newborns from obese women may have alterations in growth and body composition during the fetal and postnatal stages, as well as an increased risk of developing metabolic diseases during childhood and their adult life. ABCA1 and ABCG1 have been associated with obesity, dyslipidemias and other metabolic diseases. Thus, we evaluated whether expression of ABCA1 and ABCG1 changed in obese or overweight women and in their offspring. We also evaluated whether the expression of ABCA1 and ABCG1 was associated to glucose and lipid profiles in the women and their offspring, as well as their relationship to neonatal anthropometric measurements.

MATERIALS AND METHODS
The project was approved by the Ethics committee. Healthy women were included with full-term pregnancy. Pre-gestational weight was used to calculate p-BMI and it was used to classify women in normal, overweight or obese categories. Maternal and newborn glucose and lipid profiles were analyzed with digital devices. Neonatal anthropometric measurements were obtained within 48 hours of birth, including birth weight, head, arm, abdominal, thigh and calf circumference as well as subscapular, biceps, triceps, abdominal, thigh and calf skinfold thickness. Expression of ABCA1 and ABCG1 was analyzed with TaqMan real-time PCR assays. Descriptive statistics (mean ± SD), one-way ANOVAs and Tukey's multiple comparison tests were performed according to the p-BMI weight category (SPSS, v.20).

CLINICAL CASES AND SUMMARY RESULTS
A total of 30 women-newborn pairs were studied, 10 were normal weight (N), 10 were overweight (OW) and 10 were obese (OB), according to their calculated p-BMI. Newborns from OW and OB women had significantly lower glucose (61.20 ± 7.34 mg/dL and 62.85 ± 4.48 mg/dL, respectively) than newborns from N women (68.82 ± 4.43 mg/dL). There were no statistically significant differences in the lipid profiles of mothers and their newborns. Newborns from OB women showed higher birth weights than newborns from N women (3751.67 ± 154.65 g vs. 3223.75 ± 280.46 g, respectively). We no found statistically significant differences in the other neonatal anthropometric parameters. Expression of ABCA1 and ABCG1 in newborns did not change according to the maternal p-BMI. ABCG1 expression was higher in newborns compared to mothers in the N and OW categories. However, this was not observed in OB women and their offspring.

CONCLUSIONS
Newborns from obese women had lower glucose levels and higher birth weights compared to newborns from normal weight women. Further studies are necessary to analyze the effect of changes in ABCG1 expression in newborns of women with obesity. We are increasing the sample size to evaluate if these alterations may result in a higher risk for adverse perinatal outcomes. This study was supported by CONACyT FONSEC SSA/IMSS/ISSSTE-272912 and INPer 212250-3210-21002-05-16.
TOPIC: Perinatal Nutrition

ABSTRACT ID: 471

TITLE: MATERNAL WEIGHT GAIN DURING PREGNANCY AND NEONATAL BIRTH WEIGHT

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INTRODUCTION

Excessive maternal weight gain during pregnancy may influence the foetal health and impact on the neonatal birth weight. Besides, large for gestational age (LGA) infants, as defined by a birth weight above the 90th centile, may require special care as they are in increased risk for various comorbidities.

Our aim was to evaluate the relation of maternal weight gain during pregnancy and the maternal BMI and other anthropometric characteristics to the neonatal birth weight.

MATERIALS AND METHODS

A retrospective study was conducted in the 2nd NICU of the Aristotle University of Thessaloniki, Greece, reviewing the medical records of all infants and their mothers admitted during 2014. Infants with gestational age >37 weeks, born after a single pregnancy, by mothers aged 19-40 years were included.

The clinical characteristics were compared between small for gestational age (SGA), appropriate for gestational age (AGA) and LGA infants with one-way ANOVA or chi-square test. In order to identify risk factors for LGA delivery we used regression analyses.

CLINICAL CASES AND SUMMARY RESULTS

In overall, 542 infants were enrolled; 495 (91%) were AGA, 18 (3%) were SGA and 29 (5%) were LGA infants. The maternal and neonatal characteristics are presented in table 1. There were no significant differences between the 3 groups with respect to the maternal age, primiparity, maternal weight and BMI in the beginning of pregnancy and the maternal medical history.

Mothers who delivered LGA infants had a higher ratio of increased weight gain during pregnancy (as defined by weight gain >11Kg) and had higher stature height, compared to mothers delivered AGA and SGA infants.

Large for gestational age infants presented plethora in higher ratio compared to all other groups. The maternal BMI and the excessive maternal weight gain were independent risk factors for delivery of LGA infants, as shown by regression analysis.

CONCLUSIONS

Maternal excessive weight gain and increased BMI in the beginning of the pregnancy are associated with the delivery of LGA infants. Effective weight monitoring of the mother during pregnancy could promote the delivery of infants with appropriate weight for their gestation.
INTRODUCTION

Small for gestation age (SGA) is a current term used to describe infants with birth weight less than 10th centile. Various maternal and foetal factors can influence the neonatal birth weight. The aim of the current study was to examine the association of maternal anthropometric and medical risk factors for delivery of SGA infant.

MATERIALS AND METHODS

The medical records of all infants admitted to a tertiary NICU were reviewed, over a period of one year. Exclusion criteria were prematurity (<37 weeks), multiple birth and maternal age 40y. Students t-test and chi-square tests were used for the comparison of the characteristics between SGA and non-SGA infants. The risk factors for SGA delivery were estimated using regression analysis.

CLINICAL CASES AND SUMMARY RESULTS

542 infants were enrolled; SGA infants were 18 (3%). The maternal and neonatal characteristics are presented in table 1. There were no difference regarding the maternal age, ethnicity (Greek) and the primiparity between SGA and non-SGA infants. The maternal pre-pregnancy weight (59.7±14.4Kg) and height (161.5±5.1cm) were significant lower in the SGA group, compared to non-SGA group (66.9±13.7Kg and 165.4±6.5cm, respectively). Setting a BMI cut-off of 22, mothers delivered SGA infants presented higher ratio of low BMI (67%) compared to those with non-SGA infants (35%) and higher ratio of gestational diabetes mellitus (GDM) (17% vs 3%). The SGA infants had significant lower birth weight, stature length and head circumference, compared to non-SGA infants.

Regression analysis revealed that maternal height, BMI <22 and GDM were independent risk factors for SGA delivery. In particular, maternal BMI <22 and GDM were associated with a 2-fold increased risk for SGA neonate.

CONCLUSIONS

Low maternal pre-pregnancy BMI, low maternal height and gestational diabetes were associated with SGA deliveries. Thus, those characteristics could be useful clinical tools for the identification of high risk for SGA pregnancies.
INTRODUCTION

It is of great importance for an adolescent woman not having completed her development yet to have healthy and balanced nutrition and to be kept under control in their pregnancy in order to be able to keep their the storage in their body at balance, provide the baby in her womb with having adequate and balanced nutrition, make her have an adequate and balanced nutrition in order that the milk that will be secreted in preparation for breastfeeding. When the prenatal and postnatal care of the mother having a birth at adolescence age is not enough, she will encounter with pregnancy and postnatal health problems and her baby will have a high risk of premature birth or abortion weight.

MATERIALS AND METHODS

This follow-up study, designed as a descriptive and cross-sectional research, was conducted for determining the nutritional status, weight gains of adolescent pregnant and weights of newborns on 32 adolescent pregnant, (mean age:18.31±0.8 years) who applied to Maternity Clinic, at the age of 16-19 suitable for the study, and their newborns. Data were collected through questionnaire technique. Three-day food consumption records, certain anthropometric measurements, hematological and biochemical findings of pregnant women were recorded during each trimester. Health status, diet, birth, height, weight and head circumference measurements of newborns were recorded. In order to determine weight gains of the newborns after the birth, their body weight measurements were repeated for four weeks.

CLINICAL CASES AND SUMMARY RESULTS

The average total weight gains of pregnant women during pregnancy was 12.0±5.4kg. The majority of pregnant consumed energy at adequate levels during each trimesters (87.5%,90.6%,93.8%, respectively); they consumed iron, calcium, niacin, folic acid, phosphorus, vitamin B12 and iodine insufficiently. The average birth weight of newborns was 3172±361.4g, average length was 50.1±1.1cm and head circumference was 34.6±0.5cm. In the study, one of the newborns was born under 2500g. The average total weight gain was 767.5±126.5g at the end of the first month. There was a significant and positive correlation among I, II. and III. Trimester weights of the pregnant (respectively; Rs=-0.36,-0.43,0.43, p<0.05) and BMI measurements (respectively, Rs= 0.36,0.12,0.39, p<0.05) with birth weights of the newborns. Also, there was a significant and negative correlation between hemoglobin and hematocrit levels of the pregnant and birth weights of the newborns (respectively, Rs= -0.43,-0.35, p<0.05).

CONCLUSIONS

In order that babies are born healthily and develop, it is necessary that the mother must be made aware in the gestation and breastfeeding period of such issues as baby’s development, making of mother milk/breastfeeding, increase in the need for energy and nutrient component and adequate and balanced nutrition in this sense and keeping their health.
INTRODUCTION

The basics of growth, development and strength of the skeleton in newborns are formed in utero. The impact of excessive gestational weight gain on the development of these fundamental processes has an important clinical significance since it is registered in 40-59% of pregnant women.

The aim of the study was to determine the impact of excessive gestational weight gain on body length and ultrasound osteodensitometry signs in newborns.

MATERIALS AND METHODS

194 newborns were divided into 2 groups: the first one (n = 93) - newborns from mothers with excessive weight gain (more than 16 kg) and the second one (n = 101) - newborns from mothers with normal gestational weight gain (11, 5-16 kg). Measurement and analysis of body length in newborns were carried out according to WHO recommendations with the calculation of the z-score on the WHO Anthro. The bone mineral density data were evaluated with ultrasonic densitometer (Omnisense 7000) by the velocity of the ultrasound wave (m/s) on the tibia with z-score calculation. Statistical data handling was carried out using the Statistic 7.0. Quantitative indicators were presented in the form of a median, 25 and 75 percentiles, binary indicators were established in the form of relative frequencies.

CLINICAL CASES AND SUMMARY RESULTS

The women of the compared groups did not differ in age, height, body mass index and current pregnancy flow.

The mean body length in newborns of the first group exceeded the same measurement obtained in newborns of the second group (51 cm [50, 53] and 51 cm [49; 52], p = 0.018). High values of body length (z-score >+2) in 20.4% of newborns from the first group and lower frequency of this symptom in newborns from the second group (10.9%, p = 0.090) were revealed.

The velocity of the ultrasound wave was lower in newborns from the first group compared with newborns from the second group (2887 m/s [2819, 3061] and 2913 m/s [2840, 3000], p = 0.042). A decrease in bone strength in the range from -1 to -2 z-score in 51.6% of the newborns from the first group and in 31.7% of the newborns from the second group (p = 0.031) were revealed. The highest frequency of bone strength decrease in <-2 z-score (86%) was observed in newborns of the first group who demonstrated high body length indices.

CONCLUSIONS

1. Excessive gestational weight gain leads to an increase in body length and a decrease in bone strength of newborns.
2. Preventive work with pregnant women including comprehensive informing of the rational nutrition, physical activity and the amount of the individually recommended weight gain is of high importance.
INTRODUCTION

The number and variety of chronic diseases in Turkey and the world increase day by day. Diabetes is also one of those diseases, a significant increase in diabetes prevalence is also observed in Turkey. The prevalence of diabetes also increases among women of childbearing age. Thus, the atio of breastfeeding mothers with diabetes increase, hence there is a need for studies on this subject in Turkey.

MATERIALS AND METHODS

For this systematic review, the studies were published between the years of 2013-2018 and found in CINAHL, PubMed / MEDLINE and the Cochrane Library databases, were searched by using diabetes and breastfeeding keywords. Peer reviewed journals can be accessed as full text, were searched. 202, 210 and 1 full text articles were found in CINAHL, PubMed / MEDLINE and the Cochrane Library, respectively.

CLINICAL CASES AND SUMMARY RESULTS

It was stated that lactogenesis is delayed by about two hours in women with diabetes. The insufficient amount of insulin can negatively affect the onset (lactogenesis I) and continuation (lactogenesis II) of lactation. The sufficient amount of insulin and hydrocortisone are as necessary as prolactin hormone for the onset of lactogenesis I while the sufficient amount of prolactin and growth hormones, insulin and cortisol are required for lactogenesis II. The sufficient amount of insulin must be present at the surface of the alveolar cells in order for lactogenesis to take place. Therefore, lactogenesis is probably adversely affected in the situations that insulin resistance develops, such as hyperglycemia. Incase of hyperglycemia, norepinephrine hormone is secreted, norepinephrine increases vascular resistance and decreases blood flow to insulin sensitive tissues. The milk-production is adversely affected as a result of reduced blood flow to the lobules.

CONCLUSIONS

Increasing the frequency and duration of breastfeeding is aimed in many countries. Women with diabetes have a lower rate of breastfeeding and a shorter period of breastfeeding than women without diabetes. Nonetheless, breastfeeding women with diabetes develop tolerance to fat and sugar metabolism during the first three months after birth. Breastfeeding causes the regulation of blood sugar in the long term after birth. Diabetes is not an obstacle to breastfeeding of a mother.
INTRODUCTION

Despite benefits of breastfeeding for both child and mother, neither recommended duration nor exclusivity is respected by the majority of mothers. Several studies have focused on identifying factors that can influence breast-feeding. Among the modifiable factors likely to favor this practice, the feeling of personal effectiveness (or Self-Efficacy Sentiment) is reported. The objective of our study was to study the effect of this feeling on the duration and degree of exclusivity of breast-feeding.

MATERIALS AND METHODS

We conducted a longitudinal descriptive study with a follow-up ranging from birth to 8 weeks, with a sample of women who gave birth at the maternity center of the Farhat Hached University Hospital in Sousse, Tunisia, during the period from from April 15, 2018 to May 15, 2018. A data collection sheet has been developed for the purposes of this work including the "Breastfeeding Self-efficacy Scale-Short Form".

CLINICAL CASES AND SUMMARY RESULTS

The sample consisted of 150 women. Just over half (54%) were between 20 and 30 years old and only 2.7% were single. These women were primiparous in 48% of cases, and delivery was vaginal in 73% of cases. The personal efficacy score was high in 67% of parturients. Only 114 infants (76%) continued breast-feeding at 8 weeks, and only 11 (7.3%) were breast-feeding exclusively. The most common reason reported by mothers was inadequate milk intake. Self-Efficacy core was significantly associated with duration of breast-feeding and degree of breast-feeding and its exclusivity.

CONCLUSIONS

This study highlights a new focus for the promotion of breast-feeding. Indeed, the sense of maternal self-efficacy is a modifiable factor on which we can act.
INTRODUCTION

We describe a case of induced lactation in a non-puerperal woman with an adopted premature infant with cow-milk protein intolerance.

CLINICAL CASES AND SUMMARY RESULTS

The patient is a preterm infant born at a gestational age of 32 weeks. The biological mother decided to resign from the newborn so the adoption process began. As a complication of his prematurity he presented a septic shock and a necrotizing enterocolitis that was treated with conservative treatment. He presented with rectorrhagia repeatedly after the restart of enteral nutrition, so a cow-milk protein-free diet was started with a good response. At 1 month old, his adoptive mother expresses her will to start induction of lactation, so she starts treatment with domperidone and breast pumping every 3 hours, obtaining a response after a week of treatment. The patient started feeding with elemental formula and cow-milk and soy-protein free breastfeeding. The mother received treatment with domperidone 20 mg every 6 hours during the first months, progressively reducing until maintaining 10 mg every 24 hours during 13 months. The last month of lactation no treatment was given to the mother.

CONCLUSIONS

This report illustrates that breastfeeding is also possible in cases of adopted newborns or infants even for prolonged periods, as long as the mother so wishes.
INTRODUCTION
Magnesium sulfate (MgSO4) has been the most widely used drug as prophylactic seizure agent in preeclampsia (PE) patients. But the mechanism of MgSO4 to prevent cerebral complications is unclear. Therefore, the objective of this study is to investigate the effect of MgSO4 on cerebral hemodynamics in PE women.

MATERIALS AND METHODS
A comparative study was performed on 39 PE pregnant women enrolled between March 2011 and February 2017. Eighteen women were excluded because of anti-hypertensive treatment, multifetal gestation, diabetes mellitus (DM), systemic lupus erythematosus (SLE). Anterior cerebral artery (ACA), middle cerebral artery (MCA), posterior cerebral artery (PCA) velocities were measured bilaterally by TCD. The mean cerebral velocity (MCV), pelsatility index (PI), resistance index (RI), cerebral perfusion pressure (CPP), resistance area product (RAP) were compared before and after administration of MgSO4. P value < 0.05 was used to indicate statistical significance.

CLINICAL CASES AND SUMMARY RESULTS
There were no statistical significant differences of characteristics of PE patients between groups (Mean age, Gestational age, Gravidity, systolic blood pressure, diastolic blood pressure). In TCD analysis, there were statistical differences in the parameters of PCA except RAP (P < 0.05). PI and RI were higher in MgSO4 administered group, while CPP and CFI were lower. In ACA, PI were higher in MgSO4 group.

CONCLUSIONS
This study suggests MgSO4 can effectively lower CPP and CFI. By lowering the CPP, especially in PCA, MgSO4 will also reduce the barotrauma of the cerebral arteries and may help prevent hypertensive encephalopathy.
TOPIC: Preeclampsia

ABSTRACT ID: 150

TITLE: MODIFICATION OF THE PHYSICO-CHEMICAL PROPERTIES OF PROTEINS AMNIOTIC FLUID – PREDICTOR OF PREECLAMPSIA DEVELOPMENT

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INTRODUCTION

Currently, an important problem of modern obstetrics is preeclampsia. The high frequency of perinatal morbidity and mortality in preeclampsia justifies the need to further study the molecular mechanisms of its development and the search for early markers of pathology. Among the latter, indicators of posttranslational protein changes, in particular the content of their functional groups, can be very effective. Informative object of the study of these processes during pregnancy are amniotic fluid (AF), which react quickly to all pathological changes in the body of the mother and fetus deviations in its composition.

The aim of this research is the study of intensity carbonylation, amidation, glycation, cyclic nucleotide-dependent phosphorylation in AF from women with preeclampsia.

MATERIALS AND METHODS

The material of the study was AF, obtained by amniocentesis (16-18 weeks) and by rupture of amniotic fluid sac in I period of delivery (39-40 weeks) in women with physiological pregnancy [n = 29] (suspicion of chromosomal pathology of the fetus that was not confirmed) and with preeclampsia [n = 25]. Cyclic nucleotide-dependent phosphorylation was assessed by the intensity of phosphorus incorporation from ATP (32P) into proteins according to autoradiography. The remaining parameters of the modification of the protein structure were determined spectrophotometrically by the color intensity of the final products of the corresponding specific reactions using commercial kits. Student T-test was used to determine statistical significance of differences (p<0.05).

CLINICAL CASES AND SUMMARY RESULTS

The activity of phosphorylation of proteins in AF during preeclampsia is reduced (by 28%) compared to physiological pregnancy. Dephosphorylation of proteins, obviously, will be accompanied by the violation of a wide range of their properties. A similar trend of changes was found for amidation and amination: there is reduced by an average of 21-32%. The decrease in the number of amide and amine groups can lead to a change in the charge of protein molecules, destabilization of the native structure of proteins and loss of their resistance to proteases. On the contrary, the degree of carbonylation of proteins increases on the average by 32% that indicates the intensification of their oxidative modification under conditions of intrauterine hypoxia. The intensity increase (by 27%) is also characteristic of the processes of glycation of proteins, which leads to the blocking of the terminal amino acid residues and reduce their functional activity.

CONCLUSIONS

The analysis of the obtained data allows concluding that the development of preeclampsia occurs against the background of modification of the properties of amniotic fluid proteins, which can be one of the important links in the overall chain of molecular disorders in the mother-fetus system in preeclampsia. The results of this study allow us to expand our understanding of the mechanisms of preeclampsia and to offer informative diagnostic and prognostic tests of prenatal and postnatal pathology.
INTRODUCTION

Pre-eclampsia and associated complications account for 10 to 15% of maternal mortality worldwide. Pre-eclampsia is a typical heterogeneous pregnancy complication, its genesis is significantly affected both by the genetic component and various adverse endogenous and exogenous factors. Polymorphism of the eNOS gene associated with a lowered level of NO metabolites 6 times increases the risk of pre-eclampsia. According to the majority of authors, endothelial dysfunction is initially caused by placental ischemia resulting from insufficient trophoblast invasion of spiral arteries.

Our research was intended to estimate the influence of polymorphism presence in the endothelial NO-synthase gene in gravidae upon the development of pre-eclampsia and uteroplacental status.

MATERIALS AND METHODS

The study was focused on a cohort of 46 patients making up the index group (with severe pre-eclampsia) and 20 gravidae of the control group. To study the eNOS gene polymorphism, genomic DNA was extracted from 2 ml of venous blood using the QIAamp DNA Midi Kit ("Qiagen"). PCR was performed in the BIOMETRA amplifier using the NOS3 set. For the study, we selected 15 uteroplacental site biopsates of preeclamptic patients, and 10 control biopsates taken from conventionally healthy gravidae. Immunohistochemical testing was carried out using the polymer protein peroxidase method, with the NOVOLINK™ (Novocastra™, UK) staining system and concentrates of mouse primary antibodies: Cytokeratin 8 (Abcam™), anti-NitricOxideSynthase (Abcam™).

CLINICAL CASES AND SUMMARY RESULTS

In the preeclamptic cohort, eNOS gene polymorphism (c.582+353_379 del) was revealed in 67.4% of patients (n=31) (p<0.001), in 32.6% (n=15) the deletion was not found in the gene. Two (10%) patients from the control group were heterozygous as regards the polymorphism under study. Polymorphism of the eNOS gene in the preeclamptic cohort is found almost 7 times more frequently in comparison with the control group, which may indicate participation of the polymorphism in the development of pre-eclampsia. Immunohistochemical staining of eNO synthase within the biopsates of the placental site taken from patients with polymorphism was particularly interesting. Gross morphology analysis of polymorphism-associated pre-eclampsia revealed insufficient trophoblast invasion. Endothelial cells in the invasion area are desquamated (manifesting endotheliosis). Reaction to eNOS is negative.

CONCLUSIONS

Existing deletion of the pair 27 of nucleotides in the intron 4 of the eNOS gene is a predictor of pre-eclampsia. In cases where polymorphism was found in the eNOS gene (responsible for endothelium), immunohistochemical testing using eNOS antibodies revealed no immune expression in vascular endothelium. In patients with eNOS insufficiency, evident deficit of the factor has been revealed in all placental site vessels, i.e. the disorders are systemic.
INTRODUCTION

Hypertensive disorders (including preeclampsia) complicate 5-30% of all pregnancies, occupy the 4th place among the causes of maternal mortality, are the cause of severe morbidity and disability of mothers and their children. Their consequences reduce the quality of subsequent life of women (increased risk of atherosclerosis, diabetes, cardiovascular disease) and newborns (impaired physical and neuropsychological development, increased risk of somatic diseases). A potentially fatal complication of preeclampsia is HELLP syndrome, the signs of which may appear both before delivery (30%) and after delivery (70%), and are most common in re-pregnant and multiple patients.

MATERIALS AND METHODS

A 34-year-old pregnant was delivered in the maternity hospital on 36-37 weeks of pregnancy due to pre-eclampsia. The patient underwent CS, an hypotrophic babygirl was born with moderate severity of hypoxia. In the postoperative period was revealed a decrease in the rate of diuresis of less than 10 ml/hour, in platelet count to 59x10^9/l, despite intensive therapy, including therapeutic plasma exchange and extracorporeal detoxification sessions. The severity of the patient’s condition is explained by the development of AHUS with the development of TMA and ACF. The SOLIRIS (ECULIZUMAB) was administered to the mother. Within three days, the platelet level and the rate of diuresis were restored. A week later, the patient was discharged from the hospital in a satisfactory condition.

CONCLUSIONS

The cause of atypical hemolytic-uremic syndrome is uncontrolled activation of the complement system, the effect of which is aimed at the destruction of infectious agents and removal of immune complexes. When it is over-activated, the attack of the body’s own tissues begins. ECULIZUMAB is a recombinant humanized monoclonal antibody to immunoglobulin G2/4k that binds to the human complement protein C5 and inhibits the activation of complement-mediated cell lysis.
TOPIC: Preeclampsia

ABSTRACT ID: 200

TITLE: RISK FACTORS OF SEVERE EARLY ONSET AND SEVERE LATE ONSET PREECLAMPSIA


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INTRODUCTION

Preeclampsia (PE) is a complication of pregnancy that occurs in the second half of pregnancy (after the 20th week), characterized by hypertension in combination with proteinuria, often with edema and multiple organ / polyorganic dysfunction / insufficiency.

PE complicates 5-8% of pregnancies and is the leading cause of maternal death and intrauterine fetal death - about 60,000 women die from it every year around the world. It should be noted that early (up to 34 weeks) and late (after 34 weeks) PE are seen as two completely separate units, rather than as different clinical forms of the same disease. The differences in these two forms are not only the timing of the onset of the symptoms of the disease, although this issue also remains controversial.

MATERIALS AND METHODS

To study risk factors, maternal and perinatal complications in women, whose pregnancy was complicated by severe preeclampsia with early and late debut. A retrospective cohort study of 254 histories of pregnant women delivered for severe PE in the maternity hospital for the period 2012-2016 was carried out. The inclusion criteria were SBP ≥160 mmHg, DBP ≥110 mmHg, proteinuria≥ 3 g/L, symptoms of multiple organ failure, intrauterine growth retardation. The early onset of preeclampsia was in women with multiple pregnancies (4.5%), genetic thrombophilia (6.4%), fetal factors from donor oocytes (1.5%). Severe PE with a late onset was observed in women with a body mass index of more than 35 (23.2%).

CLINICAL CASES AND SUMMARY RESULTS

Extragenital pathology was revealed in 74.2% of women with early onset of PE, among them leading are chronic arterial hypertension (35%), chronic pyelonephritis (17.1%). In women with late onset PE, extragenital diseases were noted in 75.8% of cases. In both early and late PE, the leading position was occupied by chronic arterial hypertension (33%). In contrast to early PE in obese women with late PE, 13.5% were found. The frequency of occurrence of PE in previous pregnancies did not have significant differences between the groups with early onset and late onset PE (11.2% and 12.6%, respectively). In case of multiple pregnancies, the incidence of severe PE was 12.2%. Early debut up to 34 weeks is marked in 8.7%, late - 3.5%. Complications of severe PE with early onset was found in 6.0% of cases of eclampsia, HELLP-syndrome of 12.7%. With the late development of severe PE, eclampsia developed in 2.5% of cases, HELLP-syndrome at 9.2%.

CONCLUSIONS

As a result a high incidence of primipara, patients with genetic thrombophilia, multiple pregnancies was detected. Severe late onset PE was observed in women with obesity, chronic arterial hypertension, and kidney disease. Severe arterial hypertension (SBP ≥160 mm Hg, DBP ≥110 mm Hg) was noted in 47.0% of cases with early onset severe PE, and in 18.1% - with late onset severe PE. In the group of early PE, the frequency of HELLP syndrome, antenatal fetal death were higher (p<0.05).
INTRODUCTION

HELLP syndrome complicates 0.5-1% of all pregnancies, and among pregnant women with preeclampsia - 2-20% and is characterized by high maternal and perinatal mortality.

MATERIALS AND METHODS

A retrospective study of 28 histories of delivery of pregnant women with the development of HELLP-syndrome at any gestational period was conducted. In 71.4% of cases, the diagnosis of HELLP syndrome was made during pregnancy, and 28.5% after delivery.

In women with severe preeclampsia, HELLP syndrome developed in 11% of cases. In patients with early onset preeclampsia, HELLP syndrome was detected in 13.7% of cases (64.7% antenatal, 35.2% post-natal) . In late onset preeclampsia , the HELLP syndrome developed in 9.1% of cases (81.8% antenatal and 18.1% postnatal). HELLP syndrome was more common in primiparous women over 30 years (p<0.05) with an intergravidity interval of more than 10 years (p<0.05), IVF (7.1%), previously history of PE (10.7%), genetic thrombophilia (14.2%), antiphospholipid syndrome (7.1%) (p 160/110 mm Hg). In 25% of patients, mild proteinuria is found, and 10.7% is not detected at all.

CLINICAL CASES AND SUMMARY RESULTS

Clinical symptoms of HELLP syndrome were pain in the right upper quadrant (46.4%), weakness (21.4%), headache (17.8%), vomiting (17.8%), nausea (14.2%). The increase in hepatic enzymes was revealed in 53.5% of cases, thrombocytopenia in 64.2%. Depend on the severity of thrombocytopenia, 3 degrees of severity of this complication were identified: the first degree - thrombocytopenia 150-100000 (14.2%), the second degree - 100-50000 (42.8%), the third degree - less than 50 000 (17.8%). In ¼ cases, the platelet count is more than 150,000.

Hemolysis (microangiopathic hemolytic anemia, deformed erythrocytes) was detected in 7.1% of cases. The increasing LDH is more than 600 U / l - in 39.2% of cases. Increasing of hepatic enzymes - AST more than 70 U / l - in 78.5% of cases, ALT more than 150 U / l - 60.7% cases. The complete classical triad of HELLP syndrome (hemolysis, thrombocytopenia, increase in hepatic enzymes) was noted in 42.8% of observations only.

CONCLUSIONS

The perinatal complications of HELLP syndrome are also very high, due to the severity of the mother's condition, premature birth of the fetus (85.4%), fetal growth retardation (57.1%), placental insufficiency (53.5%). Antenatal fetal death in women with HELLP-syndrome is revealed in 21.4% of cases. Maternal complications in women with HELLP syndrome: hepatic insufficiency (3.5%), acute renal failure (3.5%), cerebral edema (3.5%), pulmonary edema (3.5%), subcapsular hematoma of the liver 3.5%).
INTRODUCTION

Previous studies implicated endogenous cardiotonic steroids (CTS) in the pathogenesis of PE and demonstrated that in PE, immunoneutralization of marinobufagenin (MBG) by Digibind, Fab fragments of digoxin antibody, produces antihypertensive and renoprotective effects. Recently, we demonstrated that MBG induces fibrosis in cardiovascular tissues via mechanism involving inhibition of Fli-1, a nuclear transcription factor which acts as a negative regulator of collagen synthesis.

MATERIALS AND METHODS

Because levels of MBG in PE are markedly increased, anti-MBG monoclonal antibody reduces blood pressure (BP) in a rat model of PE, and MBG exerts profibrotic effects, we hypothesized that in PE, elevated placental MBG levels would be associated with development of fibrosis of umbilical arteries. We studied 30 patients with PE (mean BP = 118±4 mmHg; 29±2 years, 35 weeks gest. age) and 26 gestational age-matched normal pregnant subjects (mean BP = 92±2 mmHg).

CLINICAL CASES AND SUMMARY RESULTS

PE was associated with a rise in MBG (48.6±7.0 vs. 13.6±2.5 nmol/g; P<.01), four-fold decrease of Fli-1 and two-fold increase of collagen 1 in placentae, a 2-fold reduction of the activity of Na/K-ATPase, a target enzyme for MBG, in erythrocytes. As compared with subjects with uncomplicated pregnancy, development of PE was associated with a five-fold decrease in the level of Fli-1 and a two-fold increase in the levels of collagen-1 in the umbilical arteries. As compared to control vessels, isolated rings of umbilical arteries from subjects with PE, in the presence of unaltered responsiveness to endothelin-1, exhibited markedly impaired response to the relaxant effect of sodium nitroprusside (EC50= 141 vs. 0.9 nmol/L P<.001).

CONCLUSIONS

These results demonstrate that in PE, elevated levels of MBG are implicated in vascular fibrosis and impairment of vasorelaxation.
Endoglin (CD105) is a membrane glycoprotein of endothelial and trophoblast cells. This antigen is involved in the regulation of angiogenesis, affecting cell activation, adhesion, and migration. Soluble endoglin (sEng) is a fragment of the receptor corresponding to its extracellular region. Here, we conducted a comparative study of the diagnostic performance of the new ELISA and a widely used commercial kit for the detection of preeclampsia. The new assay detected up to two orders of magnitude higher antigen levels in the blood plasma than the commercial kit did. Nevertheless, both tests demonstrated a high predictive power for severe preeclampsia based on sEng levels in blood plasma. Moreover, the new ELISA was also able to detect the diseased patients based on urinary sEng concentrations.

MATERIALS AND METHODS

A new ELISA was developed in the Hybridoma technology laboratory. The commercial kit was purchased from R&D Systems Ltd. Blood plasma and urine samples from women with preeclampsia (n=31) and women with physiological pregnancies (n=34) were collected at the Almazov Perinatal Center. The diagnosis of preeclampsia was based on the Goecke scale modified by Savelieva GM. Patients with scores of 8-11 were classified as having mild preeclampsia, while patients with higher scores were classified as having severe preeclampsia. Biological fluid samples were obtained on the day of hospitalization. There were exclusion criteria: cancer, organ transplantation, antiretroviral therapy, or drug addiction. The comparison of diagnostic performance of two tests was conducted using analysis of ROC curves.

CLINICAL CASES AND SUMMARY RESULTS

The new ELISA detected up to two orders of magnitude higher antigen levels in blood plasma than the widely used R&D Systems kit did. Immunoprecipitation experiments demonstrated identical antigenic specificities of two assays. In contrast to the commercial kit, the new ELISA was able to quantify sEng not only in blood plasma, but also in urine. Therefore, we conducted a comparative study of the diagnostic performance of the new assay and the widely used R&D Systems kit for the preeclampsia detection. Despite the pronounced differences in antigen content estimates, the new assay had similar diagnostic performance as widely used commercial kit for the detection of severe disease in pregnant women based on plasma sEng (AUC 94.3% and 90.3%, respectively). Interestingly, the new ELISA was able to delineate diseased patients based on antigen levels in urine (AUC 88.4%).

CONCLUSIONS

We studied properties of the new ELISA, which detected the high sEng levels in blood plasma and urine. Our data suggest that the new ELISA could be used to reveal pregnant women with high probability of severe preeclampsia development based on plasma or urinary sEng contents. Moreover, because sEng is considered as candidate marker for early preeclampsia diagnosis, the new ELISA could be potentially used as a non-invasive test for early severe preeclampsia screening.
INTRODUCTION

Pre-eclampsia is a frequent complication of pregnancy that exposes the newborn to several morbidities. The aim of the study was to describe the epidemiological and clinical characteristics of hospitalized newborns delivered from preeclamptic mothers and to study their morbidity and mortality.

MATERIALS AND METHODS

A retrospective, case-control study (from 1 January 2010 to 31 December 2011) of newborns delivered from preeclamptic mothers compared with a control group of the same number. All infants were hospitalized in the Department of Intensive Care and Neonatal Medicine of Monastir.

CLINICAL CASES AND SUMMARY RESULTS

One hundred and seventy four newborns have been collected. The incidence of preeclampsia was 4.7%. The preterm birth rate was 37.4%. Newborns of preeclamptic mothers had a higher incidence of induced preterm birth (86.2% against 61.6%), small for gestational age (35.1% against 12.6%) and low birth weight. The main morbidities were metabolic disorders (48.2% against 35%), neonatal respiratory distress (22.9% against 17.1%), digestive disorders (13.2% against 5.6%), thrombocytopenia (15.5% against 8.6%). Hospital mortality was higher in the Newborns of preeclamptic mothers (52‰ against 29‰).

CONCLUSIONS

Newborns from preeclamptic mothers are a particular population because they are subject to an increased risk of prematurity and intra uterine growth restriction. Prevention of these morbidities represents a major challenge for obstetricians and neonatologists.
INTRODUCTION

Introduction. HELLP syndrome complicates 0.5-1% of all pregnancies, and among pregnant women with preeclampsia - 2-20% and is characterized by high maternal and perinatal mortality. Materials and methods. A retrospective study of 28 histories of delivery of pregnant women with the development of HELLP syndrome at any gestational period was conducted. In 71.4% of cases, the diagnosis of HELLP syndrome was made during pregnancy, and 28.5% after delivery. In women with severe preeclampsia, HELLP syndrome developed in 11% of cases. In patients with early onset preeclampsia, HELLP syndrome was detected in 13.7% of cases (64.7% antenatal, 35.2% postnatal).

MATERIALS AND METHODS

In late onset preeclampsia, the HELLP syndrome developed in 9.1% of cases (81.8% antenatal and 18.1% postnatal). HELLP syndrome was more common in primiparous women over 30 years (p<0.05) with an intergravidity interval of more than 10 years (p<0.05), IVF (7.1%), previously history of PE (10.7%), genetic thrombophilia (14.2%), antiphospholipid syndrome (7.1%) (p 160/110 mm Hg). In 25% of patients, mild proteinuria is found, and 10.7% is not detected at all. Clinical symptoms of HELLP syndrome were pain in the right upper quadrant (46.4%), weakness (21.4%), headache (17.8%), vomiting (17.8%), nausea (14.2%). The increase in hepatic enzymes was revealed in 53.5% of cases, thrombocytopenia in 64.2%. Depend on the severity of thrombocytopenia, 3 degrees of severity of this complication were identified: the first degree - thrombocytopenia 150-100000 (14.2%), the second degree - 100-50000 (42.8%), the third degree - less than 50 000 (17.8%).

CLINICAL CASES AND SUMMARY RESULTS

In ¼ cases, the platelet count is more than 150,000. Hemolysis (microangiopathic hemolytic anemia, deformed erythrocytes) was detected in 7.1% of cases. The increasing LDH is more than 600 U/l - in 39.2% of cases. Increasing of hepatic enzymes - AST more than 70 U/l - in 78.5% of cases, ALT more than 150 U/l - 60.7% cases. The complete classical triad of HELLP syndrome (hemolysis, thrombocytopenia, increase in hepatic enzymes) was noted in 42.8% of observations only. The perinatal complications of HELLP syndrome are also very high, due to the severity of the mother's condition, premature birth of the fetus (85.4%), fetal growth retardation (57.1%), placental insufficiency (53.5%). Antenatal fetal death in women with HELLP syndrome is revealed in 21.4% of cases. Maternal complications in women with HELLP syndrome: hepatic insufficiency (3.5%), acute renal failure (3.5%), cerebral edema (3.5%), pulmonary edema (3.5%), subcapsular hematoma of the liver (3.5%).

CONCLUSIONS

The manifestation of HELLP syndrome was noted only in 64.2% of cases, monosymptomatic course in 35.7%. A high incidence of adverse perinatal outcomes is typical - 64.2% prematurity, an Apgar score of <7 points is 50%, and classical antenatal fetal death is 21.4%.
INTRODUCTION

One of the widely used national indicators of women's health is the maternal mortality rate (MS). The medical and social significance of MS dictates the need for dynamic analysis of regional causes in order to develop an adequate organizational strategy of the obstetric and gynecological service to reduce it. In Russia, the question of common terminology and classification of various forms of hypertension in pregnant women was extremely important. Only in 2013, the Russian society of obstetricians and gynecologists developed Federal clinical guidelines "Hypertensive disorders during pregnancy, childbirth and the postpartum period. Preeclampsia. Eclampsia", where a clinical classification of hypertensive disorders during pregnancy was proposed (now in effect in the 2016 edition).

MATERIALS AND METHODS

The analysis of the incidence of preeclampsia and eclampsia in the Tula region in the period from 01.01.2007 to 31.12.2014. Data obtained from public sources in the analysis of collections of analytical materials "the Main indicators of the health of the mother and child, the activities of the service for childhood and obstetrics in the Russian Federation" for 2011-2015. The dynamics and structure of the causes of MS in the region were analyzed over the past 15 years (01.01.2001 to 31.12.2015).

CLINICAL CASES AND SUMMARY RESULTS

During the 15 years, 35 women died in Tula region due to pregnancy, childbirth and the postpartum period (42 days). The rate of MS was 12.2 per 100,000 live births. Regional MS rate decreased by 52.25% from 25.5 per 100,000 live births (2001-2005) to 9.26 (2011-2015). PE and eclampsia in the region occupy the first place among the causes of MS (25.7%) and tends to increase. During the analyzed period, every fourth woman died from PE, growth in the structure of MS from 32.3% (2001-2006) to 42.8% (2011-2015). According to our study, of the total number (n=9) of those who died from PE and eclampsia died after childbirth - 8, during pregnancy outside the hospital - 1. Women by age as follows: 15-19 years - 1; 20-24 years - 4; 25-29 years - 2; 30-34 - 1; 35-39 years - 1. All 8 patients were delivered urgently due to the severity of the condition and inefficiency of the therapy, including up to 27 weeks - 1; 28-32 weeks - 1; 33-37 weeks - 6; 38-40 weeks - 1.

CONCLUSIONS

The study shows that a reduction in maternal deaths due to preeclampsia/eclampsia requires that clinical protocols for medical care ensuring adequate antenatal care, early diagnosis, adequate treatment, and timely delivery should be strictly adhered to. There is a need for research to develop predictors for preeclampsia in both the high-risk group and the general population to determine criteria for early and timely diagnosis, markers for progression of the process.
INTRODUCTION

The idiopathic paralysis of the facial nerve was first described in 1830 by Charles Bell. This entity is the most frequent unilateral nerve pathology associated with pregnancy. Bell’s palsy is also known as Mona Lisa syndrome. The incidence of Bell’s palsy during pregnancy is approximately 3 times higher than in non-pregnant women. The results of this condition are facial muscle dysfunction and weakness, blurring of vision, altered taste sensation and increased noise sensitivity. The etiology of facial paralysis still remains unclear, but possible causal agents are reactivation of a herpetic virus infection, hypertensive disorders and diabetes. In 30% of cases facial paralysis was associated with preeclampsia and it can also be a possible predictor for preeclampsia.

CLINICAL CASES AND SUMMARY RESULTS

We describe the case of a 15-years-old woman that presented for the first time in pregnancy at the hospital at 35 weeks, with complaints of hemifacial muscle weakness, sensitivity disorders, flat frontal folds, 1 cm lagoftalmia, asymmetry of the mouth corners for 20 days and frontal headache for one month. Her pulse was 97 beats/min, blood pressure was 150/100 mmHg, laboratory tests were in normal range, proteinuria was absent. Ultrasonography revealed a fetus corresponding at 35 weeks and oligoamnios. The woman was diagnosed with right Bell’s palsy and pregnancy induced hypertension. Antihypertensive drugs, corticosteroids and group B vitamins were prescribed and intensive fetal monitoring was undertook. At 37 weeks and 3 days, severe occipital headache, blurred vision and epigastric pain occurred, blood pressure was 175/105 mmHg and proteinuria was detected. Severe preeclampsia was diagnosed after investigations. Cesarean section was performed and a 3170 grams newborn was extracted.

CONCLUSIONS

The case presented, along with 10 studies reviewed in literature, shows that facial paralysis is a pathology that should be critically evaluated if it appears during the pregnancy. Preeclampsia, isolated gestational hypertension, or HELLP syndrome could be predicted in a pregnant woman accusing facial paralysis with sudden onset. Facial function is often recovered without sequelae.
INTRODUCTION

Preeclampsia has been known to be associated with a deficient trophoblast invasion of maternal spiral arteries, leading to a poorly perfused fetoplacental unit. Trophoblast invasion is a multistep process comprised of adhesion, degradation and migration processes. The degradation of the extracellular matrix requires specific enzymes, cysteine-proteases such as cathepsin B, controlled by respective inhibitors, cystatins. We aimed to investigate changes in serum cathepsin B, procathepsin B and cystatin C in women with preeclampsia.

MATERIALS AND METHODS

Twenty four serum samples were taken from women whose pregnancies were complicated by preeclampsia and sixty from normal pregnant women in third trimester. Cathepsin B, Procathepsin B and Cystatin C were quantified using commercial ELISA kits for human, respectively. Statistical analysis was performed with the SPSS for Windows software package (ver. 21.0; SPSS Inc., Chicago, IL, USA)

CLINICAL CASES AND SUMMARY RESULTS

Serum Cathepsin B(p=0.03), Procathepsin B(p=0.05) and cystatin C(p=0.003) were significantly elevated at diagnosis in the preeclampsia group. But there were no significant differences in Cathepsin B:Cystatin C and Procathepsin B:Cystatin C ratio compared to normal pregnancies. Cystatin C level was significantly correlated with uric acid (p=0.054, r=0.415) but neither with 24hr urine protein nor serum creatinine.

CONCLUSIONS

Increased serum cathepsin B, procathepsin B and cystatin c were observed in preeclampsia. We speculate that imbalance in these lysosomal proteases and inhibitors may contribute to the endothelial dysfunction that is central to the pathophysiology of preeclampsia.
INTRODUCTION

Preeclampsia complicates from 1.3% to 6.7% of pregnancies and remains one of the main causes of maternal and fetal morbidity and mortality, despite some success in the prophylaxis and treatment of preeclampsia. Maternal mortality in the world of severe preeclampsia is about 12-15%, and in the developing countries it reaches 30%. Eclampsia is a severe complication of preeclampsia, its incidence is 1-1.5% of all late gestosis. Maternal mortality in eclampsia varies between 1 and 20%.

MATERIALS AND METHODS

4 cases of severe preeclampsia complicated with eclampsia have been studied. In total, during the year 2017, there were 62 cases of preeclampsia, of which 34 severe forms, 13 cases complicated with HELLP syndrome. The age of the patients included in the study was 19-39 years. 2 patients were primipare and 2 - secundipare.

CLINICAL CASES AND SUMMARY RESULTS

All 4 cases were resolved by emergency cesarean surgery. It was 1 case with dead antepartum fetus. Maternal mortality was not recorded. 3 cases were finished by premature delivery (at 33 weeks, 34 weeks and 36 weeks) and 1 case by term birth. The restriction of intrauterine growth of the fetus was assessed in 2 cases (1925g at 36-37 w.g. and 2270g at 37-38 w.g.). All patients had headache, visual disturbances, edema, abdominal pain, hypertension, proteinuria (over 0.3g / 24h). In all cases eclamptic access has developed until birth. Postpartum bleeding did not have any patients.

CONCLUSIONS

Thanks to the correct qualified medical assistance to patients with eclampsia, correction of metabolic disorders, hydro-electrolytic balance and acid-base and protein equilibrium, hypotensive, anticonvulsant and anticoagulant therapy managed to avoid cases of maternal death and ensure favorable prognosis of patients.
INTRODUCTION

The pathogenesis of preeclampsia (PE) as well as the cause of higher PE rate in gestational diabetes (GD) pregnancy are still underinvestigated. PE and GD share common risk factors – obesity and insulin resistance. Interestingly recent studies revealed an important bioactive role of c-peptide in many cells and tissues, including proinflammatory atherogenic effect in high concentrations independently of insulin. According to our previous smaller study fasting serum c-peptide level and obesity have positive direct and independent association with PE, by contrast GD has not any impact on this relation. This study was focused on the association of studied factors with arterial stiffness in a bigger sample.

MATERIALS AND METHODS

The prospective study including 116 age-matched pregnant women was performed to find the association between c-peptide level, GD, PE and arterial stiffness in the third pregnancy trimester. Patients were divided in 4 groups: women with complex outcome (PE +GD) (n=23), PE (n=23), GD (n=37), control group (n=33). Fasting serum C-peptide level was assessed using immunohemiluminiscence analysis, fasting plasma glucose - using glucose oxidase method, arterial stiffness (augmentation index (AI)) - using oscillometry method (BPLab Vasotens complex), BMI - calculated. Correlation analysis and ANOVA were used to find the association between factors. Data were tested on normality using Kolmogorov-Smirnov and Liliefors tests. All calculations were carried out using STATISTICA 10.0 (StatSoft, Inc.).

CLINICAL CASES AND SUMMARY RESULTS

C-peptide level statistically significant differed between study groups (p<0.001). Patients with high c-peptide level (above 3.1 ng/ml) more often had PE (OR=3.71; CI=1.67-8.23) comparing to other (OR=0.27; CI=0.12-0.60) that supports our previous results. Weak positive correlation was found between C-peptide level and fasting plasma glucose (r=0.25, p=0.03). AI statistically significant differed between groups (p=0.005) and was higher in PE group. Two-way ANOVA found statistically significant effect of AI on PE (p<0.001) and high C-peptide level (above 3.1 ng/ml) (p=0.005), but not on GDM (p=0.19) or factors interaction. Although two-way ANOVA showed a significant effect of C-peptide level on PE (p=0.01) and obesity (p<0.001), but not on GDM (p=0.69), correlation analysis did not revealed any statistically significant connection between AI and BMI, fasting plasma glucose.

CONCLUSIONS

According to the data there is an independent association between AI, high c-peptide level and PE. This may indirectly show the nature of long-term cardiovascular outcomes and partly pathogenesis of PE. Our study showed that arterial stiffness does not correlate with BMI or fasting plasma glucose though. The cause of higher PE rate in GD pregnancy remains to be studied and is unlikely to be caused by insulin resistance, bad glycemic control or obesity according to our recent studies.
INTRODUCTION

Preeclampsia (PE) is a common pregnancy-specific disorder with unknown etiology. It is the leading cause of maternal and perinatal morbidity and mortality. Current consensus implicates placental and endothelial dysfunction, inflammation and genetics in development of PE. Candidate genes associated with PE have not been fully described. To investigate how the expression of maternal genes contributes to the mechanisms underlying the progression of the disease, we investigate global placental gene expression using microarray technology. We studied the role of variability in some of these genes in the genetic susceptibility to PE also. Thus, we used a new approach to detecting genetic markers of PE based on a combination of genomic, transcriptomic, and bioinformatic methods.

MATERIALS AND METHODS

Transcriptome analysis. We examined the distal (maternal) part of the placenta. Genome-wide transcriptional profiling was performed on placental tissue from preeclamptic (n=10) and normal (n=11) pregnancies using hybridization on HT-12 BeadChip microarrays (Illumina, USA). To validate the results of the microarrays, several selected genes were analyzed by quantitative real-time RT-PCR and MassArray iPLEX (Sequenom, USA).

Genome association analysis. We analyzed 85 single nucleotide polymorphisms (SNPs) in 22 candidate genes (differentially expressed genes - DEGs, (Fold Change >1.5, FDR<0.1)) in 519 patients with PE and 718 women with uncomplicated pregnancies from Russian, Buryat and Yakut populations using MassArray iPLEX (Sequenom, USA).

CLINICAL CASES AND SUMMARY RESULTS

Among the 47000 transcripts that were screened, 63 were found to be differentially expressed between normal and PE tissues. The up-regulated genes included LEP, BHLHB2, SIGLEC6, RDH13, BCL6, SYDE1, which are well-known DEGs for PE, as well as CORO2A, CEBPA, HK2 which was recently proved to be linked with the etiology of this disease. Gene ontology analysis further revealed several biological processes that could be associated with the development of PE, including response to stress, immune system process, regulation of cell communication, intracellular signaling cascade etc. We found an important role of molecular mechanisms that cause disturbances in immunological tolerance and the initiation of a pro-inflammatory cascade in the development of the severe PE.

We have detected significant associations for PE with 27 SNPs in ANKRD37, BHLHE40, CORO2A, GPT2, HK2, INHA, LEP, LHB, NDRG1, PLIN2, PPPIR12C, SASH1, SIGLEC6, SYDE1 and ZNF175 genes in the population studied.

CONCLUSIONS

This finding may provide insight into the pathophysiology of the disorder and lead to new therapeutic possibilities for this disease. This results demonstrate the high informative value of the integrative approach in studies of the genetic components of PE and show that SNPs of the placental tissue DEGs are associated with PE in different ethnic groups. This work was supported by the Russian Foundation for Basic Research (grant №18-44-700007).
INTRODUCTION

Up to 10% of pregnant women will be diagnosed with preeclampsia, which remains the second leading direct cause of maternal death. The aim of this work is to determine the lesional mechanisms that lead to convulsion and neurosensory signs in a pre-eclamptic woman.

MATERIALS AND METHODS

Open prospective study including all patients meeting inclusion criteria: eclampsia, severe pre-eclampsia with neurosensory signs. Patients who had seizures unrelated to eclampsia were excluded. All patients were investigated by CT scan with injection of contrast medium, transcranial Doppler and cerebral MRI on admission and 15 days later.

CLINICAL CASES AND SUMMARY RESULTS

Twenty patients were included: 14 eclamptic and 6 severe pre-eclamptic. In 12 eclamptic patients, cerebral CT showed a cortical-subcortical hypodensity appearance corresponding on MRI at hyperintense lesions in T2, hyposignal in T1, aspect recalling either an edema or a cerebral ischemia. All these lesions are diffuse, bilateral with a posterior predominance. MRI control showed the disappearance of lesions in all our patients.

CONCLUSIONS

The eclampsia complicating a gravidic arterial hypertension seems to us secondary to a hypertensive encephalopathy with vasogenic cerebral edema in the majority of the cases and this in front of the reversibility of lesions on imaging. But the association with vasospasm can exist. In addition, we note the absence of intracranial hypertension during eclampsia.
INTRODUCTION

Postpartum eclampsia occurs most often in the first 48 hours after delivery. Its prevalence varies from 13 to 37%.

The aim of this work is to study epidemiological characteristics and to identify prognostic factors of postpartum eclampsia.

MATERIALS AND METHODS

This is a retrospective analysis in which all eclamptic patients were included. For each patient we noted the epidemiological, clinical and biological parameters as well as evolution.

Two groups were formed:
- Group 1 (n = 36): patients having convulsed in pre- and per-partum
- Group 2 (n = 6): patients having convulsed postpartum.

CLINICAL CASES AND SUMMARY RESULTS

The prevalence of postpartum eclampsia was 14.2%. Among our candidates, 63% were primiparous.

Of the 6 postpartum cases, 5 patients (82.6%) presented their seizures in the first 24 hours postpartum.

We noted two deaths in group 2, which represented 5 versus 4.4% in group 1; this difference was not significant.

The causes of this mortality were mainly related to coagulation disorders in one case, and one case of hemorrhagic stroke.

CONCLUSIONS

Postpartum eclampsia appears to be less severe than prepartum eclampsia, with less visceral involvement.
INTRODUCTION

The occurrence of severe pre eclampsia in the 2nd trimester raises controversy when aggressive or conservative management of this situation. We propose to evaluate the proportion of preeclamptic women qualified for conservative management, and to study maternal and perinatal outcome of such care.

MATERIALS AND METHODS

Retrospective and analytical study of observations of 150 parturients admitted to the maternity and neonatology center of Farhat Hached University Hospital, Sousse, Tunisia, for severe preeclampsia between 24 and 34 weeks of amenorrhea. We divided the different parturients into 2 groups according to the modality of their care:

- Group G1: conservative,
- Group G2: non-conservative.

CLINICAL CASES AND SUMMARY RESULTS

Among our candidates, 60% of the women were qualified for conservative care against 40% who were not. The average gain in terms of pregnancy extension was 15 days. There was no significant difference between the 2 groups regarding maternal morbidity. This was dominated by retro-placental hematoma and renal failure. No maternal deaths were noted. Perinatal outcome was better for group 1, although the difference was not significant between the 2 groups than for the term group of more than 30 SA. Perinatal mortality was 24.3% for (G1) against 47% for (G2). Neonatal morbidity was noted in 22.4% of (G1) versus 52.5% of (G2).

CONCLUSIONS

More than half of cases of early severe preeclampsia can be managed conservatively. To improve our perinatal outcomes we need to focus our efforts in promoting neonatal resuscitation conditions.
TOPIC: Preeclampsia

ABSTRACT ID: 687

TITLE: MATERNAL AND NEONATAL OUTCOMES OF PREGNANCIES COMPLICATED WITH HELLP SYNDROME

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INTRODUCTION

HELLP syndrome represents severe complication of pregnancy characterized by: hemolysis, elevated liver enzymes and low platelets count. Timely recognition if this disorder of pregnancy is essential to prevent very high extent of maternal and fetal complications, as well as mortality.

MATERIALS AND METHODS

We analyzed maternal and neonatal outcomes of 38 pregnancies complicated with HELLP syndrome in Clinic of Gynecology and Obstetrics, Clinical Center of Serbia, tertiary health care facility, in two years period.

CLINICAL CASES AND SUMMARY RESULTS

The incidence of HELLP syndrome was 0.27%. Average age of patients was 32 years, 79% were primiparous, with spontaneous pregnancies in 81.6% of cases. 97.4% were delivered by emergency cesarean section. Average gestational age in time of delivery was 32.8 weeks. Average time needed to establish the diagnosis was less than two days, to normalization of platelets count 2.8 days, transaminases 4.5 days, and LDH 6.3 days. Fetal complications were: IUGR 84.2% of cases, oligoamnios, and asphyxia. Intrauterine fetal demise occurred in only one patient (2.6%), in pregnancy of 25 weeks of gestation. The average Apgar score was 4.38. The average weight of newborns was 1635g. In neonates decrease in red blood cells count, hemoglobin values and platelets count was noted in first and third day after delivery, but remaining in referent value. Those neonates are in need for respiratory support immediately after birth. Premature birth and acute asphyxia are main risk factors for poor outcome.

CONCLUSIONS

HELLP syndrome and its treatment are still diagnostic and therapeutical challenge in modern obstetrics. Precise diagnosis and early onset of treatment leads to better maternal and fetal outcomes.
INTRODUCTION

Long chain polyunsaturated fatty acids (LCPUFA) play an important role in fetal lipid metabolism. Change of the placental function in preeclampsia women may affect the transport of fatty acids from mother to fetus and may affect fetal nutrition. This study compared the LCPUFA content in blood, placenta and newborn umbilical cord blood between preeclampsia women and normal pregnant women, and observed the influence of maternal eclampsia on fetal fat nutrition.

MATERIALS AND METHODS

Thirty cases including maternal blood, placenta and umbilical cord blood in normal pregnancy women and preeclampsia women were collected. Fatty acid contents of maternal blood, placenta and umbilical cord blood were determined by gas chromatography. Fatty acids of maternal blood, placenta and umbilical cord blood between normal pregnant women and preeclampsia women were compared.

CLINICAL CASES AND SUMMARY RESULTS

An average age of normal pregnant women was 27.0±4.5 years old, and the mean age of preeclampsia women was 30±4 years (P>0.05). The birth weight of newborns in normal pregnancy group and preeclampsia group was 3320±127g and 2830±947g, respectively (P>0.05). Arachidonic acid (AA) and docosahexenoic acid (DHA) of the blood in preeclampsia women were higher than that in normal pregnancy women (P<0.05)). The ratio of AA/DHA of the placenta in the preeclampsia group was higher than that in the normal pregnancy group (P<0.05). The content of linoleic acid (LA) of umbilical cord blood in preeclampsia group was higher than that in normal pregnancy group (P<0.05). The content of linoleic acid of the maternal blood in preeclampsia group was lower than that in normal pregnancy group (P<0.05). The content of linolenic acid (ALA) in the placenta was significantly increased in the preeclampsia group (P<0.05).

CONCLUSIONS

The composition of LCPUFA of maternal blood, placenta and umbilical cord blood was changed in preeclampsia women. It may affect the balance of inflammation in the maternal body. Supplementation of LCPUFA, such as DHA to the pregnancy women during the early pregnancy may improve the balance of the inflammation in preeclampsia women, and may be helpful to decrease the incidence of eclampsia in pregnancy women. It may reduce the adverse effect to the fetus.
TOPIC: Preeclampsia

ABSTRACT ID: 760

TITLE: PLACENTAR ANGIOMODULATORY sFlt-1/PIGF RATIO IMPACT ON TIMING AND MODE OF DELIVERY IN PATIENTS WITH PREECLAMPSIA


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INTRODUCTION

Comparison of the timing and the mode of delivery in patients with preeclampsia in whom sFlt-1/PIGF ratio, as an additional bio-marker for the clinical severity, will be determined, with patients treated in accordance with the current preeclampsia (PE) management protocol without the determination of sFlt-1/PIGF ratio.

MATERIALS AND METHODS

The study is prospective-retrospective and it was realized at the PHI University Clinic of Gynecology and Obstetrics in Skopje in patients hospitalized at the Department for Peripartal Intensive Care with diagnosis of preeclampsia on the day of admission. The determination of the placental angiogens sFlt-1/PIGF ratio, in 30 patients suspected to preeclampsia was done with automated hemiluminescence Elecsys immunoassays. The control group consist of 30 patients previously treated for preeclampsia in accordance with the current preeclampsia (PE) management protocol based on hypertension and proteinuria, without the determination of sFlt-1/PIGF ratio as a additional bio-marker. The treatment, timing and the mode of the delivery was analyzed and compared within the two groups of patients.

CLINICAL CASES AND SUMMARY RESULTS

Clear association between the serum ratio of sFlt1/PLGF and the severity of the clinical condition can be seen. The serum ratios sFlt1 / PLGF ranged from the highest 435 in the severe preeclampsia form, to 26 in a patient with a mild form of preeclampsia. In all five patients (100%) from the group who were conservatively treated, the sFlt-1/PIGF ratio was less than 85, which excludes PE at least for a week and the need for additional treatment until the possible appearance of a new suspicion.

5 patients (16.6%) from the group with the implementation of sFlt-1/PIGF ratio, continued the pregnancy to the safe fetal gestation week, versus only 1 patient (3.3%) from the control group. Twenty one (72%) of patients in the group, where sFlt-1/PIGF ratio was determined were delivered surgically. The percentage of surgical deliveries in the controls was twenty-six of patients(87%). This indicates that in routine clinical practice preeclampsia may be over-diagnosed and may be over treated.

CONCLUSIONS

The syndrome of PE is diagnosed by hypertension in pregnancy and proteinuria, but they do not always give the right clinical picture. Modern knowledge requires a thorough approach to diagnosing this condition due to fact that in certain patients there is a different form and severity of the clinical manifestation of PE. The sFlt-1/PIGF ratio can successfully be used in the triage process, prediction of complications and treatment in combination with existing clinical protocol for preeclampsia.
TITLE: A CLINICAL SCORING SYSTEM TO PREDICT THE NEED FOR EXTENSIVE RESUSCITATION AT BIRTH IN VERY LOW BIRTH WEIGHT INFANTS

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INTRODUCTION
To analyze the risk factors for extensive cardiopulmonary resuscitation in the delivery room and develop a prediction model for outcomes in very low birth weight (VLBW) infants.

MATERIALS AND METHODS
The sample was 5298 VLBW infants registered in the Korean neonatal network (KNN) database from 2013 to 2015. Univariate and multivariate analyses were used to analyze the risk factors for extensive resuscitation. In addition, a multivariable model predicting extensive resuscitation in VLBW infants was developed.

CLINICAL CASES AND SUMMARY RESULTS
Lower gestational age and birth weight, and male sex were associated with extensive resuscitation. Maternal characteristics predicting extensive infant resuscitation were hypertension, abnormal amniotic fluid volume, histologic chorioamnionitis, and less use of antenatal steroid. The final prediction model for extensive resuscitation included gestational age, amniotic fluid, and antenatal steroid use.

CONCLUSIONS
Lower gestational age, abnormal amniotic fluid volume, and less use of antenatal steroid in VLBW infants are important predictors of extensive resuscitation in the delivery room.
INTRODUCTION

It is known that Loop electrosurgical excision procedure (LEEP) increases the risk of preterm premature rupture of membranes (PPROM), preterm delivery, and low birth weight in pregnancy. Thus, cervical cerclage has been attempted in an effort to reduce the incidence of preterm delivery in patients with a history of LEEP. But, its efficacy still remains unclear. This study aim to evaluate pregnancy outcomes after LEEP.

MATERIALS AND METHODS

We retrospectively analyzed the outcomes of 76 pregnancies after LEEP. Of the 76 cases, 49 women underwent prophylactic cerclage with McDonald & modified Shirodkar procedure (cerclage group), and 27 were managed expectantly (expectant group). Pregnancy outcomes including rate of preterm delivery, PPROM and chorioamnionitis were compared. And the effect of potential risk factors such as depth of cone and interval between conization on the risk of preterm delivery was assessed.

CLINICAL CASES AND SUMMARY RESULTS

Preterm delivery rate was not different between the two groups (expectant group vs. cerclage group; 35.8±3.7 weeks vs. 36.0±2.9 weeks, p = NS). Other obstetric outcomes, perinatal outcomes and cesarean delivery rates were similar in the two groups. Among many factors associated with preterm delivery after LEEP, 2nd trimester cervical length was the sole and significant risk factor. But, The rate of chorioamnionitis in the placental tissue after delivery is higher in the cerclage group than expectant group (expectant group vs. cerclage group; 36.7 % vs. 12.0%; p <0.05).

CONCLUSIONS

The prophylactic cervical cerclage did not prevent preterm delivery in women with a history of LEEP before pregnancy. It can even increase the risk of infection during pregnancy such as chorioamnionitis. The 2nd trimester cervical length may be the risk factors for preterm birth in women with a history of LEEP.
INTRODUCTION

Magnesium sulfate remains one of the most commonly used agents in preterm labor treatment and has also been the focus of recent research for its potential neuroprotective effects for neonates born preterm. But FDA recommends against prolonged use of magnesium sulfate to stop preterm labor due to hypocalcemia to induce bone changes in the newborn. The purpose of this study is to compare the serum magnesium and calcium levels of both mothers and their newborns between MgSO4 administration group and control groups.

MATERIALS AND METHODS

Thirty seven preterm labor mothers treated with MgSO4 (Group A) and forty three non-complicated pregnant women (Group B) were enrolled in this study. Blood samples were taken and measured total magnesium (T-Mg), ionized magnesium (I-Mg), total calcium (T-Ca) and ionized calcium (I-Ca) levels. Maternal blood sample was done before the delivery, sampling of the umbilical artery and vein was done immediately after delivery, and neonatal blood sample was done at the day of delivery.

CLINICAL CASES AND SUMMARY RESULTS

Maternal serum T- and I-Mg levels were significantly increased in group A than group B (T-Mg; p<0.01, I-Mg; p<0.01). Also, compare to group B, maternal T-Ca levels were significantly decreased in group A (p<0.01) but maternal I-Ca levels were not significantly decreased between two groups (p=NS). At umbilical artery, T- and I-Mg, T-Ca levels were statistically significant differences between group A and group B (p<0.01). I-Ca levels were 2.59±0.22 mEq/L in group A and 2.76±0.20 mEq/L in group B. The difference did not reach statistical significance (p=NS). At umbilical vein, significant differences were in T- and I-Mg, T-Ca levels between group A and group B (p<0.01). But, compare to the group A and group B, I-Ca levels were no significant different (p=NS). Neonatal serum T-Mg were significantly increased in group than group B (p<0.01). However, compare to the group A and group B, T- and I-Ca levels of neonate were no significant differences (p=NS).

CONCLUSIONS

MgSO4 infusion leaded to increasing maternal serum, umbilical arterial and venous T- and I-Mg and T-Ca levels, but there was no significant difference in I-Ca levels. Neonatal Mg levels were increased in MgSO4 infusion group, however there were no significantly differences in T- and I-Ca levels. Therefore, we may conclude that tocolytic MgSO4 is not associated with neonatal hypocalcemia.
ABSTRACT ID: 48

TITLE: Caffeine use and Brief Resolved Unexplained Events (BRUE) during the first year of life in ex-preterm infants

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INTRODUCTION

Background:
Current AAP recommendation suggests that incidence of SIDS/BRUE after 43 weeks of corrected gestational age (CGA) age it is not different for a term and preterm infants. There is no documented association between apnea of prematurity and risk of SIDS/BRUE. In available literature, we did not find the comparison between the incidence of BRUE/ALTE in preterm infants who were on caffeine till 46 weeks of PCA and the similar group of preterm infants with no medications.

Objectives or Questions:
A study utilizing home pulse oximetry recording to describe caffeine use and respiratory patterns was launched in January 2015.
The objective of this study was to describe the incidence of BRUE in this population.

MATERIALS AND METHODS

156 infants in total
i) Study Group: 35 ex-preterm Infants who went home on caffeine
ii) Control Group: 83 ex-preterm infants with no caffeine at discharge
iii) Reference Group: 38 healthy infants

Chart review was performed after 6 and 12 months post-discharge. The following records were used for analysis: the total number of ER visits within 6 and 12 months post-discharge from the hospital; total number of admission to the pediatric wards/intensive care unit; total number of documented upper respiratory tract infections, including bronchiolitis, and documented BRUE episodes. For patients with confirmed BRUE episodes detailed family, social and medical history was obtained from parents and care providers (pediatricians and family physicians).

CLINICAL CASES AND SUMMARY RESULTS

Results and Findings
Out of 156 infants, 4 had documented BRUE, and all these patients were from the control group and were born at > 33 weeks of GA. According to BRUE clinical practice, guideline 3 patients had 3 risk factors out of 7; and 1 patient had 5 out of 7. All infants came from non-smoker’s families; 3 were on exclusive breastfeeding and 1 was on fortified formula for poor weight gain. 2 infants had events after 43 weeks of PCA. None of the patients had an acute medical condition at the time of BRUE (e.g. viral infection).

CONCLUSIONS

Conclusions and Significance
Ex-preterm infants for whom caffeine was discontinued in the hospital had the highest incidence of BRUE
Monitoring ex-preterm infants with pulse oximetry after discharge may help to identify which patients are at greatest risk of BRUE.
DEFICIENCY OF ALPHA 1 ANTITRYPSIN IN THE NEWBORN AS A CAUSE OF CONJUGATED TYPE OF HYPERBILIRUBINEMIA

INTRODUCTION

Alfa 1 antitrypsin (AAT) is an elastase enzyme inhibitor, a powerful proteolytic enzyme located in neutrophils, while the liver is the place of its production and excretion into circulation. AAT inhibit a number of other proteases as well. It is inherited autosomal-recessive, and the gene responsible for development of this disease is located at the locus 14q31-32.3. The incidence of the most common pathological variant is 1:2000 - 1:5000 liveborn children. The disadvantage of AAT is a hereditary metabolic disorder, with a low serum level, which is main system component for neutralization of tissue proteases. Disorder is associated with chronic liver and lung lesions. Main goal is to present a newborn with a prolonged icterus and conjugated type of hyperbilirubinaemia, where AAT is proven.

MATERIALS AND METHODS

A male newborn in the fourth day of life is came neonatal department due to suspicion of perinatal infection and increased direct bilirubin values. It was the first child from the first controlled regular pregnancy. Child was born 21 days before the term, and childbirth was finished with per via natural (PVN). Birth weight of baby was 2500 grams, length was 50 cm and Apgar score 9/10. Family history: negate consanguinity, congenital anomalies, other diseases and conditions of importance for heredity. Physical finding: hypotrophic, yellow color of the skin, with appropriate remaining clinical condition by systems and neurostatuses.

CONCLUSIONS

After medical analyzes, diagnosis of ATT deficiency was confirmed at the molecular genetic level (phenotype alpha AT:PiZZ). Mother and father are carriers of PiMZ mutation. The ATT phenotype differs in the protease inhibitor composition (Pi) by electrophoretic mobility and plasma AAT concentration. The most common deficient forms are PiZ and PiS. AAT deficiency can provide obstructive icterus in newborns, with severe hepatic and lung dysfunction, with fatal outcome in 1-2% of children.
INTRODUCTION

Insulin-like growth factor 1 (IGF-1) is important and necessary for fetal development. As the pregnancy week increases, IGF-1 concentrations, especially in late pregnancy, increase rapidly. However, after premature birth serum concentrations rapidly decrease and can stay at much lower levels for weeks than during intrauterine period. In the literature there are publications showing that low IGF-1 levels are related to complications such as inadequate weighing, delayed growth of head circumference, BPD, ROP, IVH, and NEC. Aim of this study to ascertain whether IGF-1 is associated with morbidities of prematurity such as BPD, ROP, IVH, and NEC, and is a useful predictor of these diseases.

MATERIALS AND METHODS

We prospectively studied newborn infants born at a postmenstrual age of ≤32 weeks, between January 2015, and March 2017. Serum IGF-1 levels were measured serially in blood samples on the 1st, 3rd, 7th, 21st, and 28th day.

CLINICAL CASES AND SUMMARY RESULTS

A total of 93 infants were enrolled in the study. All these infants had the following characteristics at birth (mean ± standard deviation scores): weight 1236.11±354.06 g, and gestational age 29.43±2.10 weeks. Of our subjects, 38.7% developed BPD, 32.3% developed ROP, 35.5% had IVH, and 11.8% developed NEC. All of the IGF-1 levels were significantly lower in the group, which developed BPD or ROP (p<0.001). The patients who developed IVH and NEC also had lower IGF levels. However, there was not statistically significant difference in both groups.

CONCLUSIONS

In this and other studies, it was shown that IGF-1 levels are closely related to prematurity and its complications. However this is not fully a cause and effect relationship, it may also be related to the low IGF-1 levels as well as other risk factors for the babies in whom these complications are frequently seen. There is a need for controlled studies involving in establishing relations to IVH and NEC and in obtaining expected benefits of planned IGF-1 replacement treatment.
INTRODUCTION

Introduction: According to the latest WHO data, every year it is estimated that 15 million babies were born before 37 weeks of gestation, and that number continues to grow. Preterm delivery is one of the most important factors of perinatal morbidity and mortality. Prediction and prevention of a premature delivery (PD) is a major challenge in obstetrics. It is important to point out the possible application of certain markers in everyday medical practice, which could identify pregnant women in the first trimester with an increased risk of PD.

The aim: To investigate the concentration of biochemical parameters – creatinine and uric acid concentrations in the blood of pregnant women with premature and normal deliveries and to estimate their predictive value in the development of PD.

MATERIALS AND METHODS

Prospective study from 2017 at the Clinical Centre of Vojvodina, Novi Sad, Department of Obstetrics and Gynecology which includes 53 pregnant patients over 18 years of age, with one-year pregnancies of gestational age from 11 to 14 weeks divided into 2 groups: N-group of normal pregnancies completed in terms and without complications (N=31); P-group of prematurely completed pregnancies (N=22). The research instruments were questionnaires, and analyzed the values of blood biochemical parameters - creatinine and uric acid, and data on the completion of pregnancy.

CLINICAL CASES AND SUMMARY RESULTS

Uric acid concentrations (p = 0.006) and creatinine concentrations (p <0.001) statistically significantly differed between groups P and N. The concentration of uric acid was higher in the group of preterm pregnancies, where values over 233.5 had a sensitivity of 63% and specificity of 83% as an early prognostic factor PD. Creatinine concentrations are higher in preterm pregnancy, where values over 55.5 have a sensitivity of 81% and a specificity of 90% as an early prognostic factor PD. The values of creatinine (r = -0.572; N = 53; p = 0.000) are strongly in correlation with PD, and uric acid values (r = -0.352; N = 53; p = 0.010) are moderately negative correlated with PD. Elevated values creatinine (beta=0.534) and uric acid (beta=0.247) could be used as a marker in the PD prediction.

CONCLUSIONS

Elevated concentrations of creatinine and uric acid in the first trimester differ significantly between the P and N groups, significantly negative correlated with PD formation and in the first trimester could be used as a marker in the PD prediction.
TOPIC: Preterm birth/ the preterm infant

ABSTRACT ID: 142

TITLE: EXTREMELY PRETERM BIRTH: PERINATAL LOSSES IN MULTIPLE PREGNANCIES

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INTRODUCTION

Over 57.0% of multiple pregnancies end before 37 weeks. Almost 11.2% of these are extremely preterm birth. Perinatal losses in multiple pregnancies delivered preterm are 4-9 times higher than in singleton pregnancies. Thus the aim of our study was to analyze causes of perinatal losses and to outline ways to improve perinatal outcomes in patients with extremely preterm birth and multiple pregnancies.

MATERIALS AND METHODS

A retrospective analysis of 64 histories of multiple pregnancies was performed. All patients delivered at 22.0-27.6 weeks: 22.0-24.6 – 20 (31.3%), 25.0-27.6 – 44 (68.7%). 34 (53.1%) of all women had monochorionic twins, 30 (46.9%) – dichorionic twins. The most frequent complicating factors of pregnancy were: discordant growth – 49 (76.6%), threatened miscarriage – 35 (54.7%), cervical insufficiency – 29 (45.3%). In patients with monochorionic twins, a specific complication was diagnosed – twin-to-twin transfusion syndrome. 8 (33.3%) of these patients had undergone a selective fetoscopic laser coagulation (sFLC) of intertwin anastomoses. The rate of perinatal mortality after the operation – 687.5‰. It is 1.3 times lower than in patients who have not received the specified treatment (875.0‰).

CLINICAL CASES AND SUMMARY RESULTS

At 22.0-24.6 weeks of gestation, all women delivered vaginally. 39 of 40 (97.5%) children were stillborn. At 25.0-27.6 weeks 19 (43.2%) patients undergone a c-section for the following indications: unprepared cervix and PPROM – 11 (57.9%), acute fetal hypoxia – 4 (21.1%), placental abruption – 2 (10.5%), no effect of the severe preeclampsia treatment – 2 (10.5%). The rate of live birth in patients with c-section was 81.6%, after vaginal delivery – 24.4%. Perinatal mortality was determined by the type of choriality. The perinatal mortality rate in patients with monochorionic twins was 808.8‰, antenatal mortality – 80.9%. At 25.0-27.6 weeks, there was no early neonatal mortality. 12 out of 13 born alive children were transferred to the second level of NICU. In dichorionic twins, the perinatal mortality rate was 466.7‰. 20 (33.3%) neonates were stillborn. 8 (13.3%) children died during the early neonatal period. 31 of 42 born alive children were transferred to the second level of NICU.

CONCLUSIONS

Perinatal mortality in extremely preterm multiple births depends on gestational age: 22.0-24.6 weeks – 1000‰, 25.0-27.6 weeks – 488.6‰. The rate of perinatal losses in children from monochorionic twins, compared to dichorionic, was 1.7 times higher. In 25.0-27.6 weeks c-section, compared to vaginal labor, increased the rate of live birth 3.3-fold. To reduce the rate of extremely preterm multiple births it is crucial to detect cervical insufficiency and to perform sFLC of intertwin anastomoses.
INTRODUCTION

Currently, proteomic technologies have been used to solve applied medical problems, including the search for biomarkers of pathological processes, which form the basis for the implementation of predictive-preventive and personalized medicine. In the field of obstetrics, the use of proteomic analysis reveals informative tests for the development of complicated gestation. Among obstetric pathology a significant place is occupied by preterm delivery, which largely determines the perinatal morbidity and mortality.

The aim of this work was to identify markers of prognosis of premature birth on the basis of the results of evaluation of the proteomic spectrum of blood serum of pregnant women.

MATERIALS AND METHODS

The study included 22 women aged 24-35 years, who were two groups: the control group – 10 women with physiological pregnancy and delivery on time, the main group – 12 women with the threat of premature birth, the pregnancy of which ended in a period of 34-37 weeks. The material for the study was blood serum taken in 16-17 weeks of gestation. The serum was fractionated using standard kits including magnetic microparticles with a functionalized surface MB-HIC C8, MB-IMAC Cu, MB-WXX Kits (Bruker, Germany). Identification of proteins was carried out on matrix-assisted laser desorption/ionization time-of-flight/time-of-flight mass-spectrometer Ultraflex II (Bruker, Germany) using the Mascot Search algorithm (Matrix Science, USA). The search was performed in the Swiss-Prot/UniProt database.

CLINICAL CASES AND SUMMARY RESULTS

In the serum of women in the main group identified the proteins, the production of which decreased: chaperones (endoplasmin, heat shock protein A8), antioxidant enzymes (Cu/Zn-superoxide dismutase, peroxiredoxin-2 and -3), cytoskeletal proteins (transgelin 2, gelsolin), cell adhesion molecules (E-cadherin), proteins that regulate the metabolism of folate (placental folate transporter 1), proliferation (prolactin-inducible protein), angiogenesis (vascular endothelial growth factor-A), intracellular signaling (Janus kinase 2).

The up-regulated proteins of women, whose pregnancy ended in preterm labor, were: cytokines (interleukin-6 and -7), proteins involved in the proteolysis (bikunin, matrix metalloproteinase 8), transcription (transcription elongation factor S-II, ribosomal protein S6 kinase a-3), angiogenesis (pigment epithelium-derived factor), binding and transport of various ligands (insulin-like growth factor-binding protein 1, retinol-binding protein 4, lipocalin-1, transferrin).

CONCLUSIONS

Thus, the appearance in the II trimester of gestation of imbalance in the spectrum of proteins with important regulatory functions, obviously, creates the prerequisites for the development of molecular-cellular disorders in the mother-placenta-fetus system and further promotes premature initiation of labor. The detected differentially expressed proteins of the blood serum can serve as potential markers for the prediction of preterm labor.
TOPIC: Preterm birth/ the preterm infant

ABSTRACT ID: 155

TITLE: RETROSPECTIVE COHORT STUDY OF COMBINED USE OF PROGESTERONE AND CERVICAL PESSARY OR CERCLAGE IN ASYMPTOMATIC WOMEN WITH RISK OF PRETERM DELIVERY

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INTRODUCTION

Globally, preterm birth (PTB) rates are rising and have a significant impact on neonatal morbidity and mortality. PTB remains difficult to prevent and a number of strategies for preterm birth prevention (progesterone, cervical pessaries, cervical cerclage, tocolytics, and antibiotics) have been identified. A paucity of effective interventions exists for the prevention of PTB (KarisAllen L, 2017). Despite being a common clinical practice, evidence to support the combined use of multiple versus single interventions for preventing PTB is scarce (Jarde A, 2017).

Objective was to examine the comparative use of Arabin pessary or cerclage with intravaginal progesterone for the prevention of preterm birth in asymptomatic women with high risk factors for preterm labor.

MATERIALS AND METHODS

This was a retrospective cohort study of 100 women with singleton pregnancies from August 2015 to March 2017 in the Gynecological Department of L. Reshetova Regional Clinical Perinatal Center. This study included women with high risk of PTB due to short cervix (≤25 mm) and cervical funneling found on ultrasound (64%) or history indicated (36%). All patients have been administered intravaginal progesterone in the dosage 200 mg per day. Group I consisted of 50 women who had a cerclage at the 22 week. Group II consisted of 50 women with pessary placement at the 18 week. Primary outcomes were rates of PTB before 37, 34, and 28 weeks gestation. Secondary outcomes were the average weight of a newborn, the infant's score on the Apgar scale, the percentage of low-weight newborns.

CLINICAL CASES AND SUMMARY RESULTS

One patient from Group II dropped out of the study. Fifty four (54%) and fifty seven singleton women (57.1%) delivered at term correspondingly. Of these deliveries, eighty seven (87.7%) and sixty five (65.9%) were spontaneous. Rates of PTB before 28 weeks were six (6.0%) and eight (8.1%), before 34 weeks gestation were sixteen (16.0%) and twelve (12.2%) for all deliveries, before 37 weeks were twenty for (24.0%) and twenty two (22.4%) correspondingly ($\chi^2 =5.518; \ p=0.138$). The average weight of a newborns were 3400g [Me 2770; 3560] and 2916 g [Me 2530; 3510], $U=841.0; p=0.222$; the percentage of low-weight newborns were 8,1% and 6,0% ($\chi^2 =2.746; \ p=0.253$) and the Apgar points were 7.75 [Me 7; 8] and 7.0 [Me 7; 8], $U=800.0; \ p=0.102$ correspondingly.

CONCLUSIONS

The combination of progesterone with Arabin pessaries and cerclage showed similar efficacy in the prevention of PTB in high risk women. Further multicenter studies are necessary to confirm these findings and determine as guidelines in the future.
TOPIC: Preterm birth/ the preterm infant

ABSTRACT ID: 169

TITLE: PERINATAL COMPLICATIONS OF LATE PRETERM INFANTS

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INTRODUCTION

Physiological and metabolic immaturity is the main cause of the diminished ability of the late preterm (34 0/7-26 6/7 weeks of gestation) to adapt to the extraterin life and causes an increased incidence of morbidity in the neonatal period. The aim of the paper is to highlight the most common complications in neonatal period in this newborn category.

MATERIALS AND METHODS

The statistical survey is retrospectively conducted over a 5-year period (2013-2017), in which there were 19412 births and the prematurity rate of 10.57%. The inclusion criteria were gestational age (34 0/7-36 36/7), the following parameters were evaluated: weight, Apgar score, mode of delivery, early complications (respiratory distress, metabolic disorders, eating difficulties, sepsis).

CLINICAL CASES AND SUMMARY RESULTS

From the total births of the analyzed period, a premature rate of 10.57% was recorded, of which 7.9% were premature with gestation age between 34 and 37 weeks, the birth weight was on average 2350 gr., the Apgar score was 8, and 52% were born by cesarean section. The most common complication was respiratory (25% transient tachypnea, 15% respiratory distress, 7% pneumonia), metabolic disorders in 5% of cases, hyperbilirubinemia in 57%, feeding difficulties 30% and 13% thermal instability.

CONCLUSIONS

The incidence of late prematurity was 7.9%. Due to the high rate of complications versus term newborns, they should be given particular and special attention in approach and care.
TOPIC: Preterm birth/ the preterm infant

ABSTRACT ID: 172

TITLE: EXTREMELY PRETERM DELIVERIES: INFLUENCE OF THE DELIVERY METHOD ON THE PERINATAL OUTCOME

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INTRODUCTION

High perinatal mortality rate is typical of extremely preterm deliveries. In Western Europe and America, extremely premature newborns are resuscitated since the 70s of the XX century, but even specialists abroad still have a lot of problems to solve. The preferred delivery method in case of an extremely preterm childbirth is one of such challenges. The need to decrease the number of operative deliveries in extremely preterm cases was initially mentioned back in the 90s of the XX century: Malloy MH, Onstad L, Wright E. (USA), Grant A., Penn ZJ, Steer PJ. (UK).

Our work was intended as a comparative analysis of outcomes for extremely premature newborns depending upon the delivery method.

MATERIALS AND METHODS

Perinatal Center of the Rostov Province was used as the source for a retrospective study of 110 cases of extremely preterm deliveries, which took place during the 2011-2012 period. Stillbirths and incurable congenital malformations served as withdrawal criteria. All patients were subdivided into 3 groups. The first group consisted of women with induced extremely preterm deliveries (n=24). Pregnancies of all patients in the group were delivered via cesarian section. The second group was comprised of women with spontaneous onset of labour before amniorrhea (n=34). The third group consisted of patients with preterm rupture of membranes (n=52). The outcome for newborns was evaluated in each group using the methods of descriptive statistics and variance analysis.

CLINICAL CASES AND SUMMARY RESULTS

Cesarean section was performed for all women in the first group. 50% of the newborns were discharged home, 33,3% of the neonates died, 16,7% were transferred for further developmental care.

In the second group, pregnancies of 20 women were delivered naturally, 14 — via cesarian section. Out of the vaginally delivered neonates, 70% died, 10% were discharged home, 20% needed a long rehabilitative care. Following an operative delivery, 42,9% patients were discharged home, the same number was transferred to other institutions in order to address specific conditions of the newborns, 14,2% died during the neonatal period.

In the third group, 18 patients had vaginal deliveries, 34 — abdominal deliveries. Following a natural childbirth, 44,4% of babies were discharged home, 44,4% of the newborns died. 11,2% were transferred to a specialized hospital. Following a cesarian section, 29,4% babies were discharged home, 29,4% were transferred to other departments, in 41,2% of cases the babies died.

CONCLUSIONS

1. In the group with spontaneous onset of labour preceding rupture of the membranes, cesarean section significantly increases the survivability of newborns.
2. In the group with preterm rupture of the membranes, the delivery method does not materially influence the outcome for newborns, probably, because the situation is affected more by other factors including those behind the discharge of amniotic fluid.
TOPIC: Preterm birth/ the preterm infant

ABSTRACT ID: 182

TITLE: EFFECTIVENESS OF ANTENATAL CORTICOSTEROIDS BEYOND 34 WEEKS GESTATION IN WOMEN WITH PLACENTA PREVIA

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INTRODUCTION

The practice of antenatal corticosteroid administration in pregnancies of 24-34 weeks of gestation that are at risk of preterm delivery was adopted over 20 years after the first randomized clinical trial in humans. According to the systematic review with meta-analysis (Saccone G, 2016) antenatal steroids at ≥34 weeks' gestation reduce neonatal respiratory morbidity. However, many unanswered questions about the risks and benefits of antenatal corticosteroids in this population remain and should be considered with the adoption of this treatment recommendation.

Objective was to evaluate the effectiveness of antenatal corticosteroids given at ≥34 weeks' gestation in patients with placenta previa.

MATERIALS AND METHODS

A retrospective case-control study was conducted. The inclusion criteria were singleton pregnancy, planned cesarean section due to placenta praevia, gestation age 34-37 +6 weeks, willingness to participate in the study. The exclusion criteria were: multiple pregnancy, severe preeclampsia, fetal distress. Patients from group I (n = 34) has been administered dexamethasone intramuscularly in a course dose of 24 mg. Patients from group II (n = 34) were not preventive of RDS. The average age were 33.15±4.6 and 32.29±5.02 correspondingly (p=0.232). All patients had a placenta previa. Eighteen (52.9%) and twelve women (35.3%) correspondingly had a uterine scar (0.067). Statistical processing of the results was carried out using the StatSoft Statistica 6.1.

CLINICAL CASES AND SUMMARY RESULTS

The results of the study showed no statistically significant differences in primary and secondary outcomes in the groups with antenatal exposure to corticosteroids compared with no exposure (tabl.1).

Women from both groups had a similar rating on the Apgar score at the first and fifth minutes - 7.47±0.84 and 7.52±1.06 (0.340), 8.22±0.82 and 8.58±1.0 (0.088). The same number of newborns from group with antenatal exposure to corticosteroids and with no exposure corticosteroids were required hospitalization in the intensive care unit (ICU). However, it should be noted that newborns who had antenatal exposure to corticosteroids tended to have a lower incidence of aspiration syndrome – 8.8% and 17.6% (0.163), bronchopulmonary dysplasia (BLD) – 8.8% and 14.7% (0.0214) and need for mechanical ventilation – 11.7% and 14.7% (0.354) in comparison patients without RDS prevention. However, these differences were not statistically significant. One newborn from the group I had a hypoglycemia.

CONCLUSIONS

For a more balanced rationale for the decision to use antenatal corticosteroid treatment in pregnancies at >34 weeks of gestation in women with placenta previa, we urge for ongoing further research into the risks and benefits of antenatal corticosteroid use in preterm infants overall.
INTRODUCTION

Premature birth can represent an important traumatic experience for mothers while numerous qualitative and quantitative studies document the full range of post traumatic sequel, as intrusive recollections, behavioral avoidance and hyperarousal as well as attachment difficulties. Respectively severity of neonatal complications and gestational age have been found to be predictive of Post-Traumatic Stress Disorder Questionnaire (PTSDQ) symptomatology in mothers as measured by Perinatal Post Traumatic Stress Disorder Questionnaire (PPTSDQ). This study aims to give increased focus to mothers having a premature birth. Additionally, will identify other influential factors and will compare the level of maternal stress in NICU versus maternity of the same hospital.

MATERIALS AND METHODS

Twenty-five mothers of very or extremely premature infant (<36week GA) and twenty five mothers of full term infants responded to the PPTSDQ prior to discharge. This auto questionnaire consisted of 14 items that could take a value score from 0 to 4. The total score of the modified version can take values from 0 to 56. According to previous studies PPTSDQ is an established clinical tool for identifying mothers experiencing significant emotional distress during the postnatal period with supported convergent and divergent validity. Researchers have identified that mothers acquiring a score of 19 or higher are nearly twice as likely for referral to mental health services.

CLINICAL CASES AND SUMMARY RESULTS

The mean score of the two groups (maternity - NICU) presents a value of 10,04 with S.D. 8,32 into the NICU group and 6,28 with S.D. deviation 5,84 for the maternity group. The analysis of scores among the two groups although exhibit a statistical difference. This difference could not be considered as remarkable but empirically suggests that the labor itself constitutes a traumatic event. The evaluation of maternal demographic characteristics as well as the perinatal characteristics of the newborn reveal that the severity of perinatal complications is not the only variable that affects the PPTSDQ score. Gestational age at birth, birth weight, and duration of hospitalization account equally as differentiating factors. The analysis and evaluation of the findings indicate that PPTSDQ equally identifies pre-existing distress symptoms associated with maternal personality traits emerged with the traumatic event of the unexpected birth.

CONCLUSIONS

This tool identifies postnatal maternal distress but should not substitute a clinical interview. It seems that PPTSDQ is the only available clinical tool specially developed for obstetric settings whereas exist others for screening PTSD in general. The use of PPTSDQ both in maternity and in the NICU service could stand as an immediate act of prevention since it can easily identify distressed mothers. Thus, it is suggested that can be used widely effectively in perinatal centers.
TOPIC: Preterm birth/ the preterm infant

ABSTRACT ID: 211

TITLE: Optimal mode of delivery for newborns with very low birth weight

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INTRODUCTION

One of the most important problems of preterm delivery is the optimal mode of it. A passage through the birth canal during vaginal delivery stimulates the production of endogenous surfactant and decreases RDS (respiratory distress syndrome) and artificial ventilation. However, the compression of the preterm infant’s head increases the frequency of IVH (intraventricular hemorrhage). Therefore, the choice of optimal mode for preterm delivery is a very difficult, but very important for perinatal outcomes and prognosis.

Objectives: to assess the short-term outcomes of preterm delivery at 28-32 weeks according to mode of delivery.

MATERIALS AND METHODS

Data of 124 preterm infants at 28-32 weeks of gestation were eligible for analysis of perinatal outcomes after exclusion of multiple, infection, preeclampsia and its complications (HELLP, abruptio placenta), placental insufficiency, severe somatic diseases of woman, fetal malformations.

CLINICAL CASES AND SUMMARY RESULTS

All of infants at 28-32 weeks have RDS and there was no difference in the frequency of mechanical (42,1% and 41,7%) and non-invasive ventilation after vaginal and cesarean delivery (57,9% and 58,3%). The frequency of Apgar’s score less 7 was the same in the both groups (56,8% after vaginal and 54% after cesarean delivery). All neonates had cerebral depression, but the incidence of IVH was 2.3 times higher after vaginal delivery (14.9% and 6%; p>0.05; RR 2.477, 95%CI 0.728 to 8.435). The staying in neonatal intensive care unit (NICU) after vaginal delivery was 11,5 days and 13,2 days after cesarean section.

CONCLUSIONS

We had no a reliable difference between the necessary ventilation parameters (mechanical ventilation and cPAP) and the mode of delivery. At the same time the frequency of IVH was 2.5 times higher in the group of vaginal delivery. Our results demonstrate the optimal mode of delivery at 28-32 weeks is cesarean section which lead to decreasing IVH and improving perinatal morbidity.
INTRODUCTION

The actuality of the problem of preterm birth is due to the high frequency of early neonatal mortality among premature infants (60-70%), neurological diseases (50%), including cerebral palsy, visual impairment, hearing and other chronic diseases. The aim of this study was to determine criteria of efficiency of tocolisis of Atosiban and the safety of its use in Obstetric Department of Moscow city clinical hospital № 13. Therapy with tracotocil for the purpose of tocolysis was given to 54 women in the gestation period of 26-34 weeks. It was found that the conduct of tacrolisis atoziban is effective in 90.7% of cases with a slight shortening of the cervix not more than 5 mm, regardless of the gestational age.

MATERIALS AND METHODS

Statistics on the number of premature newborns by maternity homes of the Department of Health of Moscow for 2016 is presented on the slide. In obstetric hospital of City Hospital #13 in 2016, 379 premature newborns emerged, of them with extremely low body weight - 23 - 6.07% of all premature babies. A total of 6 332 premature babies were born in the city, with ELBW - 463 - 7.31% of premature babies. Of course, it should be noted first of all that the risk of neonatal mortality and morbidity is highest among women, whose birth occurred within 24-27 weeks. Neonatal morbidity is observed in 77% of births in terms of 24-27 weeks compared with 2% in children born in terms of more than 34 weeks. In the hospital # 13, with a total mortality of prematurees of 5.28%, 55% of newborns died with ELBW.

CLINICAL CASES AND SUMMARY RESULTS

The average age of pregnant women was 30.2 years, the first-pregnant ones were 31.4%, the first-born - 57.4%. Pregnancy as a result of ART was in 18% of women, 3 or more upcoming births (maximum 4) were in 16.7%. The scar on the uterus after Caesarean section was in 19% of women, premature birth in the anamnesis - in 6%. It is noteworthy that every third woman had an infection of the kidneys and urinary tract before and during pregnancy, and 37% had an infection of the genital tract during pregnancy. The time of pregnancy in admission was from 26 to 34 weeks, an average of 29.2 weeks. The length of the cervix according to cervicometry - from 7 mm to 28 mm. Six (11.1%) pregnant women with singleton fetus had a pelvic presentation of the fetus, 48 (88.9%) had a headache. Twins were in 6 pregnant women (11.1%). For all pregnant women, the prevention of RDS fetus dexamethasone in a course dose of 24 mg. In 13% after tocolysis - a course of magnesial therapy.

CONCLUSIONS

The prolonging pregnancy for more than 48 hours was in 90.7%! Up to 7 days - 70.4%, more than 14 days and further - 33.3%. The delivery period ranged from 26 to 40 (35.3 + 5.19) weeks. In 73% of the births were timely. The average interval "onset of tocolysis - childbirth" was 5.8 (from 2 to 34 days) days. Childbirth by operation cesarean section was in 24%. The indications were: a scar on the uterus (61.5%), pelvic presentation (7.7%), placental abruption (7.7%), somatic pathology (23.1%).
INTRODUCTION

Maternal attachment is defined as the bond of love developed by the mother to her baby as a result of satisfying and enjoyable interaction between the mother and the baby. In the early stages of life, a healthy attachment between the mother and the infant affects childhood and adulthood life of individuals as positively. A premature baby's hospitalization may cause mother's to be separated from her baby, unable to breastfeed her baby, unable to make early contact with the baby, unable to share the same room with the baby, unable to take part in baby care. Mothers of premature babies who are hospitalized for a long time may experience attachment problems. The purpose of the study was investigated maternal infant attachment and related factors of mothers of premature infant in NICU.

MATERIALS AND METHODS

The sample of this descriptive study consisted of 127 mothers who their babies hospitalized least 30 days in the NICU, in three hospitals, in city of Konya, Turkey. Data was collected by Newborn Information Form developed by researchers, Maternal Questionnaire Form and the "Maternal Attachment Inventory" (MAI). The data were analyzed by skewness, kurtosis values, Kolmogorov-Smirnow test, Mann Whitney U test, Kruskal Wallis test, Bonferroni corrected Mann Whitney U test, multiple regression. Statistical significance level was accepted as p <0.05. Ethical committee approval was obtained for the study, and also informed consent was obtained from the mothers.

CLINICAL CASES AND SUMMARY RESULTS

It was determined that 33.1% of the mothers were 31 years of age or older, 66.1% of them were primary school graduates and 18.1% of them had lower income levels. 7.9% of the mothers were grand multipara (5 or more). 5.5% of the mothers visited the baby once or twice a week and 9.5% had never embraced the baby. The mean of maternal attachment scale scores were found as 99.09 ± 7.32. Mothers who were over the age of 31, had a low income, had five and over pregnancies, had another child, had negative changes of spouse relationship after birth, didn't stay in the mothers hotel near the hospital, didn't breastfeed of baby, didn't embracing of baby, had visit two times in a week of infant, and give the respiratory support of baby were significantly decrease of MAI (p <0.05). The multiple regression analysis revealed that 38% of the changes of MAI score are related to maternal visit frequency, income level, baby embrace, maternal age and number of pregnancies.

CONCLUSIONS

This research revealed that the level of attachment was significantly lower in mothers who could not visit the baby frequently, could not embrace the baby, had a low income level, were over 31 years old and grandmultipara. The NICU nurses should support about mothers for visit their baby, embrace of baby, to stay at the mother's hotel, and breastfeed her baby to improve maternal attachment. In the NICU, family-centered and individualized care may be needed to develop for maternal attachment.
INTRODUCTION
The aim of this study was to analyse the possible connection between the mother's age, duration of the pregnancy and the delivery type as well as the weight and gestational age of the newborns. Hypothesis: Childbearing women at the age of 14-19 have a shorter delivery duration and are more often giving birth vaginal comparing to childbearing women at the generative age (up to the age of 35). Adolescents give birth to mature newborns, body weight type II. This cross-sectional study is done consists data from 1.1.2017-31.12.2017. This study showed that adolescent women give birth vaginal more often, have a shorter delivery time and their newborns belong to group II considering bodyweight (WHO categorisation).

MATERIALS AND METHODS
For analysing adolescent pregnancies in Tuzla Canton we used data from archives of the Perinatology department of the University clinical center Tuzla. The adolescent mothers at the age of 14-19 which gave birth at the Perinatology department from 1.1.2017-31.12.2017. The adolescent mothers were categorized by age in 2 groups: 14-16 years old and 17-19. The birth information were categorized by the numbers of pregnancies, delivery duration, delivery type. Newborns' weight were categorized in 3 groups as recommended by the WHO: first group < 2499g; second group 2500-4499g and the third group > 4500g. The newborns were categorized in 2 groups: premature (< 37 gestational weeks), termborn (37-42 GW), postterm newborns (>42 GW) and by sex. The control group had 126 childbearing women at the generative age (24-35 years). This group was categorized by the same parameters as with the adolescent mothers.

CLINICAL CASES AND SUMMARY RESULTS
There were 3720 births. 126 (3,38%) were from adolescent mothers. 12 (0,32%) adolescents were 14-16 years old, 114 (3,06%) 17-19. 112 (88,8%) were primiparae, 12 (9,5%) secundiparae and 2 (1,58%) multiparae. The delivery took 0-5h in 76 (60,31%) births, 6-11h in 24 (19,04%), 12-23h in 22 (17,46%) and over 24h in 4 (3,17%). 107 (84,92%) had vaginal delivery and 19 (15,08%) C Section. Group I had 10 newborns (7,93%), group II counted 116 (92,06%), none in group III. 65 (51,58%) were boys and 61 (48,41%) girls. 10 were (7,93%) preterm, 115 (91,27%) term and postterm 1 (0,79%). 74 (58,73%) of the 126 childbearing women at the generative age were primiparae, 42 (33,33%) secundiparae and 10 (7,93%) multiparae. The delivery took 0-5h in 13 (10,31%) births, 6-11h in 40 (31,74%), 12-23h in 57 (45,23%) and over 24h 16 (12,69%). 69 (54,76%) had vaginal delivery and 57 (45,23%) C Section. Group I had 8 (6,34%) newborns, group II 102 (80,95%) and group III 16 (12,70%). 67 (53,17%) were boys and 59 (46,86%) girls. 14 (11,11%) were preterm, 108 (85,71%) term and postterm 4 (3,17%).

CONCLUSIONS
This study has shown that there were 126 (3,38%) adolescent childbearing women from the total of 3720 in 2017 in Canton Tuzla. Comparing these two groups, adolescents had a vaginal delivery (84,92%) more often as well as a shorter delivery time (0-5h). The newborns mostly belonged to group II and are more often termborns (91,27%). The C section rate is an object of national and international studies. This study showed a 15,08% prevalence of C section amongst adolescent mothers.
INTRODUCTION

Extremely low birth weight (ELBW) is an issue of growing importance because the increasing survival likelihood of premature babies. ELBW coupled with intrauterine growth restriction (IUGR) suggests a complex pathology with aggravated clinical course.

Objective

To evaluate the incidence, clinical problems and outcome in newborns with ELBW and IUGR.

MATERIALS AND METHODS

167 ELBW newborns treated from 2005 to 2017 in our clinic are followed up to the discharge at home. The patients are divided in control group with adequate for gestational age weight (AGA) and case group with small for GA weight (SGA). The adequacy of the weight to the GA is estimated according to the Fenton growth chart, 2013. Studied indices: gender, anthropometry at birth; number of fetuses in utero; way of delivery; need of intubation in the first 5 minutes; presence of inborn infections and anomalies; duration of mechanical ventilation, oxygen therapy and parenteral nutrition; day of enteral nutrition starting and reaching of optimal nutritive tolerance; rate of hemotransfusions; morbidity (in nosological units); age and weight at discharge; mortality.

CLINICAL CASES AND SUMMARY RESULTS

43 babies fall into the group SGA – 25.7% of the all ELBW neonates. SGA, compared to AGA, have significantly lower birth weight (799±132 vs. 844±121 g, p 0.04) and are more mature (28.6±2.5 vs. 26±1.7 GWs, p 0.0000). Their mortality is considerably higher (65 vs. 45%, p 0.03). SGA are often born via Cesarean section (64.3%), while AGA are born per vias naturales predominantly (55.4%) – p 0.0005, nevertheless SGA have significantly higher need of intubation in the delivery room (96.4 vs. 75%, p 0.05). SGA suffer often from congenital anomalies (28.6 vs. 8.9%, p 0.03) and less from inborn infections (13.3 vs. 32.5%), patent ductus arteriosus (13.3 vs. 26.5%) and cerebral injures with reduction of cerebral matter (2.4 vs. 12.1%). SGA are discharged at the same postconceptual age as AGA but 100% of them suffer from postnatal hypotrophy while in AGA it is 75% (p 0.02).

CONCLUSIONS

The incidence of IUGR in the ELBW neonates is high in our center. The babies with ELBW and IUGR are in danger of early death and the important factors for this are the severe birth asphyxia and higher rate of congenital anomalies. The survivors suffer from lasting growth restriction, which is precondition for higher infant morbidity and metabolic problems in later life.
INTRODUCTION

In some cases, pregnancy can occur with large tumor mass in the abdomen. This compromises the pregnancy and asks for premature delivery or abortion, depending on when the tumor mass is diagnosed. The abdominal tumors which occur during pregnancy may be of gynecologic origin, other abdominal tumors, lymphomas or other undiagnosed abdominal masses. These masses need to be operated as soon as the pregnancy ends. A 32-year old patient was hospitalized at our Clinic, after collapsing, abdominal pain and extreme vomiting. She was in 32 g.w.. After submission, was diagnosed with a eutrophic fetus in normal amniotic fluid, placenta on the front wall of the uterus and normal Doppler flow. A large intra-abdominal tumor mass – 150 X 105 mm above the uterus and below the gaster was diagnosed.

MATERIALS AND METHODS

Realized examinations and results:
- Serologic and infective disease examination - negative.
- Hematological examination - Anemia, leukocytosis with granulocytosis and thrombocytosis, and secondary fibrinolysis (D-Dimer 1997 ng/ml), CRP very high.
- Tumor markers: CEA, Ca125 and Ca 19-9 in normal range. Increased Ca 72-4 = 231,4 U/ml.
- MRI abdomen and pelvis: large polycystic tumor mass was detected in the central and left part of the abdomen. This mass (165x135x105mm), located under the liver and gaster, dislocated the bowels toward the lower and the frontal part of the abdomen. Doppler with mixed internal and pathologic signals and US with polycystic mesenchymal tumor mass. Kidneys and ureters were normal. Gastroscopy examination - Gaster and duodenum with normal findings. Enteroscopy not possible.

CLINICAL CASES AND SUMMARY RESULTS

The patient was submitted to a rehydration and symptomatic therapy, double antibiotic, antianemic and thromboprophylactic therapy to relieve the symptoms of vomiting and exhaustion. A fetal maturation with Flosteron was provided in 2 doses. The premature delivery was planned with a surgeon. The patient gave birth 21 days after her hospitalization with a cesarean section and a medial infraumbilical incision. She gave birth to a living 2200 g male, 44 cm long with APGAR score 7/8.

The cesarean section was followed by opening of the upper abdomen with para- and supraumbilical incision as a result of the discovery of a large tumor formation in collision with curvature majoris of the gaster, and infiltration of intestines. After the tumor was removed, anastomosis of the intestines was conducted and the tumor mass was sent to pathohistologic examination.

Submitted to rehydration, symptomatic, substitutional (erythrocytes, plazma and albumins), antibiotic, uterotonic and thromboprophylaxis therapy

CONCLUSIONS

The pathohistologic diagnosis was: Adenocarcinoma intestine crassi. In rare cases, pregnancy can be compromised by large intra-abdominal tumors which can put the health of both the mother and the fetus in danger. The entire pregnancy period should be carefully observed, since the symptoms can sometimes lead to interdisciplinary examinations and consultations with other specialists. This will ensure mothers are healthy and can give birth to healthy offspring.
INTRODUCTION

Subcutaneous emphysema is a rarely reported condition in the newborn period. There have been a few cases reported in the literature in both preterm and term infants where most of the cases have been associated with other air leak syndromes such as pneumomediastinum or/and pneumothorax. One of the conditions that have been reported to be associated with the rapid occurrence of subcutaneous emphysema and has a high morbidity and mortality is the neonatal tracheal injury. We present the case of an extreme preterm newborn who, soon after birth, was noted to have a blister on the right upper chest and an axillary swelling on the same side.

CLINICAL CASES AND SUMMARY RESULTS

The patient was born at 25 weeks and 3 days gestational age following a preterm labour and spontaneous vaginal delivery. She was born in poor condition and received inflation breaths followed by ventilation breaths and was transferred to the NICU on mobile Vapotherm. She was initially well on high flow humidified oxygen therapy, with improved oxygen requirement however at 5 hours of life her condition deteriorated. She became clinically unstable with frequent apnoeic episodes, increased work of breathing and increased oxygen requirement. She had a positive transillumination test and a needle thoracocentesis was performed however no air was aspirated. Her chest x-ray showed significant surgical emphysema overlying the right hemithorax, right shoulder, left supraclavicular region and extending inferiorly into the right abdomen. She also had radiological findings consistent with pneumomediastinum but no pneumothorax. The clinical course, treatment and outcome are described.
INTRODUCTION

Maternal corticosteroid administration in pregnancy is known to enhance fetal lung maturity in at risk fetuses. The aim of this study was to test the hypothesis that corticosteroid therapy alters fetal cardiopulmonary and uteroplacental blood flow in pregnancies.

MATERIALS AND METHODS

Twenty seven singleton pregnancies between 28 and 34 gestational weeks with a diagnosis of preterm birth were included prospectively. They received corticosteroids (betamethasone) to enhance fetal lung maturity. We prospectively evaluated fetal main pulmonary artery (MPA), left and right pulmonary artery, myocardial performance index (TEI index), tricuspid valve, umbilical artery, middle cerebral artery, ductus venousus parameters were evaluated before and at 48th hour and at 7th day after steroid administration. Before steroid administration, the doppler parameters were used as a control and the alteration after steroid was calculated statistically.

CLINICAL CASES AND SUMMARY RESULTS

Mean age was 31 and gestational age was 31 weeks. Umbilical artery doppler parameters did not change statistically according to before and after steroid administration. MCA PSV, S/D ratio values did not change. MCA PI values did not change at 48th hour but decreased 7th day (p: 0.001). MCA RI values decreased at 48th hour (p:0,038), and 7th day (p: <0,005). Cerebroplacental ratio did not change at 48th hours and decreased at 7th day (p:0,003). Ductus venousus A wave rate values increased at 48th hour (p:0,016) and 7th day (p:0,039). PI also change and decreased at 48th hour (p:0,015) and 7th day (p:0,041). TV parameters did not change at 48th hour and 7th day only except at seven day tricuspit a wave increased (p: 0,022). Left TEI index parameters did not change at 48th hour and 7th day. MPA AT, ET and AT/ET ratio did not change at 48th hour. At 7th day ET decreased significantly (p: 0.006) but AT/ET ratio did not change (p:627). Left and right pulmonary artery PI did not change.

CONCLUSIONS

Fetal multivessel doppler velocimetry can reliably be obtained throughout gestation. Pulmonary vessels, cardiac parameters (TV, TEI index) dopplers studies show us there is no changes were observed due to steroid. Our data demonstrate altered fetal MCA and ductus venousus blood flow with corticosteroid therapy, or possible gestational age affect. These data suggest that fetal pulmonary artery doppler velocimetry is not a reliable noninvasive technique to evaluate fetal lung maturity.
TOPIC: Preterm birth/ the preterm infant

ABSTRACT ID: 267

TITLE: IMMEDIATE NEONATAL OUTCOMES AFTER PERIVIABLE PREMATURE RUPTURE OF MEMBRANES

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INTRODUCTION

Between mid-1980s and late 2000s several studies indicated increasing survival rates between newborns delivered around the 24th week of pregnancy. Rupture of fetal membranes during this period occurs in less than 1% of pregnancies, but leads to a great dilemma, which obstetric care providers have to face. When a pregnancy is complicated by periviable PROM, treatment options include immediate delivery of the periviable fetus or expectant management with the goal of achieving fetal viability. Continued pregnancy following PPROM at early gestations is correlated with high morbidity among surviving neonates. In this study we collected and evaluated data from neonates, that were born at our institution, following premature rupture of membranes during the periviable period.

MATERIALS AND METHODS

This study was conducted in a tertiary care medical center. The study population consisted of 34 pregnancies complicated with premature rupture of membranes between 20 and 26+5 gestation weeks, from 01/01/2014 to 31/12/2017. We retrospectively evaluated pregnancy and immediate neonatal outcomes of neonates that were born after periviable premature rupture of membranes. Regarding comparisons of proportions, chi-square and Fisher's exact tests were computed.

CLINICAL CASES AND SUMMARY RESULTS

34 preterm deliveries were analyzed. 20 of the deliveries had gestational age (GA) <25 weeks and 14 had GA ≥25 weeks. Overall death rate was 44.1% and deaths occurred mainly in the group that had GA <25 weeks (92.9% vs. 10%, p<0.001). The most common disorders in total were Infection (52.9%) and Respiratory Distress Syndrome (50%), followed by Necrotizing Enterocolitis (20.6%), Intaventricular Haemorrhage (20.6%) and Acute Kidney Failure (17.6%). Bronchopulmonary Dysplasia was present in 14.7%, while less common disorders were Scleredema (2.9%), Seizures (2.9%) and Anemia (2.9%). Comparison of all disorders, suggested that Infection (7.1% vs. 85%, p<0.001), Respiratory Distress Syndrome (21.4% vs. 70%, p<0.001), Intaventricular Haemorrhage (0% vs. 35%, p=0.026), Necrotizing Enterocolitis (0% vs. 35%, p=0.026) and Acute Kidney Failure (0% vs. 30%, p=0.031) were more frequent in the group that had GA equal or ≥ 25 weeks as compared with the group that had had GA <25 weeks.

CONCLUSIONS

Overall, in the presence of premature rupture of membranes, neonates that were born before the 25th week of gestation have a high morbidity risk. Neonates that were born after the 25th week of gestation show an increasing number of adverse immediate neonatal outcomes. We observed a higher incidence in Infection, Respiratory Distress Syndrome, Intaventricular Haemorrhage, Necrotizing Enterocolitis and Acute Kidney Failure in the group with gestational age equal or more than 25 weeks.
**TOPIC:** Preterm birth/ the preterm infant

**ABSTRACT ID:** 268

**TITLE:** Impact of inhaled corticosteroids on neurodevelopmental outcomes in chronically ventilated extremely low birth weight preterm infants

**AUTHORS:** HY Chang 1; NP Tiong 1; KT Tseng 1; JH Chang 1; CH Hsu 1; CY Lin 1; CC Peng 1; WT Jim 1; YH Sung 2; SC Lee 2

**AFFILIATIONS:** 1 Department of Neonatology, MacKay Children's Hospital, Taipei City, Taiwan
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**INTRODUCTION**

Objective:
To compare neurodevelopmental outcomes of chronically ventilated ELBW preterm infants exposed to inhaled corticosteroids to those without exposure.

**MATERIALS AND METHODS**

Methods:
The medical records of ELBW preterm infants (< 28 weeks gestation and birth weight 28 days were enrolled, and divided infants into inhaled group and non-inhaled group. We compared the demographic data, morbidities, neurodevelopmental outcomes using the Bayley Scales of Infant and Toddler Development-III (BSID-III) at 24 months of corrected age between two groups.

Neurodevelopmental impairment (NDI) was defined as any BSID-III score < 85, any cerebral palsy, bilateral blindness or hearing impairment requiring hearing aids.

**CLINICAL CASES AND SUMMARY RESULTS**

Results:
Of 115 included infants, 64 were exposed to inhaled corticosteroids, and 51 had no exposure. The number of infants exposed to systemic corticosteroids were comparable between two groups [inhaled group: 18/64 (28.1%) vs. non-inhaled group: 13/51 (25.5%), p = 0.75]. Demographic data and morbidities were also comparable between two groups except days in oxygen and days of mechanical ventilation, which were significantly higher in inhaled group. At 24 months of corrected age, there were no significant differences in BSID-III cognitive scale score, language scale score, motor scale score, cerebral palsy and NDI between two groups after adjustment of potential confounders, using multivariate logistic regression.

**CONCLUSIONS**

Conclusions:
Exposure to inhaled corticosteroids in chronically ventilated ELBW preterm infants was not associated with increased risk of neurodevelopmental impairment at 24 months of corrected age.
TOPIC: Preterm birth/ the preterm infant

ABSTRACT_ID: 288

TITLE: MANAGEMENT OF A SHORT CERVIX IN THE MID-TRIMESTER WITH A TWO-STEP PROTOCOL


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INTRODUCTION

Women with a short cervix in the second trimester of pregnancy are at a higher risk of giving birth preterm. All women who have a second trimester anomaly scan in our Department, they also have an ultrasonographic cervical assessment as a screening for prematurity. Moreover, women with a short cervix are referred to our tertiary referral center for further management. The aim of this study was to examine the results following the application of a two-step management protocol of women with a mid-trimester short cervical length. The primary efficacy variables were preterm delivery rate (<34 and 32 weeks) and pregnancy prolongation. The secondary outcomes were birthweight, NICU admission, intubation, use of CPAP and neonatal death.

MATERIALS AND METHODS

All women with a cervical length ≤ 25 mm are given vaginal progesterone (either 200 mg of micronized progesterone, or 80 mg of progesterone gel) every night and are followed-up with serial transvaginal scans to assess for further cervical length changes. To those that the cervix shortens <15 mm until 26 weeks, we offer cervical cerclage, based on the assumption that cervical changes are no more reversible by the progesterone. Following cerclage women are given antibiotics (cefuroxime 750 mg iv every 8 hours and metronidazole 500 mg every 12 hours for two days, followed by roxithromycine 300 mg per os, for 8 days), as well as rectal suppositories of diclofenac 50 mg or ibuprofen500 mg (two doses). All women following cerclage continue the vaginal progesterone use.

CLINICAL CASES AND SUMMARY RESULTS

101 women were found to have a cervical length ≤ 25 mm. The mean cervical length was 13 mm (range 0-25 mm). 25 out of 101 were managed with cervical cerclage because of a cervical length <15 mm at the initial evaluation, while 76 received vaginal progesterone. Of the latter, 37 women had a cervix <15 mm during the follow-up visits and they were also managed with cerclage, thus only 39 women remained to the only progesterone group. One of these was excluded because did not meet inclusion criteria for analysis because of a very short cervix at the initial evaluation (10 mm) as she declined of receiving a stitch. The preterm delivery rate before 34 and 32 weeks was 14% and 8%, respectively and the mean prolongation of pregnancy was 15.6 weeks. One of the cases in the cerclage group had an iatrogenic preterm birth due to intrauterine growth restriction. If we exclude this case the spontaneous preterm delivery rate <34 weeks was 13%. The mean birthweight was 3122 g (510-4500 g).

CONCLUSIONS

The implementation of the two-step protocol in women with a mid-trimester short cervix resulted in a 97% neonatal survival rate. The mean gestational age at birth was 38.4 weeks, while the rate of preterm delivery < 34 wks was 14% and < 32 wks was 8%. The admission to NICU rate was 14%, the need for CPAP was10%, while that for intubation was 3%.
INTRODUCTION

Bowlby (1951) has defined maternal attachment as a warm, continuous, close relationship between mother and child, and that both sides are satisfied and pleased with this situation. Maternal attachment is one of the most essential elements for the healthy growth and development of the child. Maternal bonding is as important for the mother as for the baby. The maternal attachment process begins in gestation, continues to develop during and after birth. There are many factors that affect the maternal attachment process positively or negatively. One of the most important factors negatively affecting maternal attachment is premature birth of the baby and long term hospitalization.

MATERIALS AND METHODS

This article discusses the supportive role of nurses in the developing of maternal infant attachment. Premature babies who are prolonged hospitalized in the Neonatal Intensive Care Unit (NICU) are kept away from the care, attention and love their mothers. Mother-infant attachment is affect negatively. Even if these babies have their physiological health, they face many psychological problems. Neonatal nurse, to reduce the stress of the mother, give information to mothers about the unit, devices used in the unit and health team serving to baby in the unit. The nurses encourage sharing to mothers their feelings as comfortably, them to ask questions and participate in the care of the child.

CLINICAL CASES AND SUMMARY RESULTS

NICU nurses can improve their mothers’ ability to acquire knowledge and skills in care of their babies, supervise their care, prepare their families for home care, and connect their babies to their mothers until they are discharged from hospital to discharge. The mother-infant attachment develops positively as the duration of the mother's newborn intensive care unit with the baby increases. For this reason, an environment should be provided for sufficient interaction between the mother and the baby. There should be an opportunity to carry out maintenance duties, such as feeding the babies, changing the gold. This increases confidence in the maternal care role against babies. The mother should be encouraged to establish eye contact with the baby, talk to her, touch her, and embrace it. Newborn nurses play an important role in the early development of the mother-infant relationship in premature babies.

CONCLUSIONS

Nurses in the NICU should evaluate the maternal attachment levels of the mothers of hospitalized premature infants and take measures to improve maternal attachment.
ABSTRACT ID: 300

TITLE: CAN WE COUNT IN PARTOSURE TEST TO PREDICT AND PREVENT PRETERM DELIVERY?! 


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INTRODUCTION

The PartoSure test is a noninvasive method which can be used to predict the risk for preterm delivery which implies a fast, noninvasive test that detects placental alpha microglobulins - 1 in patients with clinical signs and subjective symptoms for threatening preterm delivery. The PartoSure test is a rapid, qualitative immunochromatographic test to detect in vivo placental alpha microglobulin-1 (PAMG-1) in vaginal secretions of pregnant women. PAMG-1 is a protein found in high concentrations in the amniotic fluid.

MATERIALS AND METHODS

In our study, a total of 46 patients with irregular uterine activity, cervical length <20 mm, sterile microbiological swabs, with no infections and associated clinical comorbidities of 25 - 35 + 6 gestational weeks were examined. This test group was divided into 2 subgroups according to their gestational week and treatment with 23 patients each. The first group was with a smaller gestational age in which gestagen and tocolytic therapy were given, while in the second group, which was above 34 gestational age, therapy was not performed.

CLINICAL CASES AND SUMMARY RESULTS

The obtained results from the testing were 42 negative and 4 positive tests in total. Patients from the first responded group were born in term, with exception of 4 patients who were preterm born before their 33rd gestational week despite of their negative PartoSure test. The patients from the second group were born in a term, other than those 4 patients with positive PartoSure test which were born preterm in 35th gestational week.

CONCLUSIONS

According to the results of our study, we came to the conclusion that the test has 91.3 specificity in the prediction of preterm delivery within 7-14 days, it is non-invasive, quick and easy to perform and it can be applied in patients who belong into the high-risk pregnancy group. However, our conclusions are based on a small sample so further studies are needed. According to our results, PartoSure is considered to be excellent test to rapidly assess the risk of preterm delivery within 7 or 14 days.
INTRODUCTION

One of the urgent problems of modern perinatology and pediatrics is nursing and subsequent ablation of children born with very low and extremely low body weight. This category of patients is included into the group of high risk of infant mortality and the formation of pathology, leading to pronounced and persistent disturbances in the functioning of the body and the limitations of vital activity. The purpose of the current study was to investigate the frequency of formation of severe or complete disorders in children arising in the functions or structures of the body, as well as the basic limitations of the life of children born with a body weight of less than 1500 grams, under 3 years (in accordance with the International Classification of Functioning, Disability and Health).

MATERIALS AND METHODS

The research was conducted in the Ivanovo Research Institute of Motherhood and Childhood, which performs the functions of the federal perinatal center. A cohort study of children born in the Ivanovo region alive with a body weight of less than 1500 g for the period from 2009 to 2013 was carried out. The study included 411 children, among them there were 113 children with extremely low body weight and 298 children with very low body weight. The research methods included prospective clinical observation of children born with a body weight of less than 1500 g, until the age of 3 years, the extraction of data from medical records. The statistical processing of the results was carried out using the standard statistical analysis package Statistica 6.0.

CLINICAL CASES AND SUMMARY RESULTS

In 12.17% of children born with a body weight less than 1500, at the age of up to 3 years, severe or complete disorders of the body functions or structures were formed, among children with extremely low body weight – 17.7%, among children with very low weight of the body – 10.07%. The children with extremely low body weight, compared with children with very low body weight, have a higher risk of severe or complete impairment of body functions or structures (OR 1.9, 95% CI 1.10-3.55). The main disturbances in the body functions in both groups were: static-dynamic functions (79% and 69%), mental functions (43% and 46%), speech and language functions (36% and 42%), urinary functions (29% and 19%), and sensory functions (14% and 4%). In the group of children with extremely low body weight, violations of cardiovascular functions (p<0.001, 34% and 19%) and respiratory (p<0.001, 32% and 4%) systems were significantly more frequent than in the group of children with very low body weight.

CONCLUSIONS

It was revealed that in children with extremely low body weight, in comparison with children having very low body weight, the risk of early or severe disruption of functions or structures of the body (OR 1.9) is increased. The main types of persistent disorders of the body functions among children with disabilities in the early age with a birth weight less than 1500 g are violations of static-dynamic, mental, speech and language functions.
INTRODUCTION

In modern obstetrics, the problem of infectious and inflammatory diseases (IID) in the postpartum period remains topical. Many methods of prevention and diagnosis led to a reduction in the frequency of severe IID in the postpartum period. With delivery in the term of VEPB this problem occupies a special place. According to the literature, up to 70% of VEPB are associated with intrauterine infection. The frequency of the IID after VEPB is 2.5-4 times higher than similar data after urgent delivery. Particularly relevant is the use of modern methods of prevention IID. Cavitation irrigation uses a complex effect of ultrasound and antiseptic on the uterine cavity, so the therapeutic effect is achieved by a minimum amount of medication.

MATERIALS AND METHODS

In the dynamics of the postpartum period, the rates of uterine involution were analyzed by ultrasound, the spectrum of microorganisms of the lower parts of the genital tract in women after VEPB from the group of high infectious risk with and without cavitation irrigation was studied. The main group included 20 patients after VEPB who underwent postpartum rehabilitation in the form of a course of cavitation irrigation of the uterine cavity. As a comparison group, 20 patients after VEPB who did not receive rehabilitation measures were selected. The control group consisted of 20 patients after emergency delivery. The bacteriological study by PCR of the contents of the cervical canal and the study of vaginal microbiocenosis, using the test system "Femoflor-16".

CLINICAL CASES AND SUMMARY RESULTS

In the main group the length of the uterus (42.75±3.38 mm) is less than in the comparison group (55.15±49.6 mm) (p<0.05). Uterine width in the main group (36.1±2.4 mm) is less than in the comparison group (50.91±11.02 mm) (p<0.05). In the main group the uterine thickness is less (37.1±4.35 mm) than in the comparison group (51.03±9.6 mm) (p<0.05). These indicators of the uterus in the group after term labor (38.64±6.5 mm) are the same as in the main group. In the main group 100% revealed a linear form of the uterine cavity. In the comparison group lochiometra identified in 50%, in the control group 10%. The aircrafts were revealed in the comparison group of 65%, mixed flora was 84.3%. In 60% of cases there was an increase in anaerobes, including 75% mixed flora. Their combination in this group was 50%. In the main group there was no growth of aerobes, and anaerobes occurs in 15%.

CONCLUSIONS

The application of the course of cavitation irrigation of the uterine cavity with antiseptic solutions in the complex rehabilitation of the infants of the high infectious risk group after VEPB in the first days after delivery allows to prevent violations of the uterus involution in the late postpartum period, and also to normalize of the microflora of the lower genital tract. In the high-risk group, who received a course of cavitations, there were no clinically expressed postpartum IID.
INTRODUCTION

Assisted reproductive technologies (ART) are the most effective way to overcome infertility. But the majority of researchers suppose that the complications risk is higher in pregnancies resulted from assisted reproduction.

A significant role in miscarriage of pregnancy in the 2nd trimester is occupied by the Cervical insufficiency (CI). Prevalence of isthmic-cervical insufficiency in the population is 1-4%.

According to Russian authors, the frequency of the CI in pregnancy resulting from ART is 20.6%, which is almost five times more likely than in the population. Cervical insufficiency (CI) is one of the mechanisms of extremely early deliveries.

MATERIALS AND METHODS

Retrospective two stage study was performed. On the first step the medical records of 483 patients after ART who delivered in the perinatal center in 2014-2015 were analyzed. The comparison group includes 645 women who delivered after spontaneous pregnancies chosen by incidental method. We performed the retrospective "case-control" study at the second stage: in the basic group 33 women with singletons with CI. 43 with multiples. 37 women with singleton pregnancy after ART without CI were the control group.

CLINICAL CASES AND SUMMARY RESULTS

We analyzed the perinatal outcome in the study groups among singletons. Delivery time was significantly different: without CI medium term of delivery was 38±0,4 weeks, and in the CI group - 35,6±0,9 ( p<0,05).

Prevalence of extremely early delivery (EED) after ART in the structure of all EED in the perinatal center amount to 10,8%, that is an evident contribution to the perinatal loss. In our study the significant rise of EED risk after ART is registered: OR of 3,3 with a 95% CI 1,4-8,1; p<0,05. Generally the odds ratio for CI development in ART-induced pregnancy is 5,5 with a 95% CI 3,6-8,4, p<0,05.

Pregnancy interruption at 22-28 weeks of gestation after ART happened because of CI in 75,6%.

It is evident that odds ratio for CI development with the history of spontaneous abortions is 3.8 with 95% CI 11,25-11,6. CI risk is increased when the endocrine pathology is diagnosed (excess body weight and hypothyroidism).

CONCLUSIONS

One of the main reasons of preterm pregnancy interruption is CI. Its incidence in pregnancies after ART is above 4,5 times in comparison with spontaneous pregnancy. The risk of extremely early preterm labor in pregnancies after ART significantly rises according to our data. Cervical insufficiency is the most often reason of extremely preterm labor and it was diagnosed in 75,6% of the women who gave birth at this term.
INTRODUCTION

Background
Hypoglycemia is one of the most common metabolic disorder in newborns. Furthermore, infants with low birth weight (LBW) are at increased risk of developing this condition. Delay in therapy of hypoglycemia results in poor neurological outcome and lead to considerable early morbidity and mortality. We aimed to determine the incidence and indentify factors predicted the occurrence of hypoglycemia in LBW infants.

MATERIALS AND METHODS

Methods
This is a case-control study conducted in Dr. Kariadi Hospital. Data of infants born in 2017 and weighed between 1500 – 2500 g were obtained from medical records. Cases with blood glucose <47 mg/dL is considered as hypoglycemia. Gestational age, birth weight, maternal age, number of parity, underlying maternal and pregnancy-related conditions, mode of delivery, fetal and neonatal factors were recorded and analyzed statistically in relation to the occurrence of hypoglycemia.

CLINICAL CASES AND SUMMARY RESULTS

Results
Among 244 LBW infants, there were 65 (27%) cases and 179 control. Out of 65 cases, a total of 50 (76.9%) infants were born preterm, 43 (66.2%) were born via C-section, 38 (58.5%) were born small for gestational age (SGA). Intrauterine growth retardation (IUGR) (OR 4.512; 95% CI 2.449 – 8.313; P<0.001), Low aogar score (OR 4.209; 95% CI 2.295 – 7.719; P<0.001), and neonatal infection (OR 2.401; 95% CI 1.029 – 5.602; P= 0.043) were found as the significant predictors of hypoglycemia in LBW infants. Multivariate logistic regression analysis demonstrated prematurity (OR 2.966; 95% CI 1.286 – 6.842; P= 0.011), low Aogar score (OR 4.769; 95% CI 2.077 – 10.950; P <.001), and neonatal infection (OR 2.999; 95% CI 1.051 – 8.553; P 0.040) as significant factors in predicting hypoglycemia.

CONCLUSIONS

Conclusion
LBW infants WITH prematurely, IUGR, Low aogars score, and neonatal infection were more likely to develop hypoglycemia. Routine blood glucose screening in LBW infants with above mentioned risk factors is important for early prompt treatment.
INTRODUCTION

Certain pathological states in pregnancy, followed by systemic, intravascular or local inflammation and oxidative stress in mother and fetoplacental unit, can be risk factors for preterm labor. Excessive oxidative stress, as a result of inflammation, also play a key role in developing of some pathological states in preterm newborns, named "oxygen radicals diseases". Various non specific immune mechanisms, enzymatic and non enzymatic antioxidants, play a key role at tissue protection and prevent cell destruction by mechanisms of oxidative damage.

MATERIALS AND METHODS

Study included 45 preterm newborns from completed 31 to 35 gestational weeks, from pregnancies complicated with various pathological states. Activities of superoxid dismutase (SOD), glutathione peroxidase (GSH-Px), catalase (CAT), lactate dehydrogenase (LDH), creatin phosphokinase (CPK), total blood cells count, white cells formula, oxidative ability of phagocytes by NBT-test and blood cultures, were examined in cord blood simples. C-reactive protein (CRP) was determined in peripheral blood samples, in third day of life. Control group consisted of 30 full term, healthy newborns.

CLINICAL CASES AND SUMMARY RESULTS

All pregnancies in preterm group were complicated by some of hypertensive syndroms, gestational or insulin dependent diabetes, various infections, PPROM, genital bleeding, or their combination. Increased level of CRP, significantly higher total number of leucocytes, phagocytes and thrombocytes, were detected in preterm group, indirectly indicating proinflammatory response. Increased absolute number of spontaneously and after PMA stimulation positive NBT cells, in preterm babies, reflecting up-regulation of phagocyte oxidative metabolism and oxidative stress. Activities of SOD and GSH-Px, CPK and LDH were also significantly elevated. All blood cultures were negative. High intensity negative correlation was detected between GSH-Px and CPK and LDH activity, as well as, positive correlation of CAT and numbers of leucocytes and phagocytes, in preterm group.

CONCLUSIONS

Elevated SOD and GSH-Px, represent activation of enzymatic antioxidative mechanism, in order to prevent free radicals induced tissue damage. Elevated CPK and LDH activities were markers of increased cell destruction in these circumstances. Inverse correlation of CPK and LDH with GSH-Px, could be a sign of insufficient protective increase of GSH-Px activity. Positive correlation of elevated CAT activity and increased number of phagocytes, could represent activation of synergic mechanisms.
INTRODUCTION

Antenatal steroids are known to improve survival rate in preterm infants. However, there is no data on the outcomes of antenatal exposure according to mortality. The objective of this study is to determine whether antenatal steroid exposure is associated with improved survival and morbidity in preterm infants with a gestational age of 23-24 weeks according to mortality.

MATERIALS AND METHODS

From January 2013 to December 2017, medical records of 5,555 very low birth weight (VLBW) infants in 69 neonatal intensive care units (NICUs) participating in the Korean Neonatal Network database were enrolled and reviewed. Patients were divided into two groups according to mortality of 23-24 weeks’ gestation; group 1(< 50%; n=3,654) and group 2(≥50%; n=1,901). The perinatal and neonatal variables were as follows: gestational age (GA), birth weight (BW), pregnancy-induced hypertension, antenatal steroid (AS), gestational diabetes mellitus, chorioamnionitis, Apgar score, respiratory distress syndrome (RDS), patent ductus arteriosus (PDA), bronchopulmonary dysplasia (BPD), intraventricular hemorrhage (IVH), periventricular leukomalacia (PVL), sepsis, and mortality.

CLINICAL CASES AND SUMMARY RESULTS

The total incidences of AS use was 82%. GA was significantly lower in the group of infants with AS exposure than in the group of infants without AS exposure. BW was not different between the infants with AS and the infants without AS. The incidence of RDS was significantly lower in infants with AS in group 1. The mortality rate and the incidence of severe intraventricular hemorrhage (IVH, grade≥ 3) were significantly lower in infants with AS than in infants without AS, in both group 1 and 2, especially at 23-24 of gestational age. The occurrences of sepsis, bronchopulmonary BPD, and PVL were not significantly different between two groups regardless of AS exposure. In the multivariable logistic regression analysis, mortality (odd ratio, OR 0.61 95% confidence interval, CI 0.46-0.79) and IVH (grade≥ 3) (OR 0.74, 95% CI: 0.56-0.97) were significantly associated with AS use in group 1. However, mortality and IVH (grade≥ 3) were not associated with AS in group 2.

CONCLUSIONS

The mortality and severe IVH decrease in VLBW infants with AS in lower mortality group, however, these do not decrease in higher mortality group. The antenatal steroid use is associated with improving the outcomes in preterm, especially in the lower mortality units.
INTRODUCTION

Early neonatal mortality rate in Serbia in 2014, was 5.7 per 1000 live births, which is among the highest rates in EU. That is the challenge which demands additional and profound analysis of the determinants and causes of this important health indicator. This study aims to analyse the determinants and causes of early neonatal deaths in eight university hospitals in Belgrade.

MATERIALS AND METHODS

The Database of neonates’ death certificates, aged from 0-6 days, evidenced in the eight university hospitals in Belgrade, was used in this study. Data was gathered by the City Public Health Institute of Belgrade, from 2012 to 2016.

CLINICAL CASES AND SUMMARY RESULTS

616 early neonatal (ENN) deaths were analysed. 34.3% of all cases were above 28 gestational weeks. The prematurity and maladaptation were present as the leading cause of deaths in 68% of newborns. Infections were connected with 15.3%, anomalies 15.6%, and asphyxia 7.8% of all ENN deaths. Among other causes were present intracerebral haemorrhages, coagulopathies, fetal hydrops and other disorders. In 89% of cases, the clinical diagnoses of mortality and pathohistological findings coincided. 7.5% newborns were born as twins or triplets. Notwithstanding the fact that urban areas provide more healthcare support for pregnant women, there was no significant association among ENN deaths of urban and rural mothers. There was no significant association between the mothers' age and gestational age of newborns.

CONCLUSIONS

High ENN mortality needs to be prevented through better perinatal and neonatal health care. Further investigation of the neonatal death cause is necessary.
TOPIC: Preterm birth/ the preterm infant

ABSTRACT ID: 388

TITLE: CELL FREE FETAL DNA LEVEL IN BLOOD OF WOMEN WITH PRETERM LABOR

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INTRODUCTION

Nowadays, an impact of abnormal placentation on initiation of preterm labor is discussed. Cell free fetal DNA (cffDNA) reflects on apoptosis in the placenta and may indicate disturbance of its condition. The aim of our study was to compare the level of cffDNA in maternal blood in women during uncomplicated pregnancy and with preterm labor (PTL).

MATERIALS AND METHODS

39 pregnant women are included: 20 with uncomplicated pregnancy and term delivery, 19 with spontaneous PTL (from 218 to 258 days of gestation). Blood samples were taken at 11-14, 24-26, 30-32 weeks. The concentration cffDNA was determined by quantifying hypermethylated portion of the RASSF1A gene using PCR method. Statistical analysis was performed, the data are presented in genome equivalents (GE/ml), as a median (minimum - maximum).

CLINICAL CASES AND SUMMARY RESULTS

At 11-14, 24-26 and 30-32 weeks of uncomplicated pregnancy the median concentration of cffDNA was 14.15 (2.32-36.25), 24.87 (6.29-129.32), 32.62 (8.97-133.52) GE/ml, respectively (p≤0.005). The increase in cffDNA concentration indicates an elevation of trophoblastic cells apoptosis during pregnancy. Compared with uncomplicated pregnancy in women with PTL the concentration of cffDNA at 11-14 weeks was higher (22.76, (5.79-104.95) GE/ml), (p = 0.016). At 24-26 weeks the average level of cffDNA in PTL group increased slightly (median 35.54 (7.66-226.09) GE/ml, p>0.05), but increased significantly to 49.11 (17.49-344.89) GE/ml at 30-32 weeks (p=0.003) (Fig. 1).

CONCLUSIONS

Thus, at 11-14 weeks the median concentration of cffDNA is significantly higher in women with PTL, than in uncomplicated pregnancies. High level of cffDNA in early gestation indicates the importance of abnormal placentation in subsequent development of PTL.
INTRODUCTION

Very early preterm birth (VEPB) (in the period from 22 weeks to 27 weeks and 6 days) is a key problem for modern obstetrics. They account for about 70% of perinatal losses. It is proved that the existence of foci of chronic infection in the mother is one of the risk factors for premature birth. From 30% to 40% of premature births are due to the presence of an infectious process, therefore it is necessary to evaluate not only the vaginal flora, but also extragenital foci of infection. The performed studies emphasize the importance of further investigation on the role of the extra-vaginal microbiota in premature birth and not only the urogenital tract, since 50% of the risk factors for premature births have not been identified.

MATERIALS AND METHODS

30 patients in the gestation period from 22 weeks to 27 weeks and 6 days, which resulted in premature births were included into this study. Before delivery, bacteriological cultures from periodontal space, the lower part of the large intestine and the cervical canal were examined. After delivery, bacteriological studies of secundines were carried out.

CLINICAL CASES AND SUMMARY RESULTS

The flora of the periodontal space was assessed, where a variety of microorganisms were found: Corynebacterium spp. (8%), Klebsiella pneumoniae (12%), Staphylococcus aureus (8%), Kocuria rosea (4%), and Candida spp. (12%), which belong to opportunistic flora, and obligate microflora, represented by Enterococcus faecalis (36%), Streptococcus viridans(8%), and Streptococcus mitis (12%). Despite the absence of detected microflora in the cervical canal and 15.6% of patients with premature discharge of amniotic fluid in the period of VEPB, yeast-like fungi (Candida) were isolated, which were also detected in the cervical canal. In 75% of the patients, E. coli was detected in the lower part of the large intestine, but 15% of the women were carriers of Klebsiella pneumonia, which was also detected in the afterbirth. At 10% of the patients, excreted Proteus mirabilis was identified in the cervical canal, the secundines and the large intestine.

CONCLUSIONS

The study of microbiota in women at high risk of acute respiratory disease and the timely remediation of extragenital foci of infection at the periconceptional stage or in the first trimester of pregnancy will allow to predict risks and prevent the development of VEPB.
**INTRODUCTION**

Premature infants often have NEC that is preceded by inflammation of the intestine because of incorrect enteral nutrition. Interleukin-8 (IL 8) is a pro-inflammatory cytokine. A study showed that levels of IL-8 feces were elevated in patients with gastrointestinal infections. Breast milk will provide passive immunity to the digestive tract of newborns and contribute through cytokine growth and regulation factors. The low levels of these growth factors will increase the risk of infection in premature infants. Objective: The purpose of this study comparing the difference of interleukin 8 feces levels in preterm infant who received breast milk with formula.

**MATERIALS AND METHODS**

This study used a cross sectional study design, the subjects were divided into 4 groups: breast milk, breast milk predominant, formula predominant and formula. Feces samples from each study group were examined for IL 8 level. then tested statistically with Kruskal Wallis to find differences in each group and processed using SPSS for windows 16

**CLINICAL CASES AND SUMMARY RESULTS**

We got 6 neonates in each study group, so we got 24 neonates as research subjects, This suggests that there was a significant difference in IL 8 feces level in all 4 groups of nutrients (p<0.05 ). There was a significant difference in IL 8 feces level between the dominant group breast milk and formula (p<0.05 ). There was a significant difference in IL 8 feces level between the dominant group breast milk and formula predominant (p<0.05 ).

**CONCLUSIONS**

The level of IL 8 feces as a marker of intestinal inflammatory process in premature breast-fed lower than the formula or mixture
INTRODUCTION

Disorders in the metabolism of glucose, respectively hypo or hyperglycemias are common in premature infant with extremely low birth weight. It is considered hypoglycemia in a premature newborn blood sugar level <47 mg% or 2,6 mmol/l, and hyperglycemia blood sugar level over 150 mg% or 8,3 mmol/l.

Objectives: The authors aim to establish the prevalence of neonatal hypo/hiperglycemia at extremely low birth weight newborn and also its association with other pathologies present at this newborn category.

MATERIALS AND METHODS

The study was carried out on a lot of 42 extremely low birth weight newborn (birth weight<1000 grams) hospitalized at Neonatology Department of Clinical Emergency Hospital for Children “L. Turcanu” on a period of 4 years. The glucose level was monitored with glucose test strips.

CLINICAL CASES AND SUMMARY RESULTS

Hypoglycemia was present at 25 prematures (59,52%), hyperglycemia at 10 prematures (23,8%), and variations in blood sugar levels (hypoglycemia and hyperglycemia both) were present at a number of 7 (16,66%). Associated risk factors with hypergicemia were: infections, intraventricular hemorrhage, perinatal hipoxia.

For the treatment of hyperglycemia it was set a restriction in glucose administration. In two cases was necessary the insulin administration.

CONCLUSIONS

Glucose metabolism disorders frequently occur in premature infants, especially those with extremely low birth weight. It is very important to monitor glucose levels in this category of newborn and the early initiation of treatment because of associated morbidity and mortality.
TITLE: IMPACT OF PROTEIN INTAKE ON BLOOD UREA AND CREATININE LEVELS OF VERY PRETERM INFANTS DURING THE FIRST 3 WEEKS OF LIFE

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INTRODUCTION

Extrauterine growth retardation is still common among very preterm infants due to many medical problems and lack of optimal nutrition. Protein supplementation has a critical role both for growth and brain development. However, it is still a common approach among clinicians to limit the amount of protein intake on the condition of high urea levels and this restriction makes the existing protein deficiency even worse. Plasma and/or urinary urea concentrations are used which represent amino acid oxidation and may indicate insufficient/excessive protein supply. Therefore, in this study, we aimed to evaluate the effect of protein intake on blood urea as well as creatinine levels which can be used as a marker of renal function in very preterm infants during their first 3 weeks of life.

MATERIALS AND METHODS

One hundred very preterm infants born before 30 weeks of gestation between 2010 and 2015 in our NICU were evaluated retrospectively in terms of weekly protein, carbohydrate, lipid, total fluid and calorie intake and weekly urea and creatinine levels. Main exclusion criteria were major congenital or chromosomal abnormalities. Those infants whose daily protein intake values were less than 3 g/kg/day (Group 1) and more than 3 g/kg/day (Group 2) were further evaluated in terms of protein intake and creatinine values.

CLINICAL CASES AND SUMMARY RESULTS

Out of 100 preterm infants, 35 were male and 65 female with a mean birth weight of 940 ± 209 g, gestational age of 27.4 ± 1.6 weeks. During the first three weeks of life, there was an increase in protein supplementation with a marked decrease in creatinine values and blood urea values. Weekly urea values were dependent on the creatinine values of the same week and urea value of the previous week. There was no significant difference between preterm infants whose daily protein intake values were less than 3 g/kg/day and more than 3 g/kg/day in terms of urea and creatinine values.

CONCLUSIONS

In conclusion, the data obtained from our study showed that there is no need to reduce the amount of protein intake on the condition of high blood urea values in very preterm infants during the first 3 weeks of life and the increase in the amount of protein intake does not worsen creatinine values.
**INTRODUCTION**

Late preterm birth is usually defined as birth at a gestational age between 34 weeks and 0 days and 36 weeks and 6 days. Although late preterm births has significantly better perinatal outcome in comparison to the rest of preterm births, they deserves attention because they are most frequent and are in constant increase in most countries regardless of their income and development. Partly it can be explained by the increase of medically indicates births because of better perinatal surveillance but it seems that more important reason is the increase of risk factors for preterm birth as multiple births, pregnancies at advanced age, pregnancies after assisted reproduction and changes in the lifestyle with more stress.

**MATERIALS AND METHODS**

In this retrospective study we analyzed the causes and the perinatal outcome after late preterm births in a 20 years period in the Department of Gynecology and Obstetrics of the Clinical Hospital Centre in Rijeka, Croatia. Different data was analyzed including: maternal age, parity, BMI, IVF procedures, pregnancy, intrapartum and postnatal complications, mode of delivery, neonatal mortality and morbidity and duration of hospitalization. All data was compared with control group consisted of term birth at the same period.

**CLINICAL CASES AND SUMMARY RESULTS**

In analyzed period there were no significant changes in late preterm birth incidence although most analyzed risk factors increased. Complications in pregnancy, during and after delivery were of significantly higher incidence comparing with the control group. Similar results were obtained comparing neonatal mortality and morbidity including hypothermia, hypoglycemia, RDS and hyperbilirubinemia, with longer hospitalization for the late preterm infants.

**CONCLUSIONS**

Despite widespread opinion that late preterm births (earlier used term was "near term") is low risk birth without need of additional measures of surveillance and procedures our data clearly suggest that this clinical condition is connected with various complication that significantly increase neonatal morbidity prolonging hospitalization and increasing cost of care.
TOPIC: Preterm birth/ the preterm infant

ABSTRACT ID: 443

TITLE: Perinatal outcomes of IVF verse nature pregnancy in very low birth weight infants

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INTRODUCTION

In vitro fertilization (IVF) pregnancies are steadily increasing. After introducing about IVF, most people worried about the adverse outcomes of IVF. The recent reviews reported the perinatal outcomes of IVF were preterm birth, low birth weight (LBW), small for gestational age (SGA), congenital malformations, neurologic disorders and epigenetic defects. There were similar reports about IVF that Shcieve said low birth weight and preterm birth were from multiple pregnancy. Hansen suggested mother's age was high in IVF pregnancy than natural pregnancy, so the incidence of chromosomal abnormality was increased. But, Kallen reported the congenital abnormality was increased for IVF in spite of maternal age and gestational age. We are aimed to analyze the outcomes of IVF verse nature pregnancy.

MATERIALS AND METHODS

Our study population was derived from Neonatal Intensive Care Unit (NICU) of the gangnam CHA medical center from 2010 to 2014, consisting of singleton live births under in very low birth weight infants (VLBW).

We grouped IVF group (n=24) and Control group (n=112). We analyzed two groups about maternal characteristics, neonatal characteristics, and outcomes (Retinopathy of Prematurity (ROP), BronchoPulmonary dysplasia (BPD), Periventricular leukomalasia (PVL), Necrotizing Enterocolitis (NEC), Death)

CLINICAL CASES AND SUMMARY RESULTS

Maternal age (34.88±0.86) was significantly high in IVF group (n=24) compared to Control group (n=112). There were not different between two groups in Premature Rupture of Membrane (PROM), pre-eclampsia, chorioamnionitis, and presteroid use. The characteristics of newborn was similar between two groups in birth weight, gestational age, 5 min APGAR score, and head circumference. But, 1 min APGAR score was significantly low in IVF group (4.00±0.31 vs 4.79±0.17). The morbidity and mortality was not different in two groups. In univariate logistic regression analysis, maternal age's odds ratio was 1.13 (95% Confidence Interval 1.01-1.27, P=0.04). In multivariate logistic regression analysis, other morbidities (ROP, BPD, PVL, NEC, Death) was not significantly high as risk factors.

CONCLUSIONS

As maternal age was high, IVF pregnancy was high. The morbidity and mortality was not significantly different in IVF group and Control group.
TOPIC: Preterm birth/ the preterm infant

ABSTRACT ID: 454

TITLE: The change of the maternal immune response during amniotic lavage via a subcutaneously implanted port system with PPROM and anhydramnios <28 + 0 weeks of gestation.

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INTRODUCTION

Preterm prelabor rupture of membrane (PPROM) at 22-27 weeks is one of the main problems of modern perinatal medicine, which is associated with a high risk of perinatal morbidity and mortality caused by severe multiorgan complications and fetal inflammatory fetal syndrome (FIRS).

The traditional methods of pregnancy management at the period of 22-27 weeks with PPROM allow prolonging the pregnancy for 3-4 days. To increase the PPROM-delivery interval, a new method of amniotic lavage has been developed, the task of which is to eliminate proinflammatory cytokines from the amniotic cavity.

The purpose of our study is to evaluate the influence of amniotic lavage and factors of women's anti-infection protection.

MATERIALS AND METHODS

The study included 24 women in the period 22-28 weeks. They were selected according to the criteria developed to prolong pregnancy with amniotic lavage. Criteria for inclusion: singleton pregnancies, classic PPROM, and proven oligo/anhydramnios on 22/0-28/0 weeks of gestation. Exclusion criteria: fetal chromosomal aberrations, malformations, high PPROM, AIS, premature labor. Continuous amnioinfusion (100ml/h, 2,4L/24h, SDP(4±2 cm) via a subcutaneously implanted port system in all patients with PPROM and oligohydramnios on 25/0-27/0 weeks gestational using hypoosmotic amniotic fluid like. The study of proinflammatory cytokines (CRP, IL-6, procalcitonin) in blood and amniotic fluid was carried out for 5 days and the newborns blood study.

CLINICAL CASES AND SUMMARY RESULTS

The first control study revealed a two-fold decrease in serum C-reactive protein concentration to 0.55±0.28 ng/ml, a reduction the interleukin-6 level to 1.89±0.79 pg/ml and procalcitonin to 0.43±0.11 ng/ml. In amniotic fluid, the level of CRP at 52.1 to 265.0±80.67 ng/ml (T-33.0,p=0.001), IL-6 at 29.4 to 286.4±200.1 pg/ml (T-39.0,p=0.002), procalcitonin to 0.056±0.11 ng/ml (T-30,p=0.001). After 10 days of anhydrous period The level of C-reactive protein in the blood decreased to 0.47±0.13 ng/ml (Z-2.66,p=0.007), interleukin-6 to 1.63±0.33 pg/ml (T-9.5,p=0.02), procalcitonin to 0.34±0.08 ng/ml (Z-3.05,p=0.002). In the amniotic fluid, the concentration of CRP decreased to 218.3±54.1 ng/ml (T-7.0,p=0.02), IL-6 by 29.4 to 239.0±122.7 pg/ml (T-9.5,p=0.04), procalcitonin to 0.044±0.02 ng/ml (T-5.0,p=0.007). In each case, chorioamnionitis was confirmed. All of newborns did not have FIRS (leukocytosis-8.23±0.6*109, CRP-0.2±0.06 mg/dL, procalcitonin-0.5±0.1 ng/ml).

CONCLUSIONS

The method of amniotic lavage reliably reduces the concentration of proinflammatory cytokines in the amniotic cavity and blood of patients, which allows prolonging the pregnancy to 10 days without developing signs of FIRS in newborns.
MORBIDITY AND MORTALITY IN TWO SIMILAR LEVEL III NEONATAL UNITS FROM DIFFERENT COUNTRIES IN EASTERN EUROPE

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INTRODUCTION

Prematurity represents the main cause of morbidity and mortality in the Neonatal Intensive Care Unit (NICU). Our aim was to study the neonatal morbidity and mortality in two level III NICUs in two different countries (The Republic of Moldova and the region Moldova in Romania) with similar socio-economic backgrounds and hospital facilities.

MATERIALS AND METHODS

We performed a retrospective longitudinal study over a period of three years (2015-2017) on preterm infants admitted in the Scientific Research Institute for Mother and Child Health (MCI), Chisinau, R. Moldova (group A) and in the Cuza-Voda Clinical Hospital of Obstetrics and Gynecology (CVH), in Iasi, Romania (group B). The accounted parameters were: outcome during NICU hospitalization (respiratory distress, intraventricular hemorrhage, pulmonary hemorrhage, necrotizing enterocolitis, late-onset sepsis) and mortality, including moment of death.

CLINICAL CASES AND SUMMARY RESULTS

The incidence of prematurity was significantly lower at MCI (8.6%), compared to CVH (10.2%), but with a higher incidence of gestational ages (GA) < 32 weeks (4.87% vs. 3.17%). In group A, there is a higher incidence of respiratory distress – 93.7% vs. 79.7% (p<0.001), necrotizing enterocolitis – 6.4% vs. 3.3% (p<0.001) and late-onset sepsis – 10.1% vs. 2.3% and a lower incidence of intraventricular hemorrhage – 6.5% vs. 8.7% (p<0.001) and pulmonary hemorrhage – 1.1% vs. 2.1% (p=0.001). The mortality was higher in group A (26.2% vs. 9.6%, p<0.001), with significant differences between groups regarding the age at death: 5.6 days in group A vs. 14.5 days in group B. The multivariate analysis showed that GA, late-onset sepsis and pulmonary hemorrhage are the most important predictive factors for death in group A (OR 5.9, 5 and 4.4, respectively), while in group B, the most valuable predictive factors were pulmonary hemorrhage, GA and birth weight (OR 11.8, 3.1 and 3, respectively).

CONCLUSIONS

This study highlights better follow-up of the high-risk pregnancy in Romania, as proved by the incidence of newborns with GA below 32 weeks, the incidence of different neonatal conditions and the moment of death in the two studied groups. Gestational age, birth weight, pulmonary hemorrhage and late-onset sepsis are predictive factors for death in both groups, although to a different extent.
INTRODUCTION

Preterm birth (PB) is defined delivery came before 37 weeks of gestation (WG). The problem of PB is a high percentage of infant mortality due to immaturity of the lungs, as well as neurological damage. The incidence of PB in the range of 5 to 18%. According to WG PB is stratified into mild preterm (32-36 week), very preterm (28-31 weeks) and extremely preterm (<28 weeks). The optimal way of ending premature labor, regardless of the presentation of the fetus, is still controversial. The aim of this study is to determine way of delivery (WD) in different degrees of prematurity and birth weight from single and twin pregnancies.

MATERIALS AND METHODS

We retrospectively collected data from the databases of University Clinic of Gynecology and Obstetrics Tuzla for the period of five years (January 1st, 2012 - December 31st, 2016). Out of 19506 births, 1350 (6,92%) were premature. Singleton preterm delivery was 1180 (87,40%), and the twins were 170(12,59%). The difference observed between the groups was tested by Pearson' s Chi-Squared and Fischer's exact test. The p < 0.05 was considered as statistically significant.

CLINICAL CASES AND SUMMARY RESULTS

Vaginal was born 788 (58,37%), of which 740 (93,90%) were singleton, and the twins 48 (6,09%). Cesarean section (SC) was born 562 (41,63%), of which 440(78,29%) singleton and 122(21,70%) twins. Of the 170 twin pregnancies, 122 (71,76%) were completed by SC. Before the 28th WG, there were 71 (5,25%) births. There is no statistically significant correlation between < 28 th WG and birth weight, < 999 grams, with the WD (chi2 = 1.20, P = 0.274). Before 32 WG 171 (12,66%) births. In the group of premature births occurring in the period from 32-37 WG was 1108(82,07%) births. The WD depends on the birth weight of the newborn in the interval from 1500-1999 g (chi2 = 23.16, P <0.0001). The chance of delivery to newborns with this birth weight is 2.56 times greater for SC than vaginal. There is statistically significant association of 32-37 WG with the WD (Chi2 = 89.02, P <0.0001). The chance of singleton birth is 7.77 times higher in vaginal than with SC.

CONCLUSIONS

It is evident that there is a higher incidence of caesarean sections in premature births but the method of carrying out premature labor is one of the most controversial topics of modern perinatology, because there are no clear and undeniable works and studies that would in any case support vaginal delivery or delivery to the cesarean section.
INTRODUCTION

Neonatal adrenal hemorrhage is being increasingly reported. The cause of adrenal hemorrhage (AH) is multifactorial as mechanical compression, large baby, hypoxia, septicaemia, preterm babies etc. The aim is to report a preterm newborn with bilateral adrenal hemorrhage and its perinatal history, localisation, and progress verified by ultrasound also clinical, biochemical and hormonal findings indicating adrenal insufficiency.

CLINICAL CASES AND SUMMARY RESULTS

Case report
The baby was born in 35 GW, BM 2400g, Apgar 9, PPROM 48h. Mother had an hypertensive crises before delivery. In the second day of life was diagnosed by abdominal ultrasound, bilateral AH. In laboratory analysis, Na was low (126), and large volume of CRP and bilirubin, aPTT time is longer, D dimer is higher for baby in the third day of living. Staphylococcus species was isolated in blood culture. In the first month level of adrenocortical hormones were normal. At the age of 60 days baby got suplemental therapy for adrenocortical insuffiency.

CONCLUSIONS

Conclusions: In preterm infants with bilateral AH it is important to follow up the endocrine function of adrenal glands.
TITLE: Comparative analysis of the frequency of congenital abnormalities in newborn at term and preterm, depending on location

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INTRODUCTION

Congenital malformations vary in severity, being associated with miscarriage, intrauterine fetal death or death in the immediate postnatal period. The objective of this study was to analyze the comparative frequency of congenital abnormalities in newborn term and preterm, depending on location, during two years (2016-2017) for a group of 48 newborns.

MATERIALS AND METHODS

Data were collected from Bega University Clinic, Department of Neonatology and Prematurity Timisoara and statistically processed. Malformations were diagnosed according to location and their frequency were analyzed by comparing the newborn at term and preterm.

CLINICAL CASES AND SUMMARY RESULTS

In the two years of study in preterm birth defects were seen in 62.5% compared to 37.5% in neonates at term. The most common congenital malformations are of the cardiovascular system respectively 57% and 15% of the central nervous system. 9% represented the digestive malformations in newborn term and preterm, 9% renal and urinary malformations and 9% unclassified birth defects. Malformations frequency in Romania is 1.3% of all births. In this study, infants showed more birth defects simultaneously. Congenital malformations of the cardiovascular system were reported in 84% of premature newborns and 16% of newborns at term. ASD was diagnosed in 40% of cases and in 100% in premature babies. The most common congenital anomaly of the CNS was congenital hydrocephalus (63% of total cases). Hydrocephalus in premature was present in 80% of cases. Digestive, renal and urinary unclassified malformations predominance was in premature newborns.

CONCLUSIONS

The number of birth defects in preterm infants is high, resulting in increased perinatal morbidity and mortality. Potential predictive markers and biochemical markers facilitate to diagnose early fetal prematurity. Risk can be reduced through information, consults prenatal genetic testing.
TOPIC: Preterm birth/ the preterm infant

ABSTRACT ID: 544

TITLE: IGF-1 LEVEL IN PREMATURE NEWBORNS ON DIFFERENT TYPES OF FEEDING

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INTRODUCTION

The level of Insulin-Like Growth Factor-1 and insulin, depending on gestational age and type of feeding has no significant differences.

MATERIALS AND METHODS

Insulin-Like Growth Factor-1 (IGF-1) is a mediator of growth hormone. It determines growth hormone somatotropic effect in body tissue. IGF-1 and insulin level were studied in 63 in preterm neonates (28 to 36 weeks of gestation at birth) at 40 weeks of postconceptional age. Patients were divided into groups according to gestational age: 1-st group 13 children born before 32 weeks (28-32) and 2-nd 50 later than 32 weeks (32-36).

CLINICAL CASES AND SUMMARY RESULTS

The IGF-1 in the group 1 was 37.3±13.4 ng/ml, in the 2-nd group - 33.1±21.4 ng/ml.
In children born earlier 32 weeks of gestation, in breast-fed infants form 1st group (N=9) the level of IGF-1 is 41.1±1.2 ng/ml, in children on formular feeding (N=4) IGF-1 is 28.8±11.2 ng/ml. The level of insulin – 3.27±0.05 and 1.67±1.18 respectively (no difference with the type of feeding).
In children born after 32 weeks of gestation, on breast-fed (N=36) the level of IGF-1 was 32.9±17.6 ng/ml, in children on formula feeding (N=14) IGF-1 is 33,7±14,7 ng/ml. The level of insulin – 2.9±2.7 and 2.0±2.12 respectively. Significant differences were also not obtained Significant differences are not obtained.

CONCLUSIONS

No significant differences in the level of IGF-1 and insulin in preterm neonates, depending on gestational age and type of feeding. These changes are possibly associated with immaturity of the liver, which produces IGF-1 and decreased production of sex hormones in this category of children.
INTRODUCTION

Preterm birth (PTB) accounts for about 5% to 18% of births across 184 countries. Risk of PTB is multifactorial, with infection of the reproductive tract a major initiating factor. Intrauterine infection by known microbes is estimated in 25% of all the PTB. Respiratory distress syndrome (RDS) of the neonate is a major cause of morbidity and mortality in infants born preterm. Different studies of the relation between intraamniotic infection and RDS have shown varying results. The lamellar body count (LBC) is used to estimate surfactant production in utero and predict the degree of fetal lung maturity. The aim of this study was to analyze impact diversity of vaginal microbiota on fetal lung maturity and spontaneous preterm birth.

MATERIALS AND METHODS

Vaginal microbiome were determined by quantitative polymerase chain reaction and culture for aerobic and anaerobic bacteria, including genital mycoplasmas. Amniotic fluid (AF) samples obtained by transabdominal amniocentesis. The LBC and glucose concentrations in AF samples were determined using the Sysmex XT 2000i automated hematology analyzer. We defined AF glucose concentrations <0.8 mmol/L as intra-amniotic infection.

CLINICAL CASES AND SUMMARY RESULTS

A total of 15 women with preterm labor with intact membranes were included in this study. Spontaneous PTB had 40.0% (6/15). The median (interquartile range) gestational age at amniocentesis and vaginal sampling was 32.4 (22–36.4) weeks. The most frequent microorganism identified was Gardnerella (G).vaginalis and Lactobacillus (L).crispatus, which were identified in 46.6% (7/15) and 53.3% (8/15) of these women, respectively. G.vaginalis was associated with increased risk PTB. The LBC value in AF ranged from 5000 to 151000/μL, averaged 36266±39423/μL. Glucose concentrations >0.8 mmol/L in AF and absence of G.vaginalis had higher LBC values than neonates with signs of intra-amniotic infection (46222 vs. 24635, p<0.05).

CONCLUSIONS

Intra-amniotic infection was associated with lower LBC values. A bacterial vaginosis related vaginal microbiome associated with increased risk of PTB and fetal lung immaturity. The sample number was not large, further studies are necessary to determine the effects of vaginal microbiota on fetal lung maturity and spontaneous PTB.
INTRODUCTION

One of the causes of premature birth is Premature Rupture of Membranes (PROM). The probability of its implementation depends on many factors. One of the mechanisms of the implementing PROM is the immune conflict between the mother and the fetus associated with genetically determined features of immunity. Another important mechanism of the development of complication is oxidative stress, due to the diversity of genes of enzymes and epigenetics. In local populations, all pregnant women are exposed to external influence, but premature birth occurs in a certain percentage of cases. In this regard, it is necessary to identify the mechanisms of external factors in pregnancy at the cellular-molecular level, the rationale for individual approaches to the prevention of possible disturbance.

MATERIALS AND METHODS

A complex examination of 76 pregnant women of the Amur region has been carried out: 1 group (n=32) – with PRPO at 26-32 gestation weeks, 2 group (n=44) – ended pregnancy on time. Genetic polymorphisms of detoxification system: GSTT1, GSTM1, GSTP1-1-Ile105Val, GSTP1-2-Ala114Val, SOD1-Asp90Ala, SOD2-Ala16Val, SOD3-Arg213Gly; interleukins: IL6, 10, 12, TNF have been investigated by polymerase chain reaction method (Real-time PCR). The biogenesis of free radicals has been studied by chemiluminescence using a luminescence spectrometer LS-50B «Perkin Elmer». We have determined: the intensity of the processes of free radical oxidation (FRO)-Ssp, the level of lipid hydroperoxides-h, the rate of formation of peroxide radicals-Sind-1, resistance to peroxidation-H, antioxidant system activity-Sind-2.

CLINICAL CASES AND SUMMARY RESULTS

Analyzing the frequency of polymorphisms of the genes of detoxification systems and interleukins in the compared groups of women, there are significant differences in the prevalence of IL-10 gene polymorphism alleles in 3 mutations (G1082A, C592A, C819T), SOD2, GSTP1-1, GSTT1, GSTM1. Women with PROM 1.5 times more often had mutations of the IL-10 gene (C592A), 3.3 times – IL-10 (C819T), IL-10 (G1082A) at 17.9%. In the comparison group, the percentage of pregnant women with the absence of all mutations of the IL-10 gene studied is 4.7 times higher than in patients with PROM (29.5% and 6.3%). With PROM often identifies mutant genotypes of SOD2 in 1.7 times, GSTP1-1 in 1.8 times, the combination of GSTM1 and GSTT1– in 2,1 times. PROM is characterized by more expressed changes in the processes of FRO, accompanied by a sharp increase in the rate of formation of peroxide radicals, increased content of lipid hydroperoxides against a background of reduced activity of antioxidant protection.

CONCLUSIONS

The conducted research has been shown that polymorphisms of genes of predisposition of IL10 interleukin (G1082A, S592A, S819T) and the system of a detoxification (SOD2-Ala16Val, a combination of GSTM1 and GSTT1, GSTP1-Ile105Val) are followed by disturbance of FRO, they should be considered predictive markers of PROM and risk factors of premature birth. Their identification will be allowed to hold purposefully preventive events and to minimize a possibility of the birth of premature children.
INTRODUCTION

Hemorrhagic syndrome (HS) complicates early neonatal period in about 25% of premature newborns, most often resulting in intraventricular hemorrhages (IVH). IVH is one of the leading cause of mortality in preterm neonates. Signs of coagulopathy found in about half of lost newborns. Among survivors one-quarter to one-half develop cognitive disability and/or cerebral palsy. IVH of the premature neonate is a complex disorder, with contribution from both the environment and the genome of the child. The goal of this study was to find antenatal clinical and genetic markers, allowing HS forecast in prematures.

MATERIALS AND METHODS

We performed retrospective analysis of 109 pairs of premature newborns and their mothers. Cases of congenital malformations and immune sensibilisation were excluded. 19 cases were referred to HS group. In all cases blood samples of both mother and child were obtained for real-time PCR-analyses for polymorphisms of 21 genes (8 genes of coagulation factors, 4 genes of folate pathway, 9 genes associated with blood pressure regulation). 256 parameters (clinical and laboratory), characterizing antenatal period, together with polymorphisms were mathematically examined for HS prognosis. Correlation analysis and Decision Trees algorithm were used to determine most valuable parameter combinations.

CLINICAL CASES AND SUMMARY RESULTS

As expected, HS likelihood was gestational age (GA) dependent. GA at birth < 28 weeks alone strongly correlated with HS. After 28 weeks good prognosis showed combination of newborn’s fibrinogen (FGB, G 455 A) gene polymorphism with amniotic fluid index (AFI) increase. Also in cases with GA > 28 weeks mother’s polymorphism of angiotensinogen II 1st type receptor (AGTR1, A 1166 C) gene together with umbilical artery Doppler pulsatility index (UA PI) increase and cardiotocography short-term variation (STV) decrease demonstrated strong forecast for HS development.

CONCLUSIONS

After 28 weeks GA risk of HS raised in infants with FGB (G 455 A) gene polymorphism combined with AFI increase, which usually indicate chorioamnionitis onset. Another risk group includes neonates whose mothers have AGTR1 (A 1166 C) gene polymorphism (referred to blood pressure regulation) in combination with placental insufficiency (increased UA PI, decreased STV). Thus gene polymorphisms of mother and newborn together with some antenatal clinical features may predict HS development in premature
Brain injuries are common pathology in preterm infants, the incidence of intraventricular hemorrhages has decreased in the last years, but the lesions of periventricular and subcortical white brain matter have changed their morphological features and have gained additional significance as determinants of the long term prognosis of high risk preterm infants. The aim of our study was to evaluate and analyze the white matter abnormalities in the population of premature infants with birth weight < 1500 g and gestational age < 32 weeks, regarding the incidence of cystic periventricular leucomalacia and diffuse brain white matter injury, diagnosed by serial ultrasound brain examination.

MATERIALS AND METHODS

52 preterm infants with gestational age < 32 weeks and birth weight < 1500 g, who were treated in neonatal intensive care unit. Mean gestational age of the infants was 29+-2.3 weeks, mean birth weight 1234+-256 g. Ultrasound examination of the brain was performed with 5 and 7.5 MHz probe in the first week of life, in the span 20-30 days of life and at the end of the second month. We analyzed the abnormalities of the white brain matter in periventricular and subcortical areas, presence and grade of intraventricular hemorrhages, dilation of the lateral ventricles and subarachnoid spaces.

CLINICAL CASES AND SUMMARY RESULTS

Intraventricular hemorrhages were diagnosed in 14 infants (26.9%), the distribution according to the grade of the hemorrhage was as follows: IVH gr. I - 5, IVH gr. II - 6, IVH gr. III - 3. Posthemorrhagic ventricular dilation with development of hydrocephalus was evident in two patients. In the first week of life we visualized abnormal periventricular hyperechogenicity in 38 patients (73%), which was preferably presented in peritrigonal areas. On the second ultrasound examination there was evidence of periventricular cystic lesions in 5/52 infants (9.6%, 3 - grade II periventricular leucomalacia and 2 - grade III periventricular leucomalacia). The initial periventricular hyperechogenicity resolved in 7/38 patients (18.4%), in the remaining 26/38 patients (68.4%), the ultrasound showed mild to moderate ventricular dilation, which in 5 premature infants (19.2%) was accompanied by mild to moderate dilation of the subarachnoid spaces.

CONCLUSIONS

The incidence of cystic periventricular leucomalacia in preterm infants with gestational age < 32 weeks is relatively low. The main brain lesions diagnosed by ultrasound in our cohort were mild to moderate dilations of lateral ventricles and subarachnoid spaces, usually preceded by periventricular hyperechogenicities in the early neonatal period. These ultrasound findings possibly reflect less severe white matter lesions, caused by post ischemic arrest in maturation.
INTRODUCTION
Prematurity is a public health problem. Induced prematurity (or medically consented) follows a medical decision; it accounts for 30 to 40% of premature births. We propose to evaluate etiologies and risk factors of iatrogenic premature births.

MATERIALS AND METHODS
This is a retrospective, descriptive and analytical study of 150 cases of deliveries occurring between 28 and 36 weeks of amenorrhea (WA), collected at the Gynecology and Obstetrics Department of the Farhat Hached University Hospital Center in Sousse, Tunisia.

CLINICAL CASES AND SUMMARY RESULTS
Average age of our parturients was 31 years old. Average pregnancy was 3 and average parity was 2.
A history of preterm birth was present in 30% of cases.
The average number of dexamethasone courses was 2.
In 60% of cases there was a start of labor, while in 40% it was a prophylactic caesarean section (from the outset).
Average term of delivery was 34 weeks.
The decision to give birth was taken in front of:
- severe preeclampsia in more than 50% of cases,
- premature rupture of the water pocket in 25% of cases,
- intraterine growth retardation (IUGR) in 7% of cases,
- and placenta previa bleeding in 4% of cases.
The Apgar at five minutes is greater than 7 in 80% of cases, with neonatal transfer in 20% of cases.

CONCLUSIONS
Prematurity caused by medical decision is the result of the progress of maternal and neonatal resuscitation, and requires multidisciplinary collaboration.
Introduction

Maternal host-vaginal microbial interactions throughout pregnancy plays an essential role in pregnancy outcomes. The balance of the vaginal flora is supported by lactobacilli and its protective and probiotic role in the treatment and prevention of vaginal infection by producing antagonistic compounds that play an important role in the susceptibility to infection during pregnancy, labor and postpartum. Timely diagnosis and restoration of dysbiosis of the vaginal microbiome can reduce the incidence of preterm labor and other possible complications. In this study we aimed to examine the composition and stability of the vaginal microbiome throughout pregnancy.

Materials and Methods

26 women aged 18 to 40 years during pregnancy were examined (I - III trimesters). Inclusion criteria included pregnant nulliparous women without significant comorbidities with singleton gestations. All specimens were examined by a comprehensive microbiological approach included cultured for bacteria and Gram stained by standard methods. Bacteria isolates were analyzed by MALDI-TOF MS method using the AutoFlex III. Also microbiome profiling was based on sequencing technology. We used qRT-PCR Detection Kit by «The DNA-Technology» mixture for PCR amplification, specific for all bacteria (total bacmass), a mixture specific for lactobacilli (Lactobacillus spp.) and mixtures, specific for opportunistic microorganisms (different compositions depending on the configuration).

Clinical Cases and Summary Results

Hierarchical clustering of vaginal microbiome profiles resulted in five clusters, CST I - Lactobacillus (L). crispatus; CST II - L.gasseri; CST III - L.iners; CST IVA - Peptoniphilius, Anaerococcus, Corynebacteriu, Prevotella; CST IVB - Atopobium, Prevotella, Gardnerella, Mobiluncus. The leading microorganisms were: L.gasseri (28.7%), L.crispatus (27.7%), L.iners (7.9%). In most pregnant (84.6%) species, the composition of lactobacilli remained relatively constant and only in 2 (7.7%) cases - during pregnancy it underwent changes. The unsuccessful pregnancy outcomes - premature birth were 23.3%. Analysis showed statistically significant positive associations between preterm premature rupture of membranes rate and dominance of obligate-anerobic microorganisms, such as Gardnerella vaginalis, Prevotella bivia, Porphyromonas spp, Eubacterium spp, Atopobium vaginae in association with fungi of the genus Candida.

Conclusions

Application of comprehensive microbiological approach and molecular techniques has significantly advanced our understanding of the vaginal microbiota and effect of different vaginal microbial communities on pregnancy outcomes. Well-timed correction of microbiome disorders will prevent infectious complications during pregnancy and the puerperium. The characterization of the vaginal microbiota in pregnancy has the potential to yield information of prognostic, diagnostic and therapeutic value.
INTRODUCTION

Retinopathy of prematurity (ROP) is a postnatal vasoproliferative disease which arises at incomplete vascularized retina in prematurely born infants. Despite of impressive advances in neonatology and opening of neonatal intensive care units, ROP is a still major cause of blindness during childhood in both, developing and developed countries. ROP has multifactorial origin. Risk factors for the development of severe ROP show a dynamic behavior in relation to gestation age. Patients with lower gestation develop ROP because of their prematurity at birth, whereas patients with higher gestation age develop ROP as a result of several diseases or comorbidities associated with prematurity, including sepsis and hyaline membrane disease.

MATERIALS AND METHODS

In a prospective one year observational cohort study which included all survive high-risk small birth weight (≤2500g) premature infants at age ≤34 weeks of gestation treated at the neonatal intensive care department at the University Clinic for Gynecology and Obstetrics, Skopje we were examined the incidence of ROP, the incidence of severe forms of ROP, and pre- and postnatal risk factors related to the occurrence of ROP. Data were analyzed using SPSS for Windows software, version 22.0. Neonatal and maternal risk factors were assessed and univariate and multivariate logistic regression analysis performed to examine the pre- and postnatal risk factors of ROP. The probability of p-value less than 0.05 was considered significant.

CLINICAL CASES AND SUMMARY RESULTS

A total of 262/549 (47.7%) satisfied the inclusion criteria and were included in the study. ROP was identified in 76/262 (29.0%) infants. Seventeen (17/262) or 6.5% had more severe form of ROP (stage 3 or AP-ROP), so laser-photocoagulation was performed or anti-VEGF was applied. None of the children had partial or total vision loss. Premature infants with gestational age ≤34 weeks of gestation and LBW were almost five times (OR = 4.7), those with early onset sepsis, twice (OR = 2.22) and those with oxygen dependency > 28 days almost seven times (OR = 6.9) more prone to the occurrence of ROP. There were no significant association between the occurrence of ROP and prenatal risk factors as FGR, GHD and low Apgar score in the first minute, and postnatal, as intracranial hemorrhage. On multiple logistic regression analysis, LBW, low gestational age and prolonged oxygen dependency > 28 days were the most significant independent risk factors which associated with the occurrence of ROP.

CONCLUSIONS

Less than 10% of premature babies who have been screened for ROP require ophthalmic treatment, which suggests that there is still room for further improvement of existing screening protocols. Our country needs more randomized clinical trials and additional clinical criteria to provide a more accurate data on the most important risk factors which associate with severe forms of ROP.
INTRODUCTION

Aim of this study to ascertain whether insulin-like growth factor-1 (IGF-1) is associated with morbidities of prematurity such as bronchopulmonary dysplasia (BPD), retinopathy of prematurity (ROP), intraventricular hemorrhage (IVH), and necrotizing enterocolitis (NEC), and is a useful predictor of these diseases.

MATERIALS AND METHODS

We prospectively studied newborn infants born at a postmenstrual age of ≤32 weeks, between January 2015, and March 2017. Serum IGF-1 levels were measured serially in blood samples on the 1st, 3rd, 7th, 21st, and 28th day.

CLINICAL CASES AND SUMMARY RESULTS

A total of 93 infants were enrolled in the study. All these infants had the following characteristics at birth (mean ± standard deviation scores): weight 1236, 11±354.06 g, and gestational age 29.43±2.10 week. Of our subjects, 38.7% developed BPD, 32.3% developed ROP, 35.5% had IVH, and 11.8% developed NEC. All of the IGF-1 levels were significantly lower in the group, which developed BPD or ROP (p<0.001). The patients who developed IVH and NEC also had lower IGF levels. However, there was not statistically significant difference in both groups.

CONCLUSIONS

Strong correlations have been found between low serum IGF-1 levels during the first four weeks and development of BPD and ROP.
**INTRODUCTION**

The most extensive experience of working in the principle of family care is available in the children's hospital in Tallinn, Estonia. Colleagues report that the adaptation of mothers to care for their children is possible within three days. We used a modified scale of "assessment of mother's readiness for babycare", made additions and changes taking into account the peculiarities of our country.

**MATERIALS AND METHODS**

After the implementation of the training algorithm, we observed for three months how the average medical staff and parents communicate in the conditions of the NICU. Nurses, along with the parents of our patients, filled the "assessment of mothers' readiness for babycare". After that, we together conducted an analysis of the questionnaires.

**CLINICAL CASES AND SUMMARY RESULTS**

The study included 41 mother-child pairs, where the infants had a birth weight of less than 1500 grams. Understanding parents' rules for the prevention of transmission of infection, as well as the concept of "environment" was over 1st day. Change of a diaper - 50% of mothers master by the 3rd day, 25% can on the 2nd day, 20% cope on the first day, 1 woman was ready to do it on the 5th day. Feeding through the orogastric tube - 7% on the first day, 10% - the second day, the rest consulted freely by the third day. The change in the position of the child is 5% on the first day, 65% on the third day, 30% on the fourth day.

**CONCLUSIONS**

Mother's transition to the "green zone" of full readiness for caring for they infants occurred on average for 3-4 days of stay in the ward. During this time, we managed to achieve maximum interaction between the staff and the parents of our patients.
INTRODUCTION

Starting from the 20th week of gestation the actual value of the force of gravity in the intrauterine (iUt) space grows from 0.05 to 0.6 G by the 26th week of gestation and to 0.8 G by parturition due to increasing mechanical stress from uterus and the amniotic sac. The period of gestation starting from 26th week is regarded as the iUt stage of fetal adaptation/training to earthly gravity. After parturition, at 1.0 G the newborn undergoes the extraterine (eUt) stage of adaptation to gravity. Presumably, the earlier parturition takes place the greater is “gravitational gradient” between the iUt and eUt conditions. We hypothesized that the preterm infant is inadequately prepared to Earth gravity due to reduced iUt stage of adaptation to gravity and to greater of gravitational gradient.

MATERIALS AND METHODS

Given that dimensionality of surface electromyogram (sEMG) proved informative in assessing condition of the motor system we compared it in two groups of infants, full-term and preterm, were studied. The full-term group included infants with gestational age (GA) of 38/39 weeks at birth, examined during the first three days of life (n = 10) and on the 2, 4, 6 weeks of life (n = 30). The preterm group consisted of low-risk infants with GA of 27–31, 33, 35, 36, and 37 weeks, examined during the first 3 days of life (n = 36), as well as children with GA of 31/32 weeks longitudinally observed on the 2, 4, 6 weeks of life (33, 35, 37 weeks of postconceptual age). The nonlinear parameters of sEMG (FRACTAN 4.4) included fractal (D) and correlation dimension (Dc), correlation entropy (K2).

CLINICAL CASES AND SUMMARY RESULTS

The D of sEMG amounted to 1.5–1.65, the Dc and K2 were 4.0–5.0, the mean frequency amounted to 165–185 Hz, the mean amplitude reached 130–175 µV in preterm infants examined over the first 3 days of life. Thus, the values of nonlinear parameters in preterm infants did not differ from their full-term peers at the age of 1–3 days. Still it can be seen that the amplitude and the mean frequency at birth were slightly higher in full-term infants than in preterm. No distinctions between examined muscles were found in sEMG parameters. Figure 4 shows an example of data on sEMG amplitude values in preterm infants at birth and full-term infants at birth and during 6 weeks afterwards. The longitudinal study in preterm infants unlike the full-term revealed that all the parameters of sEMG over the first 2-6 weeks of life remained permanent compared to the first days of life and, respectively, did not reach the values typical for their full-term peers at the corresponding calendar postnatal age.

CONCLUSIONS

Increase in all the sEMG parameters during the transition from iUt to eUt condition, found in full-term infants within 2 weeks of life, indicates a greater importance of postnatal period for motor system development. It was found that the antenatal period is also valuable for motor system development of a child as long as in preterm infants with shortened antenatal period of life the values of sEMG parameters were less and remained the same over 6 weeks after birth.
INTRODUCTION

High risk births have a major impact on the family as a whole, affecting parents’ mental health and well being and their interaction with their child which can influence child’s development outcome. Occupational Therapist plays an important role in “High risk infant’s sensory system and their ability to organise and regulate the stimuli in the world around them”. The primary goals of Neonatal Occupational Therapist are to improve the developmental outcomes through early intervention and facilitate infant family connection.

MATERIALS AND METHODS

Materials:
Assessment tools used:
- Assessment of motor and process skills (AMPS)
- Prechtl general movement assessment
- Infant - toddler sensory profile (sensory profile 2)
- Infant neuromotor assessment
- Neonatal Eating Outcome (NEO assessment)

Methods:
1. provide supportive environment
2. proper positioning
3. promote self regulation
4. promote caregiver involvement
5. provide an individualized developmental care plan based off the infant cues

CLINICAL CASES AND SUMMARY RESULTS

Early sensory, motor & neurobehavioral assessment, positioning, modification in environment, feeding, early intervention and parent education delivery in the first two years of life during a period of rapid brain maturation, neuro development plasticity may have lifelong benefits on a child’s health and well being. Neonatal follow up program is becoming the cornerstone of standard, high quality care provided to newborns at risk of future neuro development delay. Early identification and intervention plays a major role preterm infants survival.

CONCLUSIONS

Premature infants are born into a world their bodies often are not ready for. Developmental differences between those babies and full term infants often are apparent prior to a preemie’s discharge from the neonatal intensive care unit (NICU), as documented by researcher. Research over 30 years have shown, that babies who are admitted for neonatal care are at high risk for developmental problems later in life, be that a result of a premature birth or a complicated full term delivery.
INTRODUCTION

Hematopoietic progenitor cells (HPCs) are defined as cells with multilineage hematopoietic differentiation potential and sustained self-renewal activity. Each HSC is programmed to allow efficient production of the cellular blood components. Umbilical cord blood (UCB) is a source of the rare but precious primitive hematopoietic stem cells (HSC). The aim of our study, is to quantitatively determine Hematopoietic progenitor cells (HPCs) in the peripheral blood of neonates born at different gestational periods.

MATERIALS AND METHODS

A single centre study that includes neonates stratified according to gestational age (GA) into two groups: ≥ 31 weeks and <31 weeks of gestation is conducted. Levels of HPCs, are quantified using flow cytometric analysis.

CLINICAL CASES AND SUMMARY RESULTS

29 neonates (17 male) have been enrolled. Regarding gestational age (GA), 8 neonates had GA <31 weeks and 21 ≥ 31 weeks of gestation. Mean gestational age was 32.5±3.4 weeks, and mean birthweight 2.86±0.756kg.

Two milliliters of peripheral blood was taken in the first 2 days of life. HPCs were measured by flow cytometry. In neonates with gestational age <31 weeks hematopoietic progenitor cell counts were 255/106 (±135/106) and in neonates with gestational age ≥ 31 weeks HPCs counts were 140/106(±92,5/106). There is a significant inverse correlation between the gestational age and the presence of HPCs (t=2,538, df=26, p=.017).

CONCLUSIONS

The HPCs population was significantly higher in infants born at lesser gestation. Studies in animal models suggest that HPCs could play an important role not only in haematopoiesis but also in neuroprotection. Large high-quality trials are necessary in order to explore the normal counts of HPCs, and their potential role as prognostic markers of preterm birth associated complications.
**TOPIC:** Preterm birth/ the preterm infant

**ABSTRACT ID:** 763

**TITLE:** MANAGEMENT OF PATENT DUCTUS ARTERIOSUS IN A COHORT OF PORTUGUESE VLBW INFANTS

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**INTRODUCTION**

Patent ductus arteriosus (PDA) is frequent in neonates with gestational age of less than 32 weeks. Clinical and echocardiographic signs define hemodynamic significance of PDA (hsPDA). The association between the PDA and neonatal morbidity, mortality and poor neurodevelopmental outcome in later childhood is still a focus of debate. Selection of the group of infants who will benefit with treatment is increasingly important.

Objectives: to assess the prevalence of hsPDA in a Portuguese cohort of very low birth weight (VLBW) Infants and the effectiveness and complications of medical and surgical therapies. To evaluate morbimortality in this cohort of infants.

**MATERIALS AND METHODS**

A retrospective cohort study, concerning the period 2013-2017, was conducted in a level III Portuguese Neonatal Intensive Care Unit (NICU). Cases were identified from the clinical database from the enrolled NICU and the National Registry of VLBW. Data charts and ultrasounds were reviewed. Statistical analysis was performed with the SPSS ® 22 (SPSS Inc., Chicago, IL, USA). P <0,05 was considered statistically significant.

**CLINICAL CASES AND SUMMARY RESULTS**

623 VLBW infants were admitted in the study period. PDA was diagnosed in 154 (24,7%), hsPDA in 121 (19,4%). In ELBW infants hsPDA was identified in 71,7% and had higher rates of hsPDA (p<0,05). Median gestational age in the group with hsPDA was 27 weeks and median birth weight was 900g. The age at diagnosis of hsPDA ranged from 1 to 26 days (median 5 days). 67 of the 121 patients with hsPDA received pharmacological therapy. A total closure of PDA with ibuprofen was seen in 18 (26.9%) and a partial response in 32 (51.6%). There was a trend to achieve a better response in the group in which the therapeutics was done in the first week of life (p=0,057). All but 2 infants had no serious adverse drugs reactions or important clinical side effects. Surgical ligation was performed in 40 infants, it was the first intervention in 19 VLBW, in 21 infants it was an option after failure of pharmacological treatment. Postligation cardiac syndrome was the major complication, reported in 39,5% cases.

**CONCLUSIONS**

The management of hsPDA in premature infants is still difficult and controversial. Ultrasound is the mainstay of diagnosis and physiological assessment of the PDA, however other methodologies such as biomarkers and assessment of the end-organ effect of the PDA may became useful tools in establish the high risk patients and lead to a to a more individualized approach to PDA treatment.
INTRODUCTION

The aim of the study is to assess perinatal and neonatal indicators of early neonatal morbidity related to the mode of delivery in very low birth weight infants.

MATERIALS AND METHODS

We performed retrospective study of 305 newborns born between 23+0 and 31+6 weeks of gestation in 2015-2017. The mode of delivery was vaginal or by cesarean section in 117 (38.4%) and 188 (61.6%) infants, respectively. Infants with major congenital defects were excluded. Survival without severe morbidity was defined by the absence of PVH/IVH grade 3-4, PVL, NEC, moderate to severe BPD or ROP grade ≥ 3. Baseline characteristics were compared using Fisher’s exact test for categorical and Mann-Whitney for continuous variables. Univariable and multivariable Cox proportional hazards regression analyses were used to evaluate the survival without severe morbidity and quantified by odds ratios (OR) with confidence intervals. Results were considered significant if p-value <0.05 was achieved.

CLINICAL CASES AND SUMMARY RESULTS

The mortality rates were 9% and 26% for the whole cohort and in the subgroup below 28th week of g.a., respectively. Survival without severe morbidity in the neonates delivered vaginally or by cesarean section were 81% versus 80% (p=0.882); in the subgroup below 28th g.a. the rates were 56% and 55%, respectively (p=1.0).

In univariate analysis the gestational age, growth restriction, Apgar score, necessity of surfactant application and mechanical ventilation at 72 hours were predictors of survival without severe morbidity. In multivariate analysis the mode of delivery was not independent predictor of survival (OR 0.87; p=0.704); the only independent predictors were gestational age (OR 1.65; p<0.001) and Apgar score (OR 0.16; p=0.014). In the subgroup of infants born before 28th g.a., a trend towards statistical significance was seen in case of growth restriction (p=0.09) and antenatal corticosteroid therapy (p=0.06).

CONCLUSIONS

Gestational age and Apgar score were independent predictors of the survival without serious morbidity. The short-term outcome was not influenced by the mode of delivery in the whole cohort, and even in the subgroup of infants born before 28th gestational week.
INTRODUCTION

Introduction: Patient safety (PtS) is core of quality of health care. Health care workers in Neonatal intensive care units (NICUs) are facing a daily challenges to sustain safe care for their patients and to counteract medical errors while they are performing complex health care. The objectives of the ENSTN was to develop and support the establishment of Egyptian Neonatal Safety Training Network in order to promote safe health care practices in neonatal intensive care units and prevent inadvertent harm to patients as results of their care through contribution to learning /training of health care workers on patient safety, dissemination and promotion of a culture for patient safety.

MATERIALS AND METHODS

Methods: Eight workpackages were shared by five Egyptian and 3 European Universities.

CLINICAL CASES AND SUMMARY RESULTS

Results: The projects output and outcome include:
- Document of patient Safety standards for neonatal intensive care units
- Document for knowledge, skills behavior and attitude for safety practice in NICU
- 3 patient safety courses specifications for NICU health care workers
- Patient safety network database for NICU www.egyneosafety.net
- Developed 15 guidelines and 3 Arabic translated guidelines
- Document of parents educational booklet
- Patient safety team in majority of participating units
- 32 NICU patient safety workshops, 11 NICU patient safety leadership workshops, 14 NICU patient safety scientific research workshops, 14 NICU incident report workshops were established.

CONCLUSIONS

Conclusions: Continuous and regular training of all of the health care staff who are working in the neonatal intensive care and words is mandatory in field of all aspects of science of patient safety. Parent’s contribution to neonatal patient safety is one of the essential providers to safe outcome of the newborn infants. Incident reporting is important tool for shared safety experience and decrease medical errors.
INTRODUCTION

In order to reduce the maternal mortality rate, China has set up critical care centers to diagnose and treat the critical pregnant women in their respective areas in a timely manner. Our hospital has become one of the five critical care centers at the end of 2007 in Shanghai. Since then, the center has carried out a great deal of exploration on the process of diagnosis and treatment of diseases, standardized management procedures, and how to train obstetrician doctors at all levels in the centers and districts. We found that the example's training of professional obstetrician based on “disease warning grading”, playing an important role in optimizing the resources of obstetric diagnosis and treatment and improving the management level of the critical pregnant women in the area.

MATERIALS AND METHODS

"Disease warning grading" of pregnancy risk assessment for pregnant women of Shanghai is to use 5 different colors as early warning signs to evaluate the classification of each pregnant woman during the early, middle and late prenatal examination. In 2012, Shanghai Sixth People's Hospital critical pregnant women rescue center carried out case training based on the "disease warning grading" for obstetric professional doctors in the jurisdiction. We collected all the patients in the center which transferred from the administrative region. In order to explore the effectiveness of the training, disease categories, the proportion of high-risk patients and the standardized referral changes of all the pregnant woman who are transferred to our center before and after the training were analyzed.

CLINICAL CASES AND SUMMARY RESULTS

After case training based on “disease warning grading”, the proportion of low-risk pregnant women who transferred to the center significantly decreased (29.76% vs. 14.11%), and the proportion of high-risk transferred pregnant women was significantly increased (18.46% vs. 32.75%). In particular, the proportion of pregnant women with internal and external complications increased significantly; the proportion of patients with obstetric complications decreased significantly (p<0.01). After training, the rate of prenatal examination and standardized referral of transferred pregnant women from all levels of hospitals in the district were significantly higher than those before training(60.91% vs. 47.9%, and 92.59% vs. 50.26%, all p<0.01). In addition, after training, the proportion of pregnant women that were transferred from the lower level hospitals and who need to enter the intensive care unit is increasing year by year, which is significantly higher than that before training (p<0.01).

CONCLUSIONS

By case training based on the “disease warning grading” for obstetric professional doctors, the utilization rate of obstetric treatment resources can be optimized, and the quality of obstetric management and the effect of severe maternal care can be improved.
**INTRODUCTION**

Shanghai Jiao Tong University Affiliated Sixth People’s Hospital is one of the five critical maternity consultation and rescue centers in Shanghai. By analyzing the data of the delivery status in the past 15 years of this hospital, this study explores the maternal health care strategies of critical maternity consultation and rescue centers that based on general hospital.

**MATERIALS AND METHODS**

The information of hospital delivery from January 1, 2003 to December 31, 2017 was extracted from the hospital information system of Shanghai Jiao Tong University Affiliated Sixth People’s Hospital, and the basic information characteristics of pregnant and parturition, the main delivery index and the cost of childbirth were analyzed.

**CLINICAL CASES AND SUMMARY RESULTS**

The annual mean age of pregnant women is 26.89-30.42 years old, with an average of 28.39 years. The total number of births was 39,653 and the rate of multiple births was 0.69-2.82%, an average of 1.65%. The weight of newborns was 3,244.95-3,334.06 g, averaged at 3,262.8 g. The annual occurrence rate of macrosomia was 5.41%-8.45% with an average of 6.7%; the neonatal male-to-female ratio was 1.13:1. The annual cesarean section rate was 33.9%-46.66%, averaged at 41.78%. The proportion of critical maternal births has been increasing year by year, up to 38.90% in 2017. The average number of days of hospitalization for cesarean section was 7.40 days, and for vaginal delivery was 3.78 days. The cost of hospitalization is ¥5,346-12,263 ($848-1,944) for cesarean section, averaged at ¥6,654 ($1,055); and ¥2,143-4,819 ($340-764) for vaginal delivery, averaged at ¥2,986($473). The most common complication was postpartum hemorrhage, with an annual rate of 1.39%-5.43% with an average of 3.36%.

**CONCLUSIONS**

The maternal delivery age gradually increases and the multiple birth rate increases. The cesarean section rate remained high, which was, to some extent, associated with an increase in the proportion of critical pregnancies. Therefore, the critical maternal consultation and rescue center of the comprehensive midwifery medical institutions should pay close attention to the risk of delivery for the critical pregnant women and control the cesarean section rate.
INTRODUCTION

In connection with the problem of not only quantitative but also qualitative reproduction of the population of the Russian Federation, which has sharply escalated in recent decades, the health of girls entering the reproductive phase of their development acquires decisive importance. The aim of the study was to develop and implement a system of medical and social assistance that would improve the outcomes of pregnancy and childbirth in juveniles on the basis of studying the characteristics of the course of pregnancy, childbirth and the postnatal period.

MATERIALS AND METHODS

The study included 593 patients who were divided into groups as follows: 1 group (main) - minors who gave birth at Maternity Hospital No 10 in 2004-2014. (n = 483), 2 group (comparison group) - women of middle reproductive age who gave birth at Maternity hospital № 10 in 2012-2014. (n = 110). Minors of the 1st group were divided into two subgroups, depending on their age at the time of delivery: 1 subgroup - 13-15 years at the time of delivery (n = 49), 2 subgroup - 16-17 years of age at the time of delivery (n = 434). Clinical and anamnestic methods, social questioning, psychological testing, histological and immunohistochemical methods of investigation were used in the work.

CLINICAL CASES AND SUMMARY RESULTS

The complex of medical and social factors contributes to the onset of pregnancy among minors: the lack of a permanent place of work or study, education in incomplete parental families, smoking, a rare use of contraception and promiscuity. In juvenile pregnant women there is a very high level of anxiety and a high level of neuroticism. In juvenile pregnant women there are more frequent complications of pregnancy and childbirth: the threat of abortion, anemia of pregnant women, preeclampsia; premature and early discharge of amniotic fluid, fetal hypoxia and asphyxia of the newborn, rapid delivery. The histological structure of the juvenile placenta is characterized by hypertrophy, incompliance with gestational age, greater frequency of chronic placental insufficiency, and a significantly greater frequency of infectious changes. In the placenta of minors in the presence of chronic placental insufficiency, the expression of HIF-1 and VEGF-A is increased.

CONCLUSIONS

Based on the results of the study, basic principles and a system of medical and social assistance to minor pregnant women in the megalopolis have been developed (the establishment of a center for the management of pregnancy and childbirth in minors on the basis of an obstetric hospital), which has improved the quality of medical care, medical and social outcomes of pregnancy in minors.
INTRODUCTION

Modern assisted reproductive technologies expand the opportunities of in vitro fertilization (IVF) in infertile women. However, the accumulated data on obstetrical complications and risks raised the issues of pregnancy and perinatal outcomes after IVF [Soboleva V.V., 2017]. The hypercoagulation following thrombophilia and/or hemostatic disorder results in the increased risk of thrombosis in pregnancy both after physiological conception and IVF. Thus, pregnancy after IVF requires an accurate thrombosis risk evaluation and timely therapeutic dose selection for venous thromboprophylaxis with global/integral hemostasis assays.

MATERIALS AND METHODS

We performed a systematic search in the foreign and Russian databases from 2010 to 2016 to identify studies dealing with global/integral hemostasis assays during pregnancy following IVF.

CLINICAL CASES AND SUMMARY RESULTS

Hemostasis has three phases. However, all three mechanisms function inextricably from each other. The traditional coagulation tests investigate parameters separately of a blood coagulation and a platelet plug. For this reason, we often receive separate data, which are very difficult for bridging in a uniform clinical case, resulting in unreasonable and incorrect therapy. The molecular markers of a thrombogenesis considerably complicate risk assessment and diagnosis of thrombosis-associated complications with [Lipez E., 2015]. The traditional coagulation tests are unable to identify patients with thrombosis risk with, and to monitor antithrombotic or hemostatic treatment. These calls for global hemostasis assays: thromboelastography, thrombin generation test, and clot waveform analysis. Global hemostasis assays have several advantages, for example, showed to be of use in thrombosis (venous and arterial) but also it might be a meaningful instrument in hemostatic therapy [Park M., 2009].

CONCLUSIONS

Clinical trials often exercise different approaches, but the sensitivity of tests depends on the protocol and numerous versions of each global hemostasis assays face a single problem: lack of standardization. All three methods still require further studies, standardization, and acceptance before wide clinical application, which in turn necessitates optimization of integrated methods and standards upgrade to increase IVF efficiency and to decrease obstetric and perinatal complications rate.
Debriefing of the emergency simulation: method and acceptance

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INTRODUCTION

Obstetrical emergencies have the peculiarity that they always involve various medical professions and subspecialties (Midwife, Obstetrician, Anaesthesiologist, Paediatrician). Possible uncertainties regarding the role and tasks of every participant or inadequate communication between the participants can drastically affect the management, and consequently the outcome, of the emergency. For that reason, it is of the utmost importance to train and prepare for obstetrical emergencies in the context of simulation drills. A debriefing regarding the management and outcome of the drill should take place at the end of every simulation scenario in a relaxed and appreciating atmosphere. This debriefing is probably the most sensible, important and complicated part of the whole training.

MATERIALS AND METHODS

In our department we implement regular emergency simulation drills once every three months to our daily clinical activities. We conducted a survey under professionals from all the subgroups who have participated in one or more of our regular emergency simulation drills. The survey regarded the acceptance and mental processing of these drills, with focus on the emotional reaction to and personal perception of the debriefing. In total 37 participants have returned their reply to 9 short questions.

CLINICAL CASES AND SUMMARY RESULTS

The participants felt challenged before every upcoming simulation training (63%), uncertain (60%) or even anxious (19%) during the simulation scenario. The tension could be dissolved through the debriefing in 50% of the cases. 70% of the participants felt relieved because the debriefing focused mostly on the communication skills and mistakes. 88% of the participants found the training useful for their daily clinical practice and 83% would be even happy to voluntarily participate in another simulation drill.

CONCLUSIONS

Emergency simulation in Obstetrics is important and useful. The debriefing (react - analyse - integrate) is a suitable instrument, in order to dissolve the tension and the anxiety of the participants and to carefully observe the interpersonal communication of the participants. This leads to a high acceptance rate of the emergency simulation training.
INTRODUCTION

Freedom of movement of individuals is a cornerstone of European Union (EU) policy. A Directive on the recognition of professional qualifications for midwives defined a joint framework for quality midwifery education and practice in Europe. The European Midwives Association (EMA) has an important, ongoing role in establishing, securing and advancing high quality midwifery education and practice in EU member countries.

MATERIALS AND METHODS

The aim with evidence-based practice within midwifery is to increase the empowerment and quality of midwifery. The evidence-based practice as well as the ethical guidelines emphasize the rights of the women to receive qualitative midwifery care.

CLINICAL CASES AND SUMMARY RESULTS

European policy involves freedom of movement of individuals between member countries, which applies equally to those who use and provide maternity care. To promote and support safe, high quality midwifery care, minimum standards for midwifery education and practice have been published, EEC/80/154 and EEC/80/155 which support the recognition of professional qualifications. These Directives established a minimum standard for midwifery education, including the duration and content of theoretical and practical education. Annex V of the Directives established a framework of professional activities to define and guide the scope of midwifery practice in EU member countries. The Directives were updated in 2013, with the European Midwives’ Association (EMA) an important partner in this process.

CONCLUSIONS

Annex V of the Directive described the theoretical and practice content and defined competencies required of midwives. In the updated Directive of 2013, Annex V from 2005/36/EC remained valid and largely reflected the content of the original from 1980. Annex V focuses solely on quantitative description of midwife tasks. It enumerates the number of women a student midwife should care for in the antenatal and postnatal period, and the number of births the student midwife should facilitate.
INTRODUCTION

According to the Spanish Neonatal Scientific Society: the early hospital discharge would be one that is given before the 48 hours of life, and very early would be before 24 h. to a newborn without risk factors and that does not require specific care in hospital. But the hospital stay recommended by consensus from same society to healthy newborn is 48-72 hours in vaginal/caesarean section delivery, in order to detection of perinatal diseases early and be sure neonatal tests of public health programs are made and registered. A program of early discharge was start in Mataró Hospital after consensus between obstetricians, neonatologist and primary health care. A clinical form was designed to permit us register and apply the early discharge program with a high level of security.

MATERIALS AND METHODS

Some studies demonstrated potential adverse consequences of early discharge for newborn who meet criteria for early discharge. These problems can arise without warning signs after 24 hours of life, such as jaundice or congenital cardiac disease. In addition, we must be sure that the health's public programs of early diagnosis metabolic diseases and congenital deafness are made. Doctors must take into account the clinical conditions, the perception of the mother in terms of their training to take on their own care and newborn care and the accessibility to the health system. The plans of early discharge must be individualized. It is necessary a commitment on the part of the family to follow the program. We design a clinical form to register and control the effective and security of the program.

CLINICAL CASES AND SUMMARY RESULTS

We design a clinical form (database) which is complemented when the family ask for this program and the paediatricians and obstetricians verify that both meet the criteria and record them. Coordination with public primary care level ensures that mother and newborn will be assisted 24 hours after discharge. In addition when the mother and her son are discharged they receive appointment for a medical control visit at 72 hours of the discharge in our nursery in order to have paediatrician visit, complete studies of public health programs and registered possible potential adverse consequences that would be presented in this period. The clinical form is included in the patient electronic clinical history. It is filled by neonatologist when family requests early discharge and remand open until the control visit and complementary explorations are done, then the newborn is discharge definitely and clinical form is closed. We review all the open clinical forms in order to contact with them.

CONCLUSIONS

Spanish healthcares and families are often reluctant to early hospital discharge of healthy newborn. In this environment, our program of early discharge is restricted and looks for a high level of security to mothers and her newborns. The clinical form developed permits us to have a program of early hospital discharge with maximum guarantees of security for our patients. And permit reaches a high level of satisfaction in healthcare professionals and families.
INTRODUCTION
Progress in medical science has led to increased survival of premature babies and improved their long-term outcomes. The role of parents is also important. This has led to the more hands-on participation of parents in the care of their child. The therapeutic intervention is focused on family for interactive relationship between health professionals and families in care and treatment.
Patient satisfaction is a quality measure of care and that sparked the need for measurement of parental satisfaction.
The aim of the study is to assess the degree of parental satisfaction and factors affecting it to improve practices for building a family-centered environment that provides the best care.

MATERIALS AND METHODS
The study took place in the NICU of Archbishop Makarios III hospital. It was a one-year perspective study and involved 240 families from March 2013 to March 2014. The satisfaction questionnaire (EMPATHIC-N) was used and consisted of a total of 57 statements that identified five key factors:
1) information on the neonate/neonates receiving care (12),
2) care and therapeutic intervention (17),
3) parental involvement (8),
4) organization (8) and
5) professional behaviour of staff in the workplace (12).
Investigational and confirmatory factorial analyzes as well as structural models of equations were applied to examine the relationships between the five satisfaction factors. Meanwhile, mediation and regulatory variables of interactions between parental satisfaction factors were examined..

CLINICAL CASES AND SUMMARY RESULTS
The following data were recorded on the basis of the satisfaction questionnaire: Parents are quite satisfied with the care provided (average satisfaction for each question in the questionnaire from 4.04-4.9, upper limit of 5).
The exploratory factorial analysis model detected five satisfaction factors, which were confirmed by the confirmatory factor analysis model. The factors of intervention, organization and professionalism are strongly related to each other, defining a more general second order factor linked to the organizational structure of NICU. The NICU is governed by a high degree of organization that may be the main pillar of satisfaction tool. Professionalism illustrates the organization which in turn affects the other dimensions of parental satisfaction. The professionalism of medical staff predicts with statistical significance parental involvement and all other variables. Mothers with higher level of education require more extensive information to be satisfied.

CONCLUSIONS
The above findings show the high rate of satisfaction of NICU parents. In difficult times where drastic cuts in health are promoted, NICU seems to record high rates of satisfaction of parents and this is due to the organization of the NICU and the professionalism of doctors and nurses. The high degree of organization enables and pushes parents to actively participate in the care of their children. Modern families require accurate and timely information and this increases their satisfaction.
INTRODUCTION

Postpartum period is associated with a spectrum of physiological changes and significant alterations in the immune system. Maternal postpartum readmission is an undesirable obstetric outcome signifying a deviation from the normal course of postnatal recovery. The risk of maternal readmission ranges from 0.98% to 2.16%. It has therefore, been suggested by the WHO as a quality of health care indicator and an indicator for maternal morbidity. Postpartum readmissions are associated with critical economic ramifications and significant health care costs. The study aims to describe the common etiological factors contributing to puerperal morbidity and thus necessitating postpartum readmission.

MATERIALS AND METHODS

A retrospective study of all obstetric patients who were readmitted to the obstetric/medical/surgical units within 6 weeks of delivery at a tertiary care hospital in rural India (R.L.Jalappa hospital) over a period of 1 year (from April 2017 to April 2018). Data analyzed included the details pertaining to the demographic, mode of delivery, duration of labor, antepartum, intrapartum and immediate postpartum complications, associated comorbidities, and length of postnatal stay from the patient’s hospital records. Data was analysed using descriptive statistical analysis and chi square testing. The association between mode of delivery and readmission and the specific diagnosis & its frequency at the time of maternal readmission was analysed.

CLINICAL CASES AND SUMMARY RESULTS

There were 26 readmissions over the study period. Two patients in the study had two causes for readmission. The overall readmission rate was 1.24 %. Readmission within the first 6 weeks after vaginal delivery (2.02%) was significantly (P < 0.05) more common than after cesarean delivery (0.71%). The most common diagnoses at postpartum readmission included infective etiology (57.7%), anemia (15.3%) and pregnancy related hypertension etiology (11.5%). Obstetrical wound infections contributed to a 19.2 % of the total readmissions. Data suggested that Urinary tract infections attributed to 7.7% of cases and was more common post cesarean delivery. Other indications for readmission included thromboembolic etiology (7.7%), secondary Postpartum Hemorrhage (7.7%), peripartum cardiomyopathy (3.8%) and psychiatric causes (3.8%).

CONCLUSIONS

The commonest cause for postpartum readmission is primarily infectious origin. Delivery procedures are invariably of clean contaminated nature, this could probably attribute to the frequency of infections. Stringent measures to ensure the administration of perioperative antibiotics could reduce the rate of infections. Periodic audits to identify case specific aetiology may aid in the development of new quality of care indicators in obstetrics to reduce the postpartum maternal morbidity.
Polyhydramnios, referring to an excessive volume of amniotic fluid, complicates 1-2% of pregnancies. It is associated with various adverse perinatal outcomes. Since the main source of amniotic fluid is fetal urine, factors decreasing fetal swallowing or increasing fetal urine production can lead to polyhydramnios. Although several factors like fetal anomalies or maternal diabetes can be causative, the remaining cases may be considered idiopathic. Since idiopathic polyhydramnios is a diagnosis of exclusion, differentiating idiopathic cases may be challenging, especially in limited resource/experience settings.

In this study, we aimed to use an easy-to-obtain parameter, such as umbilical artery Doppler pulsatility index (UA-PI), as a marker to differentiate idiopathic polyhydramnios cases from those with an underlying etiology.

### Materials and Methods

Referred women bearing a singleton fetus after 20th gestational week with a diagnosis of polyhydramnios (single deepest pocket ≥8 cm) between October 2016 and May 2018 to Istanbul Research and Training Hospital Perinatology Unit were enrolled in the study. All were evaluated for maternal glycemic status and fetal anatomic ultrasound scan. They were divided into four groups based on etiology: Hyperglycemic, Fetal Anomaly, Combined, and Idiopathic. For each patient, umbilical and middle cerebral artery (MCA) Doppler measurements were performed by the same sonographer using standard criteria, and pulsatility indices were calculated.

### Clinical Cases and Summary Results

76 women with a median age of 31 (19-44) were enrolled. The median gestational age was 31 (23-39) weeks. Polyhydramnios in 15 women (19.7%) was attributed to maternal hyperglycemic status. Major fetal anomalies were detected in 24 patients (31.6%). Six cases (7.9%) were grouped as combined since hyperglycemia accompanied fetal anomalies. The remaining 31 patients (40.8%) comprised the idiopathic group with no underlying detectable etiology. When compared in terms of UA-PI, the idiopathic group (0.85±0.12) had a significantly lower mean UA-PI value than hyperglycemic (0.94±0.09; p=0.03) and fetal anomaly (0.98±0.14; p=0.004) groups separately. Mean UA-PI value of the idiopathic group was significantly lower than the remaining non-idiopathic one (n=45, 0.95±0.13) when the rest were computed altogether (p=0.006). No significant difference was detected in terms of MCA Doppler pulsatility indices between groups.

### Conclusions

Accurate determination of etiology and providing counseling accordingly gain extreme importance in cases of polyhydramnios. Therefore, especially in limited resource/experience settings, an easy-to-obtain parameter, such as UA-PI, may be used as a marker to predict the presence of an underlying causative factor. This may warn the physician to pay more attention and provide timely patient referral. However, larger studies are needed to confirm the role of UA-PI as an "etiologic marker."
INTRODUCTION

Gynaecologists like family doctors are involved in the health care of women throughout their life course, including before childbearing age through menopause and into old age. As gynaecological doctors we use a holistic approach to provide individualised patient centred care. We notice that certain women such as migrants, drug abusers, unemployed and domestic abuse, are more at risk of health problems due to their state of poverty.

MATERIALS AND METHODS

In our communities whom we care for, we see women who cannot afford certain basic needs of life are at risk of poverty. The factors which effect this risk include income, employment, access to housing, environment, services, education and health. Women who are at risk of poverty have higher physical co-morbidities, such as obesity, smoking, ischaemic heart disease and cancer. There is also increased association with anxiety, depression and substance abuse. In these women this is related to higher risk of perinatal mental health. Bad obstetric outcomes are indicated by higher rates of miscarriages, prematurity, intra uterine growth restriction and placental abruption. These women are also at risk of domestic abuse. Their children are also at risk of neglect and abuse.

CLINICAL CASES AND SUMMARY RESULTS

Women, children and the elderly are more vulnerable to the effects of poverty due to deprived neighbourhoods with increased crime, drugs and violence and family disruption. Both lifestyle and working conditions have an effect on uptake of screening, immunisation, education and long term management of gynaecological disease. We have to ensure good easy access to sexual and reproductive health, providing targeted individualised care can improve long term health and reduce poverty. Reduced disposable income effects women, children and the elderly. Communication problems add to the distress of poverty faced by migrants and refugees. We have to allow more flexible timing for appointments. Longer appointment time is needed for relaxed discussion with the patient in view of likelihood of multiple co-morbidities. Referral to social care and community voluntary organisations will offer further continuing support.

CONCLUSIONS

Using good communication we can offer non-judgemental and holistic care. Our approach to the patient will support individuals in their fight to stop the vicious cycle of poverty leading to poor health. As gynaecologists working in the community together with other health and social carers we have the opportunity to provide individualised health care and thus reducing poverty.
TOPIC: Twins

ABSTRACT ID: 98

TITLE: ASSOCIATION OF MONOCHORIONIC TWINS COMPLICATIONS AND OUTCOME WITH HYSTOPATHOLOGICAL FINDINGS OF THEIR PLACENTAS

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INTRODUCTION

The two major groups of placental pathologies (intrauterine inflammation and abnormal placentation) can lead to fetal complications and adverse pregnancy outcome. Due to the placental particularities (vascular and developmental) and sharing monochorionic twins present a group that carries the high risk for pregnancy complications. The study aimed to determine the frequency and type of placental pathological findings in monochorionic twins according to the pregnancy outcome.

MATERIALS AND METHODS

A prospective study of all healthy pregnant women with monochorionic twin pregnancies checked-up and delivered during five years (2010-2015) at the Clinic for Ob/Gyn Clinical Center of Serbia in Belgrade was conducted. All pregnancy complications were registered (IUGR, TTTS, miscarriage or premature birth). The basic positive pregnancy outcome was having (one or both) twins live-born. After delivery, all placentas were histopathologically analyzed (HP), their weight was measured and the presence of chorioamnionitis (acute or chronic) and/or vascular pathological findings (hypo or hyperemia; hematomas; superficial/deep anastomoses of placental blood vessels) were registered. Collected data were compared and statistically analyzed according to pregnancy outcome.

CLINICAL CASES AND SUMMARY RESULTS

The study included 39 women with monochorionic twins. Most twins had no gestational complications and were live-born mostly during the 32nd gestational week (mean=31.77 +/- 6.57). HP analysis of placentas showed that there were no significant differences in frequency of normal findings (n=15) and vascular pathologies (n=18), while chorioamnionitis was rarely registered (n=6). TTTS was found in 8 (20.5%) cases. In case of placentomegaly (3 vs. 1 live) or retroplacental hematomas (4 vs. 1 live) significantly more twins had an adverse outcome, while in cases of smaller placentas (n=2; $\chi^2=7.120; p=0.028$) or hyperemia (n=8; $\chi^2=12.195; p=0.007$) twins were live-born. Significantly more twins were live-born if HP revealed normal placentas (14 live vs. 1) or vascular pathologies (11 live vs. 3) ($\chi^2=6.380; p=0.041$). Contrary, if chorioamnionitis was confirmed 50% of twins had adverse outcome. Moreover, all fetal demises occurred in case of acute chorioamnionitis ($\chi^2=9.012; p=0.011$).

CONCLUSIONS

Placenta can project the condition of monochorionic twins throughout pregnancy, so it should be thoroughly evaluated on every ultrasonographich pregnancy check-up.
INTRODUCTION

Monochorionic monoamniotic twin pregnancies are at extremely high risk of potential complications. They account for 1-2% of all twin pregnancies and 3-4% of monochorionic ones. They may be complicated by conditions specific for monochorionic twin pregnancies, such as twin-to-twin transfusion syndrome or twin reversed arterial perfusion sequence, but also to a great extent by umbilical cord entanglement. Monochorionic monoamniotic twin pregnancies also have a high risk of congenital anomalies. Acrania is a lethal diagnosis. It can be diagnosed during the first trimester of pregnancy on ultrasound scan.

MATERIALS AND METHODS

This is a case of a 29-year-old primigravida in a monochorionic monoamniotic twin pregnancy, who was referred to the 1st Department of Obstetrics and Gynaecology, Medical University of Warsaw, at 17 weeks of gestation due to acrania in one of the twins. During a special perinatal case conference it was decided to perform a selective fetocide, after obtaining the patient’s consent.

CLINICAL CASES AND SUMMARY RESULTS

The procedure was planned for 18th week of gestation. Due to the very close locations of placental cord attachment sites and umbilical cords’ entanglement intrafetal laser ablation of umbilical vessels in abnormal twin was performed. The procedure was uncomplicated. The following course of pregnancy was uneventful. The patient was admitted to the Department at 40 weeks of gestation for labour induction. Due to cervical dystocia during the first stage of labour she was qualified for the caesarean section. A healthy female newborn weighing 3670g was delivered in good general condition. A papyraceus fetus with acrania weighed 40g. There were no congenital anomalies diagnosed in the first twin. Five days later the woman with the child were discharged from the hospital.

CONCLUSIONS

The risk of complications in monochorionic monoamniotic twin pregnancies is substantially higher. Major fetal abnormalities should always be detected during the first trimester of pregnancy. Such approach allows specialists to choose an optimal way and timing of intrauterine therapy and therefore increase the chances for the delivery of a healthy child.
INTRODUCTION

In comparison to singleton pregnancies, twin pregnancies are at a higher risk of congenital anomalies, with the risk in monochorionic pregnancies over twice as high as in singletons. Sirenomelia, also called “a mermaid syndrome”, is a rare congenital deformity, in which legs are fused together, with a characteristic appearance of a mermaid tail. Found in approximately 1 out of a 100 000 live births, sirenomelia is often accompanied by other serious malformations, most often affecting kidneys and genitourinary system.

MATERIALS AND METHODS

A case of a 34-year old patient referred to the 1st Department of Obstetrics and Gynecology at 18 weeks of monochorionic diamniotic gestation after diagnosing multiple malformations in one of the fetuses. An ultrasound scan confirmed the presence of multiple structural abnormalities - sirenomelia with accompanying lack of external sex organs, cardiac malformations (VSD and ARSA) and bilateral renal agenesis with a bladder and a stomach impossible to visualize. Fetal karyotype from amniocytes derived from amniotic fluid was normal (46XX).

CLINICAL CASES AND SUMMARY RESULTS

Adequate fetal growth of the anatomically normal twin was confirmed in subsequent ultrasonograms, while the twin with abnormalities was growth restricted and developed oligohydramnios over time. No other perinatal complications occurred in pregnancy. At 37 weeks of gestation the patient spontaneously delivered vaginally. The first twin was born in good general condition, weighing 2880 g. The second twin, weighing 1560 g, 3-5-5-7 Apgar score was administered palliative therapy due to lethal malformations. The examination of the malformed newborn confirmed sirenomelia, as well as the presence of facial deformities, esophageal atresia, imperforate anus, bilateral renal agenesis, VSD and ARSA. Both parenteral nutrition and respiratory assistance (CPAP) were applied. The child died in the 6th day of life. The mother was discharged from hospital with the second healthy daughter.

CONCLUSIONS

Sirenomelia is a lethal deformity due to coexisting renal abnormalities and usually results in either stillbirth or death within the first few days after birth. Although monochorionic twins are monozygotic ones and share the same genotype, they may be discordant for anatomical anomalies, therefore showing a different phenotype.
INTRODUCTION

TTTS is a very rare disease that has a high rate of perinatal mortality and morbidity because of insufficiently known etiology, severe diagnosis and treatment. TTTS involves the chronic blood flow through vascular anastomoses in monozygotic, monocaryial twin pregnancies, which by itself have a high rate of complications such as premature labor, fetal growth failure, fetal death. TTTS is usually diagnosed by obstetric ultrasound between 17 and 26 w. Parental counseling involves informing about a small double survival rate, a high likelihood of long-term neurological deficits, a high chances of premature birth. The end result without intervention almost always involves early premature birth and poor prognosis (80-100%). Even with treatment, fetal/neonatal mortality is high (15-63%).

CLINICAL CASES AND SUMMARY RESULTS

30 year old pregnant woman as "Gemini diamniotic monochorionic". In the 19th w. of pregnancy ultrasound is diagnosed pericardial effusion and reduced beats in the recipient twin, and the pregnant woman is hospitalized. Due to differential diagnostic approaches that point to initial TTTS or congenital heart failure and because of the urgency of intervention, the pregnant woman is transferred to the reference center where TTTS is diagnosed and recommended laser treatment. Parents are offered informed consent and explain the procedures and risks of laser ablation of communicating blood vessels. One hour after ablation, both fetuses are alive. Three days after the treatment the cardiac action of the recipient twin is absent. Anticoagulant therapy is introduced due to the increase in prokagulant parameter. From the 34th w. of gestation, the patient is hospitalized because of signs of premature labor. Spontaneous premature delivery was in 36+1 w, and Male /2650 g/48 cm; APGAR 10 was born.

CONCLUSIONS

Proper recognition of monocorionic twins allows timely risk assessment in 10-15% of those with hemodynamic inequality that causes severe disorders and seriously endangers the life and health of one or both twins. Antenatal therapy is possible and includes multiple options. Although there is still a lot to be done to do, good news about TTTS involves steady increase in survival in this devastating syndrome. It is also necessary to determine the superiority of currently available therapies.
INTRODUCTION

Recurrence of twin-to-twin transfusion syndrome (TTTS) after fetoscopic laser coagulation of placental anastomoses is a frequent and unfavorable complication. For a long time, the only method of correcting this condition was the serial amnioreductions.

MATERIALS AND METHODS

Multiparous woman 34 years old due to the TTTS stage 2 (the placenta was located on the anterior wall of the uterus) was performed fetoscopic laser coagulation of 8 arteriovenous anastomoses of the placenta followed by amnioreduction of 1000 ml on the gestational age of 22 weeks and 2 days at Maternity Hospital №17 in Saint Petersburg. At gestational age of 24 weeks 6 days was made a dynamic observation which revealed a recurrence of the TTTS, with the development of considerable polyhydramnion of fetus-recipient (deepest vertical pocket 110 mm) and anhydramnion of the donor, in connection with which was performed a repeated fetoscopic laser coagulation of 5 residual placental anastomoses and amnioreduction in a volume of 2000 ml at 25 weeks 1 day of gestation.

CLINICAL CASES AND SUMMARY RESULTS

On the fifth day was normalized the amount of amniotic fluid of both fetuses. Further observation was made outpatiently in dynamics every 2 weeks. At 32 weeks of gestation spontaneously was began the birth, the weights of newborns were 1560 and 1600 grams, both had Apgar score 8/9 points. Respiratory therapy continued for 7 hours at the second newborn and for 13 hours at the first newborn girl after transferring to the ICU. The signs of the respiratory failure were not observed, the newborns were breathing by themselves. There were no differences between complete blood counts of children at post-birth examination. Enteral nutrition was started from the first day of life. The newborns were transferred to a hospital on the fifth day of life for further care.

CONCLUSIONS

This clinical case confirms the possibility of effective correction of recurrence TTTS with the help of repeated fetoscopic laser coagulation of placental anastomoses, in the absence of bleeding out of coagulated anastomoses during the previous intervention. Extension of indications for repeated fetoscopic laser coagulation is a reserve for improving the survival rate of fetuses in TTTS.
INTRODUCTION

Patients with triplets encounter many problems before and during pregnancy. Patients are often reluctant to vaginal delivery in these cases.

MATERIALS AND METHODS

It is a retrospective study in a University Hospital from 2008 to 2016. Patients with a triplets pregnancy above 23 weeks were included, with an obstetrical outcome was considered acceptable by the obstetrician. After discussing benefits and risks of vaginal birth, couples were asked to think about it and give their answer when ready. We excluded cases with maternal medical problems, history of cesarean or myomectomy, and placenta previa. No major obstetrical problem was reported except preterm labor which occurred in all patients, treated with a mean latency period of 14 days [1 -74]. We considered age, IVF history, preterm labor, maternal wish for the way of delivery, preterm labor, trial of labor and final outcome for delivery.

CLINICAL CASES AND SUMMARY RESULTS

Eleven patients were included in this study. Mean age is 28 years [22 -39]. Prior IVF is reported in 7/11 patients (63%) and ovarian stimulation by oral or injection in 4/11 (37%) with no spontaneous cases of triplets. Two patients had cholestasis. In all cases T1 presentation is cephalic. Only 3/11 (27%) gave their approval. The remaining explained it by ‘not wanting the risk’ and 5 of them said that they took the advice of the family for that. To be noted that the group who said no were all IVF patients. Among the three patients that accepted vaginal delivery, one patient changed her mind and asked for a cesarean upon admission. The second patient had a spontaneous labor at 35 weeks but finally had a cesarean section at 5 cm dilation because of an abnormal fetal heart in one of the babies who was small for gestational age. The third patient went into labor at 36 weeks and delivered smoothly with an internal version on T2 and T3. Babies had a normal outcome.

CONCLUSIONS

Vaginal delivery is still feared by pregnant women with triplets. Despite an advanced hospital setting and detailed explanations most of them choose cesarean section. IVF history and family advice push toward this option.
INTRODUCTION

Many challenges are present in the case of prenatal abnormality in a fetus. The difficulty is increased in case of twins where difficult decisions face the parents and the physician. We report 8 cases that have in common a major abnormality in one of the fetus.

MATERIALS AND METHODS

From 2009 to 2018, our retrospective study includes 8 cases of morphological abnormality in one the fetuses, the other having a normal follow-up. These cases include:
- A posterior encephalocele with a single umbilical artery
- A thoragopagus twins aside a normal fetus
- Two cases of spina bifida
- Multiple anomalies including pyelectasis, clubfoot and cleft palate
- Three cases with cardiac malformation (Right ventricular hypoplasia with VSD - A complex cardiac malformation- Left ventricular hypoplasia)

All cases had a prenatal ultrasound diagnosis, at a mean age of 18 weeks. Three pregnancies resulted from IVF.

CLINICAL CASES AND SUMMARY RESULTS

Couples were informed about the possibility of invasive diagnostic procedures and about the interruption of pregnancy involved. Issues discussed by the couple included ethics, religion, preterm delivery, the relevance of invasive procedure, postnatal outcome, and risk for the other baby. All couples chose not to do an amniocentesis. Only one couple chose interruption of pregnancy (thoragopagus twin). Delivery was done at a mean term of 35 weeks.

CONCLUSIONS

Management of a twin pregnancy with a major abnormality in one fetus includes many challenges as couples require an explanation of the many facets of the invasive procedure and they often are reluctant for doing it.
INTRODUCTION

Twin reversed arterial perfusion (TRAP) sequence is a rare complication unique to monochorionic gestation, with incidence approximately 1 in 35,000 pregnancies. The main features of this condition are an abnormal twin with different malformations and without functional cardiac activity that is reversely perfused via an arterioarterial anastomosis by a normal (pump) twin. The perinatal mortality rate for the pump-twin without treatment is more than 55%. Aim. To compare surgical treatment and expectant management in prenatally diagnosed TRAP sequence.

MATERIALS AND METHODS

Retrospective analysis of 47 monochorionic twin pregnancies complicated with TRAP sequence diagnosed in one center over the last 7 years. 17 cases were managed expectantly (Group 1). 28 patients were offered fetal surgery; it performed from 15 to 23 weeks (Group 2). Two cases were excluded from analysis due to termination of pregnancy before 12 weeks.

CLINICAL CASES AND SUMMARY RESULTS

In Group 1 with expectant management 8 cases (47.1%) had a favorable outcome, in 5 cases (29.4%) was spontaneous cessation of blood flow in the umbilical vessels in acardiac-twin. There were 9 patients (52.9%) with adverse outcome in Group 1 — in 3 cases (17.6%) was unpredictable demise of the pump-twin before 16 weeks, in 6 cases was progression of heart failure and polyhydramnios. The mean gestational age at delivery in Group 1 was 32.3±5.4 weeks. 26 patients (Group 2) underwent fetal surgery. There were 22 pump-twin survivors (78.6%) and in 6 cases (21.4%) — adverse outcome. The mean gestational age at delivery in Group 2 was 34.5±3.1 weeks.

CONCLUSIONS

The loss rate of the pump-twin was significantly different between Group 1 and Group 2 (9 of 17 vs 6 of 22; P<0.005). In Group 2 the rate of preterm delivery <36 weeks was significantly lower, and gestational age at birth as well as birth weight were significantly higher than in Group 1. In conclusion, fetal surgery offers an effective treatment option for the TRAP sequence with a survival rate of 78.6%
INTRODUCTION

Multiple births have increased over the past two decades due to the advance in artificial fertilization techniques. In addition to prematurity and low birth weight (LBW), twin pregnancies are also complicated with discordant growth; which has been reported to be associated with increased neonatal morbidity and mortality.

Objective: To compare neonatal morbidity and mortality between discordant and concordant preterm twin pairs.

MATERIALS AND METHODS

Material and Methods: A retrospective study of preterm twins, followed in neonatal intensive care unit from 01.2015 to 04.2018. Twins were classified as discordant when the difference in birth weight was >15%. Discordance was determined by the formula: 

\[ \frac{\text{birth weight of larger twin} - \text{birth weight of smaller twin}}{\text{birth weight of larger twin}} \times 100 \]

Morbidity and mortality rates were compared between discordant and concordant groups.

CLINICAL CASES AND SUMMARY RESULTS

Results: Birthweight discordance is an important indicator of complications that affect intrauterine growth in one of the twins, and usually cause the birth of a SGA infant. The NICU admission was more prevalent among discordant pregnancies. Significant statistical association between pair discordance and IUGR in one of the twins is found. The high discordance is associated to the presence of one SGA twin, with the other AGA or LGA. The smaller twin show more often low Apgar score, anaemia, Periventricular leucomalacia and intraventricular hemorrhage, infection disease.

CONCLUSIONS

Conclusion: Small differences in weight between twins can be considered physiological and related to individual genetic variations, and are not likely to affect further growth and development. Incidence and outcome of discordant twins were assessed based on birth weight difference more than 20 %. Discordant growth is a risk factor for prolonged hospitalization. The mortality rate did not differ between concordant and discordant groups.
TOPIC: Twins

ABSTRACT ID: 448

TITLE: FIRST TRIMESTER PREDICTION OF TWIN-TO-TWIN TRANSFUSION SYNDROME IN MONOCHORIONIC TWINS

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INTRODUCTION

Twin-to-twin transfusion syndrome (TTTS) is the most frequent and severe complication of monochorionic twin pregnancies.

Objective: To investigate the role of abnormal ultrasound examination during the first trimester in order to predict twin-to-twin transfusion syndrome (TTTS) in monochorionic twin pregnancies.

MATERIALS AND METHODS

It was performed a retrospective cohort study of 70 monochorionic diamniotic twin pregnancies attending the Research Center for Obstetrics, Gynecology and Perinatology, Moscow from 2015 to 2017. We assessed intertwin nuchal translucency (NT) discrepancy; NT >95th percentile in at least one twin; intertwin crown-rump length (CRL) discrepancy as a percentage of the larger CRL; abnormal ductus venosus (DV) flow in at least one twin. The diagnostic performance of the predictive factors was evaluated for each included study.

CLINICAL CASES AND SUMMARY RESULTS

An increased risk of TTTS was associated with intertwin discrepancy (44,4%), NT >95th percentile (44,4%), CRL discrepancy > 10% (11,1%), abnormal DV flow (33,3%) with a sensitivity of 75.0% and a specificity of 92.0. The combination of abnormal DV blood flow with NT discrepancy ≥ 0.6 mm yielded a relative risk for the development of TTTS.

CONCLUSIONS

Monochorionic twin pregnancies with intertwin NT discrepancy, NT>95th percentile and abnormal DV flow during the first-trimester ultrasound examination are at significantly increased risk of developing TTTS. Both intertwin discrepancy in NT and abnormal flow in the DV in monochorionic twins may represent early manifestations of hemodynamic imbalance between donor and recipient.
TOPIC: Twins

ABSTRACT ID: 487

TITLE: TWIN REVERSED ARTERIAL PERFUSION (TRAP) SEQUENCE: SERIOUS IMPLICATIONS OF LATE DIAGNOSIS


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INTRODUCTION
Introduction. Twin Reversed Arterial Perfusion (TRAP) sequence is a rare complication, affecting 1% of all monochorionic twin and occurring in approximately 1 per 35,000 births. We report the management of patients with diagnosis of twin-reversed arterial perfusion (TRAP) sequence referred in a South Italian Regional Reference Centre.

MATERIALS AND METHODS
Methods. A retrospective analysis of 5 pregnancies with TRAP sequence referred to Federico II University between 2014 and 2017. All the patients were referred for suspected fetal malformation in twin pregnancy. The diagnosis was early in 2 cases (1st trimester) and late (3rd trimester) in 3 cases.

CLINICAL CASES AND SUMMARY RESULTS
Results. There were 4 cases of monochorionic-diamniotic pregnancies with TRAP and 1 case of triplet with a monochorionic-diamniotic pair with TRAP sequence. The early diagnosis was performed at 12 weeks and 13 weeks; in these patients the pregnancy was terminated not just for acardius fetus but also for fetal malformation of the pump twin. Late diagnosis was associated with preterm delivery in all other three cases by onset of preterm labour. Serial Doppler assessments were performed every week to evaluate the growth and well being of the pump twin. The survival rate and the timing of delivery was correlated to the development of high output cardiac failure and the onset of uterine contractions. Caesarean delivery were performed respectively at 29, 31 and 32 weeks.

CONCLUSIONS
Conclusions. Our cases and published series suggest that fetal outcome is primarily conditioned by the gestational age at the time of diagnosis and by the presence of fetal malformations. The improvements in prenatal early diagnosis and in intrauterine therapy could allow the stop of the rapid growth of the acardius fetus and the normal development of the pump twin, reducing the incidence of preterm delivery and improving the neonatal outcome at birth.
INTRODUCTION

Proximate cord insertions (PCIs) is one of the abnormal umbilical cord insertion in monochorionic (MC) twins, when the distance between cord insertions is less than < 4 cm after 16 weeks of pregnancy. Later splitting of inner cell mass of embryo is considered to be a reason for PCIs. Postnatal studies revealed that PCIs occurred much more frequently in MC monoamniotic placentas (53%) than in MC diamniotic placentas (3%). Superficial arterio-arterial anastomoses with bidirectional blood flow reducing the inter-twin fluid disequilibrium were in all MC placentas with PCIs. The significant proximity of umbilical cord insertions in MA placentas is reported to be one of the main factors of the umbilical cords entanglement. The accuracy of ultrasound detection of PCIs has not been studied yet.

MATERIALS AND METHODS

We presented a series of cases of monochorionic (MC) twins with diamniotic and monoamniotic placentas with PCIs detected by prenatal ultrasound.

CLINICAL CASES AND SUMMARY RESULTS

Case 1. MCDA pregnancy. US scan at 26 w identified the distance between the cords of 1.7 cm. Delivery at 36 weeks. Birth weight was 2230 gr and 2090 gr with 6.3% of discrepancy.

Case 2. MCDA pregnancy. US scan at 12 w identified the distance between the cords of 1.5 cm. Delivery at 34 weeks due to PROM. Birth weight was 2910 gr and 2890 gr with 0.4% of discrepancy.

Case 3. MCDA pregnancy. US scan at 12 w identified that the umbilical cords were inserted side by side. Delivery at 36 weeks. Birth weight was 2600 gr and 2400 gr with 7% of discrepancy.

Case 4. MCMA pregnancy. PCIs and the cord entanglement with the cord knots identified at 28 w scan. The distance between the cords was 2.8 cm. Delivery at 38 w. Birth weight was 3100 gr and 3470 gr with 11% of discrepancy.

Case 5. MCMA pregnancy. US scan at 34 w. The umbilical cords were inserted side by side. Delivery at 34 w. Birth weight was 2000 gr and 1800 gr with 10% of discrepancy. Superficial anastomoses were in all of the cases.

CONCLUSIONS

Proximate cord insertions were identified correctly by US scan at different gestational ages and confirmed during morphological placental examination. The presents of superficial arterio-arterial anastomoses and cords entanglement was also confirmed postnatally. There were no signs of the twin-to-twin transfusion syndrome or selective fetal growth restriction. A favorable outcome was in all these cases.
INTRODUCTION

Twin pregnancy belongs to a high risk group that is 2-4 times higher than that of monofetal pregnancy. Their incidence has been increasing in recent years due to stimulation of ovulation and the process of medically stimulated fertilization. During the last decade, the percentage of twin pregnancies is rising and reaches 3% of all reported pregnancies. The factors influencing this trend are certainly the age of mothers and the increased number of assisted reproductive techniques. Perinatal mortality and morbidity are three times higher for twins. The most common fetal problems occurring in multiple pregnancies are: premature, intrauterine growth retardation, intrauterine fatal death of one or both twins, pathological vascular complications among them and innate fetal anomalies.

CLINICAL CASES AND SUMMARY RESULTS

A female patient aged 30, has already two living, healthy children. She checked into General Hospital Bar at GynDept in Pregnancy ml V / VI due to poor bleeding. Ultrasound examination revealed death of a twin at 23rd week of gestation, and normal biometrics, morphology and dynamics of the other twin. The patient has been hospitalized at or Dept, where she has been treated with anticoagulants therapy. Hemostasis tests were regularly monitored. Clinical, lab & US monitoring of the pregnant woman was carried out for two weeks. Ultrasonographic monitoring included biometry and doppler of flow measurement in the maternal and fetal compartment. The pregnancy has been terminated with vaginal birth with induction of vag Prostin E-2, and a live, female, vital child, TT 3850gr / 53cm / 34cm, AS 9/10 (Number of Medical Record 2266/2009) was born. The other twin was mummified TT 200gr, sent to histopathological verification. After 3 days, the patient was released home with a healthy newborn.

CONCLUSIONS

The most common reason for the loss of a twin, according to autopsy reports, is chronic fetoplactone insufficiency and chronic fetal asphyxia, with monochronic diamnitic twin pregnancies. In situations of intrauterine fatal death of a twin with adequate clinical, laboratory and ultrasound control, pregnancy can safely lead to the term of delivery as shown in this case.
INTRODUCTION

Twin-to-twin transfusion syndrome (TTTS) is a severe complication of multiple pregnancy. Fetoscopic laser photocoagulation of placental anastomoses (FLP) is considered to be the only pathogenetically substantiated treatment for this syndrome. There are three types of anastomoses. Arteriovenous (AV) are believed to be a key pathogenic factor due to their unidirectional and uncompensated blood transfusion from the donor to the recipient. Arterioarterial (AA) and venovenous (VV) are superficial and bidirectional. The possible protective role of AA is widely discussed while the function of VV is not well established. The aim of the study is to investigate the role of various anastomoses in pathogenesis of TTTS and the correlation between their presence and perinatal outcomes.

MATERIALS AND METHODS

74 FLP surgeries were performed during the period from 2005 to 2016. The video recordings of all operations were retrospectively studied in order to investigate the number and sizes of placental anastomoses. The outcomes of TTTS after surgeries were described. With dividing them into two groups: the first group (n=46) includes patients with good outcomes, when at least one fetus survived, the second group (n=28) includes patients with poor outcomes, when both fetuses died.

The AV imbalance value was introduced for measuring the unbalanced blood transfusion between the fetuses. It is defined as the difference between the number of large and small AV from the donor to the recipient and from donor to recipient, taking into account the proportions: 2 small AV are taken equal to 1 large AV.

CLINICAL CASES AND SUMMARY RESULTS

The difference in total number of anastomoses in two groups was not statistically significant by t-test (p=0.236). Large AV are present in greater number (≥ 3) in cases with poor outcomes than with good outcomes (57% vs. 26%). When comparing groups by the number of large AV, statistically significant difference by Man-Whitney U test was found (p=0.031). The value of AV imbalance between two groups was close to reliably different (p=0.0742). Thus, the placental surface presence of three or more large AB from the donor to the recipient and the value of AV imbalance greater than 10 determine the poor outcome.

AA are more common in poor outcomes of TTTS and in a greater number of AV (77%). There was no statistically significant difference in the groups in the number of large AA (p=0.193). Difference between the number of large BB in groups with different outcomes is less significant (p=0.875). Thus, the presence or absence of AA and BB does not affect the perinatal outcomes of TTTS.

CONCLUSIONS

In this study, the determining pathogenetic role of AV anastomoses in TTTS was confirmed. There was no statistically significant difference in the number of large AA and BB anastomoses in the groups with different perinatal outcomes. AA anastomoses are considered not to play a protective role in the hemodynamics of the fetuses.
INTRODUCTION
Endotracheal intubation is a relatively common procedure, performed either in emergency or in semi-elective conditions. Ascertaining the correct positioning of the tracheal tube within the airway is not always easy. Chest-X ray may be useful, but it takes time to be performed, while the information is immediately needed. Several methods have been tested to verify the position of the endotracheal tube more timely.

The primary objective of this study was to evaluate the reliability of two methods (colorimetric End tidal CO2 and flow sensor) to verify the correct positioning of the tracheal tube in term and preterm newborns. We also evaluated if one of the two methods was faster in defining the correct tube positioning, in the whole population as well as in patients with an actual weight < 1Kg.

MATERIALS AND METHODS
From April 2017 to May 2018, any newborn requiring tracheal intubation, except for the delivery room, was eligible. Exclusion criteria: emergent intubation, lack of staff to adhering to the study protocol, cardiac arrest, lack of informed consent. Assessment of the correct tube positioning was performed according to the standard practice of the Unit, using of a colorimetric end-tidal CO2 probe, immediately connected after the insertion of the tracheal tube. For the purpose of the study, investigators had to apply in series the flow sensor of the mechanical ventilator, previously calibrated, recording various parameters and watching the flow curve in the ventilator display. Meanwhile, the main operator had access to the colorimetric probe but remained blind as to the flow sensor response.

CLINICAL CASES AND SUMMARY RESULTS
We enrolled 19 patients (7M, 12F). Median age and weight at intubation were 11 days (range 0-240) and 2473 g. (590-4010), respectively. A total of 33 procedures were evaluated: 27 were successful endotracheal intubations, 6 were unsuccessful intubations requiring a second attempt. Correct tube placement was adequately identified by both methods. The ETCO2 detector identified 27 correct intubations and 6 incorrect intubations. The flow sensor detected 27 correct intubations and 3 incorrect intubations, while it was associated to a false successful procedure in 3 cases (2 laryngeal tube placements and 1 esophageal placement with exhalation wave).

The flow curve on ventilator display showed an exhalation wave significantly earlier than the colour change of the ETCO2 detector, both in terms of passed seconds and number of insufflations performed after the tube insertion (p<0.001). Flow sensor response was more rapid than the ETCO2 detector also in the subgroup of infants weighing < 1 Kg.

CONCLUSIONS
Our data showed that the flow sensor is comparable to the ETCO2 detector for assessing the correct placement of the tracheal tube, in term and preterm newborns. The flow sensor response was significantly quicker than the colorimetric detector, requiring less seconds and less insufflations to indicate the success of the intubation procedure, even in the subgroup of infants weighing less than 1 Kg. Further studies conducted on larger populations are needed to confirm our preliminary observations.
TOPIC: Ventilatory Support

ABSTRACT ID: 269

TITLE: CLINICAL AND LABORATORY STATUS PECULIARITIES OF PRETERM INFANTS DEPENDING ON THE METHOD OF RESPIRATORY SUPPORT IN DELIVERY ROOM

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INTRODUCTION

The choice of the optimal strategy for respiratory support in preterm infants, especially with VLBW and ELBW, is one of the most difficult intensive care challenges in neonatology. Despite numerous studies, demonstrating the negative effects of invasive lung ventilation, in a number of countries it is still the main initial strategy of treating the neonatal RDS. This indicates the need to find clinical and laboratory criteria immediately after the birth of a premature infant, which would allow to choose the optimal method of respiratory support in the delivery room. The aim of the study is to analyze the features of the clinical and laboratory data of preterm infants, depending on the initial method of the respiratory support used in the delivery room.

MATERIALS AND METHODS

A retrospective multicenter cohort study was performed. 74 preterm infants under 35 weeks of gestational age were enrolled. The first group included 23 neonates who got nCPAP treatment in the delivery room immediately after birth, but as the respiratory distress augmented, were intubated and switched to invasive lung ventilation. The second group consisted of 51 patients, who were intubated and invasively ventilated immediately after delivery. The statistical processing was performed using the program "Statistica 12" by calculating the odds ratio for binomial variables and the Mann-Whitney criteria for quantitative ones. Differences were considered reliable at p≤0.05.

CLINICAL CASES AND SUMMARY RESULTS

It was found that non-invasive respiratory support immediately after birth was used more often in preterm infants from the first pregnancy (OR = 3.11 [1.12-8.63]), with the Apgar score more than 6 and 7 at the first and fifth minutes respectively; while neither blood gases decompensation, nor severe lactic acidosis was observed. The strategy of early non-invasive respiratory support in delivery room even followed by intubation and mechanical ventilation in preterm infants can significantly reduce the duration of stay in the NICU (72.0 vs 178.0 h, p <0.000). Risk factors that indicated the need for invasive mechanical ventilation were the presence of chronic urogenital infection in mother (OR = 8.17 [2.59-25.73]) and operative delivery due to progressing foetal distress (OR = 3.35 [1.04 -10.82]). The risk for mechanical ventilation was also much higher for infants with a combined pathology (more than two diseases) or with a life-threatening condition (OR = 10.06 [1,24-81,27]).

CONCLUSIONS

The choice of a respiratory support of severe neonatal RDS immediately after birth is determined by perinatal predictors, the main of which are high risk pregnancy and delivery, associated with an acute or chronic foetal distress. Non-invasive respiratory support is a method of choice for a respiratory distress therapy in preterm infants in the absence of a severe foetal distress while delivery, decompensated metabolic disorders and clinical or laboratory signs of ongoing neonatal sepsis.


**INTRODUCTION**

Biphasic positive airway pressure (BiPAP) has been recently introduced as an alternative to continuous positive airway pressure (CPAP) for the post-extubation support of premature infants requiring mechanical ventilation in the immediate neonatal period. However, clear evidence regarding a definite benefit of BiPAP versus CPAP is so far lacking. The aim of this study was to determine if the use of BiPAP was more effective than CPAP in preventing extubation failure in infants born ≤30 weeks’ gestation.

**MATERIALS AND METHODS**

The electronic records of infants admitted to Queen Charlotte’s and Chelsea Hospital (QCCH)/St Marys Hospital (SMH) Neonatal Units during 2016-2017 were reviewed retrospectively. Infants ≤30 weeks’ gestational age (GA), extubated to BiPAP or CPAP ≤14 days of life were included. We performed stratified analysis of infants <27 and infants ≥27 weeks GA.

Primary outcome was the need for re-intubation or escalation of respiratory support during 72h post-extubation (primary failure). Secondary outcomes were the need for re-intubation after 72h or escalation of respiratory support at any time (secondary failure), duration of invasive ventilation post re-intubation, total duration of invasive and non-invasive mechanical ventilation, bronchopulmonary dysplasia (BPD) and overall survival.

**CLINICAL CASES AND SUMMARY RESULTS**

During the study period 212 infants enrolled: 118 infants <27 and 94 infants ≥27 weeks GA. Of infants <27 weeks, 55 extubated to BiPAP (GA 24+3±1weeks) while 73 to CPAP (GA 25±0.9weeks) (p=0.001). Infants of BiPAP were extubated later compared to CPAP group (4th vs 3rd day, p<0.001). There was no difference in the need for re-intubation or escalation of respiratory support at 72h (16 vs 22%, p=0.478); however, infants of BiPAP group had significantly lower secondary failure ratio (22% vs 51%, p=0.001). Following re-intubation, no differences were noted in the duration of invasive ventilation, BPD and survival.

Regression analysis revealed GA and BiPAP as significant factors preventing secondary failure (OR 1.760, 95%CI 1.145-3.080, p=0.001 and OR 2.403, 95%CI 1.169-4.824, p=0.001, respectively). Of infants ≥27 weeks, 10 extubated to BiPAP and 84 to CPAP. No differences were noted regarding perinatal characteristics, need for re-intubation at 72h, secondary failure, BPD and survival.

**CONCLUSIONS**

No benefit of BiPAP compared to CPAP application was proven in view of preventing primary failure at 72h post-extubation in premature infants ≤30 weeks (both in subgroups of infants <27 weeks and ≥27 weeks GA). However, BiPAP was proven more effective in preventing secondary failure (re-intubation at any time or escalating the level of respiratory support), in extremely premature infants <27 weeks of GA.
INTRODUCTION

Endotracheal intubation is a method of ensuring airway patency, which is the management of the endotracheal tube (ETT) in the trachea. One of the most common and potentially dangerous errors of this method is the incorrect position and displacement of ETT, which can lead to severe disturbances of gas exchange and the formation of ventilator induced lung injury (VILI). The currently existing methods of verification of the position endotracheal tube in newborns have a number of significant disadvantages. The use of ultrasonic technique to determine the correct position of ETT in newborns is described by a number of authors, but the technique of the method is not optimized for routine use in NICU for newborns of different gestational age and body weight at birth.

MATERIALS AND METHODS

A total of 52 newborns were examined, who underwent orotracheal intubation and endotracheal ventilation in the first week of life. We analyzed 52 X-ray images. As the optimal position of ETT in radiography was taken above the level of the Th3. We made 52 ultrasound scans which were carried out by doctors of NICU. The scan used a high parasternal access to the right in the position of the child lying on his back. The main stage of the study was the removal of the distal end of ETT and the aortic arch and the measurement of the distance between them. The optimal value of this distance was considered 1.0 – 1.5 cm. To establish a linear relationship between the values obtained by different methods of verification of the depth of ETT tip, we performed a correlation analysis by Spearman.

CLINICAL CASES AND SUMMARY RESULTS

The study included newborns with an average gestational age of 34.6±4.2 weeks and a pronounced variation of anthropometric indicators: the average body weight amounted to 2538.6±912.4 g, the average body length of 45.9±9.1 cm Average diameter of ETT was 3.4±0.4 mm, average depth of standing ETT at the level of angle of mouth – 87,3±12.4 mm. Visualize the distal end of the ETT, the aortic arch and measure the distance between them by ultrasound, managed in 100% of cases. Identification of ETT position on the chest x-ray was also carried out for all newborns. The results of correlation analysis show statistically high significant linear relationship between the indicators of the depth of standing ETT obtained using ultrasound and X-ray methods of visualization tip of ETT (r=0.693).

CONCLUSIONS

The method of ultrasonic verification of the ETT position is an accessible and minimally invasive method for newborns of any gestational age and birth weight, which allows to reduce the number of X-ray examinations, radiation load and the number of invasive procedures on the newborn. The method is easily reproduced by an anesthesiologist-resuscitator and requires minimal skills with ultrasound equipment.
Air leak syndrome is an uncommon complication of ventilator support in neonates. Pneumothorax is one of these conditions.

Neonatal pneumothorax is a life-threatening condition associated with a high incidence of morbidity and mortality.

A 35-week-old newborn, weighing 2.230 kg, intubated for RDS two hours after birth.

Surfactant application
Application of chemical pleurodesis.
Extubation is recommended after thoracocentesis if it is possible.

A case report with relapse of pneumothorax
- Birth 35 w.g., pregnancy without medical observation, multiparite, abruptio placentae
- Intrauterine hydrocephalus
- Early presence of respiratory distress syndrome – congenital pneumonia with secondary deficiency of surfactant. Late paralytic ileus
- More than five times thoracotomy with active aspiration
- Ventilatory support, impossibility of extubation, increased oxygen needs
- Treating with chemical pleurodesis of chest wall