

September 20th, 2023 08:30 - 9:00

POSTER WALK – EPIDEMIOLOGY 1

ID 469. VASOACTIVE PEPTIDES AS PREDICTORS FOR RETINOPATHY OF PREMATURITY IN VERY PRETERM INFANTS

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BACKGROUND: Retinopathy of prematurity (ROP) is a major complication in preterm infants. We assessed if plasma levels of midregional pro-atrial natriuretic peptide (MR-proANP), and C-terminal pro-endothelin-1 (CT-proET1) serve as early markers for subsequent ROP development in preterm infants < 32 weeks gestation.

METHODS: Prospective, two-center, observational cohort study. MR-proANP and CT-proET1 were measured at day 7 of life. Associations with ROP \geq stage II were investigated by univariable and multivariable logistic regression models.

RESULTS: We included 224 infants born at median (IQR) 29.6 (3.7) weeks gestation and birth weight of 1160 (575) g. Nineteen patients developed ROP \geq stage II. MR-proANP and CT-proET1 levels were higher in these infants (median (IQR) 864 (904) pmol/L and 348 (82) pmol/L, respectively) compared to infants without ROP (median (IQR) 299 (292) pmol/L and 196 (112) pmol/L, respectively; both $P < 0.001$).

MR-proANP and CT-proET1 levels were significantly associated with ROP \geq stage II in multivariable logistic regression models after adjusting for relevant co-factors including gestational age and birth weight z-score.

CONCLUSION: MR–proANP and CT–proET1 measured at day 7 of life are strongly associated with ROP \geq stage II in very preterm infants and might improve ROP prediction in the future.

Nothing to disclose.

ID 683. THE OUTCOME OF VERY PRETERM INFANTS WITH SMALL FOR GESTATIONAL AGE: A POPULATION BASED STUDY IN TAIWAN

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Background

The aim of this study was to evaluate the effect of small for gestational age (SGA) on mortality and major morbidity among very preterm infants in Taiwan.

Methods

We analyzed the clinical and maternal obstetric data of small for gestational age (SGA) and non-SGA preterm infants registered in the Taiwan Neonatal Network (TNN) between 2016 and 2021. Logistic regression analysis was conducted to identify predictors of various clinical outcomes. Factors with a p-value of <0.05 in the univariate analysis were included in the regression to assess their association with the outcomes, adjusting for other relevant factors.

Results

From 2016 to 2021, 4,540 infants were included in this study from the TNN database, divided into SGA (N=421) and non-SGA (N=4,119) groups. The SGA group had higher rates of pregnancy-induced hypertension(53%), prenatal MgSO₄ use(73%), and C-section deliveries(90%), while chorioamnionitis(8.8%) and preterm premature rupture of membranes(17%) were lower. Mortality rate was higher in the SGA group. They also required more resuscitation at birth and had higher rates of CoNS infection,

severe intraventricular hemorrhage (IVH), and respiratory issues. Regarding to the respiratory issues, the SGA group had significantly higher incidence of Persistent pulmonary hypertension of the newborn (26%), iNO use (28%), pulmonary hemorrhage (19%) and higher levels of respiratory support during hospitalization. In the subgroup analysis, higher gestational age (GA) in the SGA group had a higher rate of Retinopathy of prematurity (ROP) treatment. Among infants with $GA \geq 28$ weeks, the SGA group had a significantly higher rate of receiving anti-VEGF treatment.

Conclusions

The SGA preterm infants required higher resuscitation needs at birth and higher respiratory morbidity occurrence. Meanwhile, there was no difference in other major morbidities except CoNs infection and severe IVH. Another notable finding is that the SGA group with higher GA had higher rates of severe ROP which require further attention in daily care. These results remind the neonatologists to pay more attention on the delivery room care, respiratory care and ROP surveillance in the SGA preterm infants to improve the quality of care in preterm infants in Taiwan.

None declared

ID 631. Assessing the Extra Workload of Neonatal Transport Services: A Retrospective Study of Advice Calls to a Neonatal Retrieval Service

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Background:

Neonatal transport services are crucial in transferring critically ill neonates safely and efficiently. These services are evaluated based on a set of indicators established by the National Health Service, UK, with referral activity being one of these indicators. However, referral activity evaluation focuses on successful transfers, neglecting the substantial work generated by advice calls that do not result in transfers.

Method:

This study examined the Peninsula Neonatal Transport Service (PNTS) in the Southwest region of England using an observational retrospective design. The study analysed referral call forms retrieved from the PNTS database system, primarily from units of level-I (Special Care Baby unit-SCBU), level-II (Local Neonatal unit- LNU), and other neonatal units (NNU) within the catchment area of PNTS over two years (2020-2021). Descriptive statistics and other statistical analyses were performed using SPSS software. Mann-Whitney U and Kruskal-Wallis tests were used to analyse the nonparametric data when examining two or more independent groups.

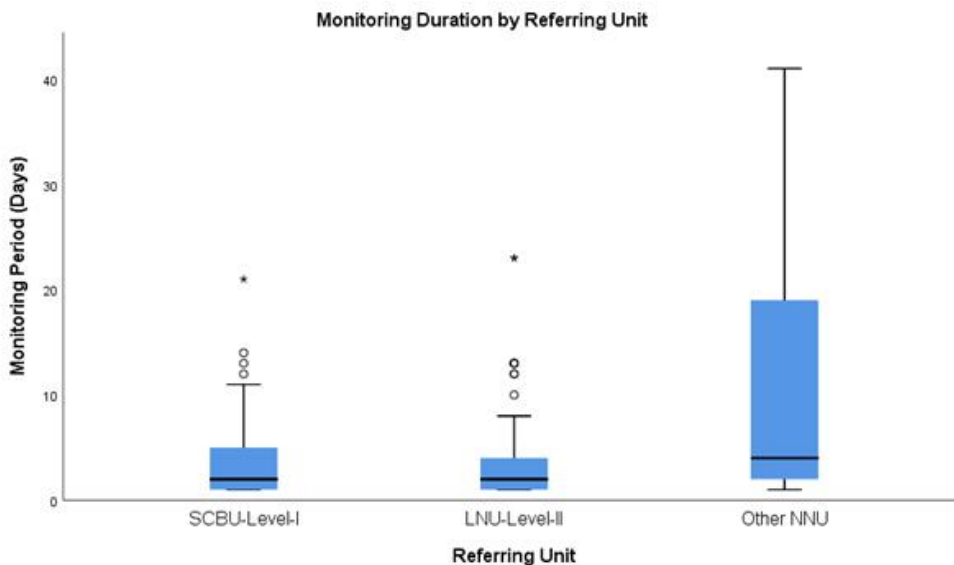
Result:

During the study period of two years (2020-2021), there were 176 advice referrals, which resulted in a total of 585 phone calls received by the PNTS. On average, each

referral was discussed over 2–4 phone calls with the PNTS team. Most referrals were classified as advice (91%, n=160), indicating that most cases were handled effectively and weren't transferred. Statistical analysis showed no significant differences in the days needed for monitoring when analysed as three groups (SCBU Level-I, LNU Level-II & other NNU) (p=0.43) or as two groups (SCBU Level-I & LNU Level-II) (p=0.86). However, a pairwise comparison between LNU Level-II and other NNU revealed a significant difference (p=0.034).

Conclusion:

The advice calls can generate a considerable amount of work, so it is recommended to include them when reporting the workload of the neonatal retrieval service. Shedding light on this aspect of neonatal retrieval service can enable sharing of expertise, regular performance assessments, and quality improvement. This can establish sound communication channels between the referring and the advising centres, increase the ability to manage patients by the referring teams and decrease the need for uplifts, enhancing the cost-effectiveness of the neonatal retrieval service.



None declared.



ID 717. STOCKHOLM PRETERM INTERACTION-BASED INTERVENTION (SPIBI)- AN RCT ASSESSING

PARENT-INFANT INTERACTION AT 12 MONTHS CORRECTED AGE IN EXTREMELY PRETERM BORN INFANTS AND THEIR PARENTS

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Background Parental responsiveness is of great importance for positive effects of behavioral and cognitive development in preterm infants and the Emotional availability scales (EAS) is a clinically relevant assessment measure, for early neurodevelopment. The EAS is an observational measure which reflects the quality of parent-child relationship and the child's socio-emotional development. It has 4 adult domains (sensitivity, structuring, non-intrusiveness, non-hostility) and 2 child domains (responsiveness, involvement) (Biringen 2014). In an ongoing RCT of an intervention for extremely preterm (EPT) born infants and their parents, the Stockholm Preterm Interaction-Based Intervention (SPIBI), the primary outcome measure is EAS used at 12 months corrected age (CA). The aim for this sub-study is to evaluate the inter-rater reliability of EAS in this cohort.

Method During the first year after discharge, ten home visits were carried out from specially educated interventionists of our multidisciplinary team. 130 EPT infants were recruited and 115 have been filmed and assessed at 12 months CA. The parent was instructed to play with the infant for 10 minutes. Dyads were filmed, videos assessed and scored by a trained EAS-accredited team member. 20% of the videos (23/115) were assessed by an additional EAS-accreditor to evaluate inter-rater-reliability. Interclass Correlation Coefficient (ICC) were used. To obtain authenticity with real-life, the videos were filmed in a home setting with opportunity to choose study parent. Interaction were encouraged to proceed in an ordinary pattern.

Results ICC values range 0,86 – 0,96 within all dimensions, all individual values, 95%CI (Table 1). This indicates high inter-rater reliability, although some of the subscales had lower ICC (0,73–0,98).

Conclusion The SPIBI study corresponds well with EAS scoring assessment method for reflection of parent–infant interaction at 12 months CA in EPT born infants.

Dimension	ICC	95% confidence interval
Sensitivity (Parental responsiveness)	0.960	(0.895-0.984)
Structuring (Parental ability to structure learning in child's play)	0.906	(0.792-0.959)
Non-intrusiveness (Parental ability to keep distance in play)	0.936	(0.854-0.972)
Non-hostility (Parental ability to avoid hostility)	0.889	(0.737-0.953)
Child-responsiveness (The child's receptivity to parental involvement)	0.912	(0.807-0.962)
Child-involvement (Child's ability to engage and involve the parent)	0.895	(0.763-0.955)

No conflict of interest to disclosure

ID 464. SMALL KIDNEY SIZE IN RELATION TO GESTATIONAL AGE IN NEWBORNS WITH INTRAUTERINE GROWTH RESTRICTION

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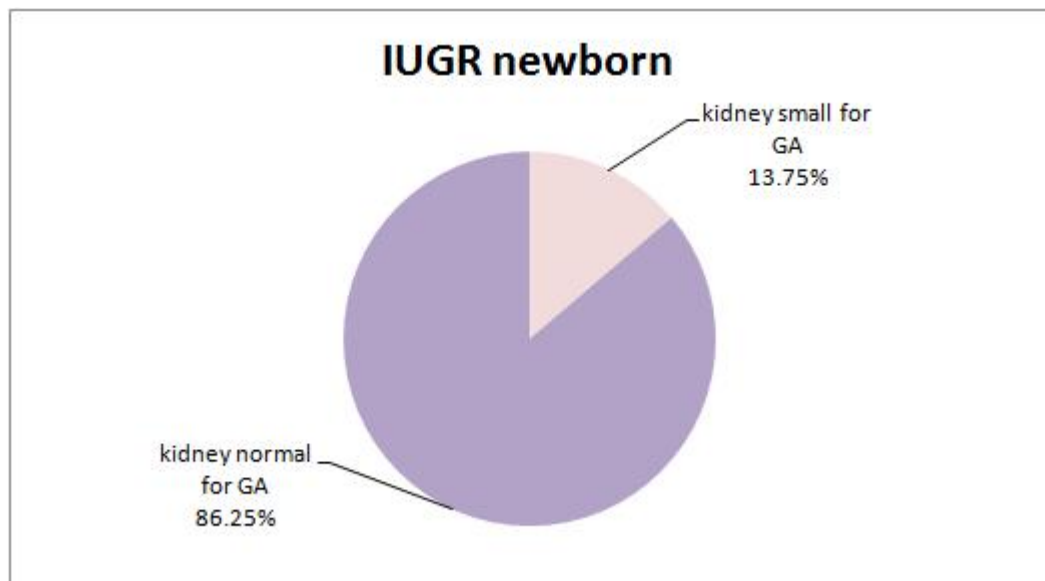
Background: Newborns with intrauterine growth restriction (IUGR) are at higher risk of developing kidney-related diseases and hypertension in adulthood. Lower birth weight correlates with a smaller number of nephrons at birth. The total number of nephrons at birth is determined by the size of the kidney. The aim of this study is to examine the frequency and significance of small kidney size in relation to gestational age in newborns with IUGR in comparison with newborns with regular intrauterine growth.

Methods: This retrospective study was conducted at the Clinic of Obstetrics and Gynecology of the University Clinical Centre in Novi Sad. The study included 160 newborns with IUGR (their birth weight was less than 10 percentiles according to regional parameters) and 160 newborns with birth size between 10–90 percentiles, whose GA was between 34 and 41 weeks. All newborns were born in the period from 1. 01. 2022 to 12. 04. 2023. Renal ultrasound was done between the third and seventh day after birth, by the same examiner. For assessing the kidney size, craniocaudal diameter was used, measured in pronated position and then it was compared to GA of the newborn. Kidneys which are considered small for GA are those that have the

measure of craniocaudal diameter in millimeters smaller than the GA measured in weeks.

Results: Out of 160 newborns with IUGR, there were 22 (13.75%) of them with kidneys that were small for GA and 138 (86.25%) of them with kidneys whose size was in accordance with GA. In the group of newborns with normal intrauterine growth all 160 (100%) had kidneys of appropriate size for their GA. Fisher value is $p < 0.0001$. The comparison of examined groups shows that there is a statistically significant difference in terms of the occurrence of kidneys too small for GA.

Conclusion: Newborns with IGUR have a statistically significant occurrence of kidneys which are too small for GA in comparison with newborns with normal intrauterine growth.



Small kidneys in newborns with IUGR

Small kidneys in newborns with IUGR

None declared

ID 800. Extreme Preterm Survival over the last decade: Single centre NICU experience

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Aim

To review survival rates of extreme preterm infants at a regional non-surgical neonatal intensive care unit following national guidance and local quality improvement programmes.

Background

Neonatal care is ever evolving, with advances in both antenatal and neonatal management improving the morbidity and mortality of preterm infants (Santhakunaran et al 2018). New national guidance states babies born at gestational age of 22+0 weeks may now be considered for active care following discussion with parents and inter-professionals (BAPM, 2019). Locally several quality improvement (QI) initiatives were simultaneously established aimed at improving outcomes.

Method

A single centre retrospective study of BadgerNet data reviewing the survival rates of all infants born ≤ 30 weeks gestational age admitted to the NICU over a ten-year period (2013 – 2022).

Results

1,233 babies under 30 weeks gestation were included. 28% (346) of those were ex-utero transfers. 34% (420) were extreme preterm (<27 weeks). There is a noticeable increase in the number of 22 weeks gestation neonates admitted for active care in the last 3 years. 20% of babies <24 weeks were ex-utero transfers.

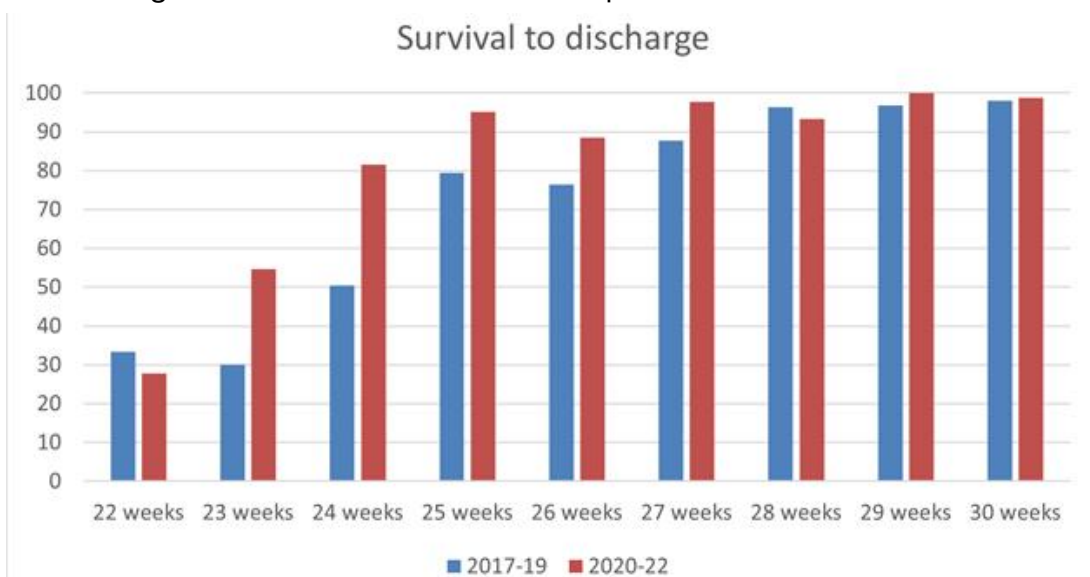
No significant improvement in survival rates of infants born <23 weeks gestation in the last 6 years cohort. However, since the QI measures were introduced, there is a significant improvement in overall survival for 23–26 weeks extreme preterms from 54% to 70% (2017–19 v 2020–22). Over 27 weeks survival rates are 95 to 97% over the study period.

No significant difference in rates of survival of in–born and out–born infants was seen, 10.4% of out–born infants died compared to 13.1% of in–born infants.

Conclusion

Increasing number of 22–week gestation babies are being admitted for active care, their survival rates remain extremely low and given the poor prognosis, active prolonged intensive care poses an ethical dilemma. Parental participation remains key to decision making. Advances in neonatal care have improved survival rates for infants born at 23–26 weeks gestation.

It is acknowledged that this is a single centre study and the data obtained is limited. A large multi–centre study looking at mortality and morbidity is recommended to fully ascertain the long–term outcomes for extreme preterms.



none declared



ID 335. Should every newborn infant be screened for jaundice before discharge from hospital?

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Background: Neonatal jaundice affects 60% of term and 80% of preterm babies, and can be harmful if left untreated. As visual identification of jaundiced infants is notoriously unreliable, our project's aim was to improve the identification of infants requiring phototherapy using a transcutaneous bilirubin (TCBR) machine prior to discharge from hospital and to tailor the monitoring of infants depending on the result. We also wanted to see if this would reduce the need for readmission and thus help relieve the administrative burden and stress associated with re–admitting jaundiced babies.

Methods: TCBR was measured in all infants older than 24 hours of age and >35 weeks gestation on the postnatal ward. If TCBR plotted close to the treatment line on the jaundice chart, a plan to repeat TCBR was to be made in 24 hours with feeds optimised and closely monitored. Infants plotting on/above the phototherapy line were treated as per normal guidelines. Readmission data was also analysed.

Results: During the intervention period of 12 months, there was a cohort of 3438 live births, with 1763 babies screened with the TCBR machine. 34 infants (2%) were found to require immediate phototherapy, with some needing NICU admission. 392 babies (22%) were identified as high–risk, and either kept in hospital or discharged home with closer monitoring. 3.5% of the high–risk babies later required readmission for phototherapy, with the median length of stay shorter than the median length of



stay for readmissions prior to our intervention starting. The remaining 1337 babies were discharged home with normal follow-up. We have also found a statistically significant reduction in the overall need for phototherapy in infants during our intervention period (15 per 1000 live births), compared to data collected prior to it (34 per 1000 live births).

Conclusion: TCBR screening can identify jaundiced infants that would otherwise have been missed by clinical assessment alone. We have demonstrated that closer monitoring of high-risk babies has caused a reduction in the need for phototherapy. It would be interesting to see a wider-scale adoption of TCBR screening, but a cost-effectiveness study would need to be done first.

None declared.



ID 97. DELIVERING NEONATAL INTENSIVE CARE DURING COVID-19: RESOURCE USE AND COST ANALYSIS

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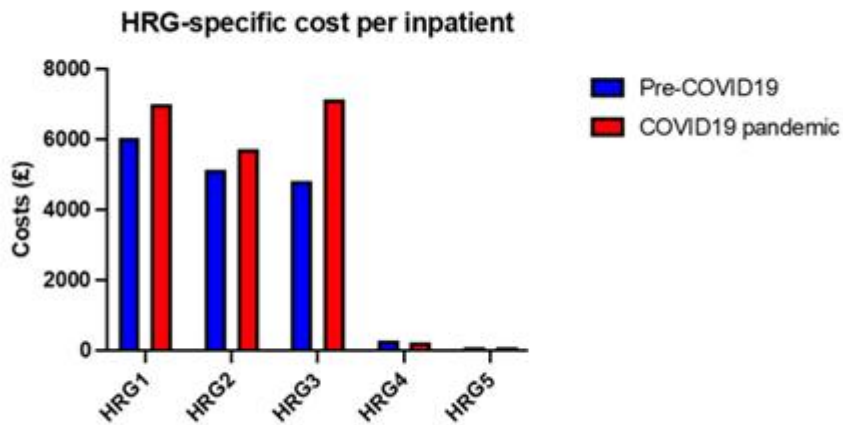
Background: Neonatal intensive care units (NICUs) provide essential specialist care for premature or sick babies in the NHS (National Health Service). Due to a significant increase in demand in recent years, services and care delivery have become saturated and stretched. Exacerbating this is the recent Coronavirus disease (COVID19) pandemic which has further strained clinical delivery of neonatal services. The aim of the audit was to identify the main resource use and costs associated with delivering services in the tertiary care unit of the Royal Sussex County Hospital, Brighton and the special care baby unit, Princess Royal Hospital, Haywards Heath in preparation for implementing family integrated care into the services in the future.

Methods: We retrospectively analysed data from the UK neonatal national patient data system BadgerNet (©Clevermed, UK). Inclusion criteria were all patients treated between Jan 1, 2018, and December 31, 2021– pre and during the COVID19 pandemic. Patients were categorised by severity, resource use and cost evaluation. Costings were calculated using the national tariffs as defined in the neonatal Health Related Groups (HRG).

Results: A total of 2310 neonates >22 weeks gestation were analysed. 50.8% (1174) were classified into pre-term, 47.4% (1096) were term and 1.7% (40) were post-term.

There were no significant differences in gestational age, birth weight and head circumference in the pre- and COVID19 pandemic groups. A decrease in ventilation and oxygen days during the COVID19 pandemic compared to pre-COVID19 was observed. The care days in Intensive care (HRG1), High dependency care (HRG2) and Special care (HRG3) all decreased during the COVID19 pandemic. Only the number of days in Special Care increased during this period. Costs of NNUs increased during the pandemic with an overall percentage increase of 30.72%, with the cost per patient increased by 23.43% (see figure).

Conclusion: Our findings show that the COVID19 pandemic affected neonatal care delivery by the increased cost of treating patients in the NNUs. Different categories of care were observed to understand resource use. This will be important for future pandemics as evidence into what is essential to continue managing patients within the neonatal unit. Partially supported by RISEinFAMILY H2020-101007922



HRG specific costs per in-patient and Health Related Group length of stay.
HRG specific costs per in-patient and Health Related Group length of stay.

None declared



ID 572. Perinatal mortality description and associated risk factors in a tertiary hospital in Spain

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Background: The perinatal mortality rate (PMR) is the most sensitive index of the health status of women and their offspring and of the quality of maternal and child health services. The Spanish PMR was 3.81/1000 (1.39 – 7.41) in 2021. Although certain risk factors for neonatal deaths and stillbirths have been clearly established, the association between risks and perinatal mortality remains insufficiently characterized and is often very dependent on the local context.

The aim of this study is to describe the epidemiology and the risk factors for perinatal mortality in a tertiary hospital in Spain from 2016 to 2021.

Methods: Retrospective analysis using data compiled from perinatal meetings and hospital records spanning from 2016 to 2021, following the ICD-PM methodology.

Results: Out of the 13075 deliveries recorded, there were 12987 live births (99.33%, LBs), 48 stillbirths (0.37%, SBs) (41 antepartum (ASBs), 5 intrapartum (ISBs) and 2 with unknown timing), 29 early neonatal deaths (0.22%, NDs) and 11 late NDs (0.07%). The cesarean section rate was 18%. Complications of the placenta, mainly separation and dysfunction, were the primary maternal condition in 29 out of 41 ASBs. In contrast, maternal complications such as cervical incompetence and chorioamnionitis were present in 3 out of 5 ISBs, while congenital malformations accounted for the

remaining 2 cases. Among NDS, 15 out of 40 were associated with complications of the placenta and complications of prematurity, while 12 were infants born to healthy mothers affected by congenital malformations (table 1). PMR was 6.1/1000; prenatal mortality rate, 3.2/1000; early neonatal mortality rate, 2.4/1000 and neonatal mortality rate, 2.9/1000.

Conclusions: The major risks factors for perinatal mortality were multiparity, prematurity and low birth weight. In contrast, maternal age over 34 years was found to be a protective factor.

Table 1. Differences in association with known risk factors for mortality between livebirths and perinatal deaths

Characteristic	Live births (N=12987)	Perinatal deaths (N=88)	P value	Univariate OR	Multivariate OR
Type of pregnancy					
Multiple	222 (1.8%)	9 (10.2%)	p < 0.01*	5.74 (2.36 - 11.8)*	0.35 (0.12 - 0.91)*
Singleton	12765 (98.3%)	79 (89.8%)			
ANC no. of visits					
≥ 4	2927 (25.5%)	78 (88.6%)	p < 0.01*	20.3 (9.03 - 58.5)*	126.93 (38.84 - 568.42)*
1- 3	5802 (50.5%)	3 (3.4%)		0.45 (0.09 - 1.93)	3.22 (0.54 - 17.72)
No visits	2756 (24%)	7 (8%)		-	-
Unknown	1498 (11.5%)	0		-	-
Mode of delivery					
C-sec	2375 (18.3%)	31 (35.2%)	p < 0.01*	3.01 (1.87 - 4.81)*	0.97 (0.50 - 1.82)
NVD + AV	9408 (72.5%), 1200 (9.3%)	49 (55.7%), 8 (9.1%)			
Multipara	6980 (54.4%)	56 (70.9%)	p < 0.01*	2.04 (1.27 - 3.38)	4.72 (2.52 - 9.33)*
Previous stillbirths and child's death	212 (1.6%)	5 (5.7%)	p < 0.01*	4.16 (1.43 - 9.44)*	0.37 (0.08 - 1.37)
Mother's age Median (p25-75)	35 (31 - 39)	32 (27 - 38)	p < 0.01*		
< 18 y	10 (0.1%)	-	p < 0.01*	-	-
18-19 y	41 (0.3%)	1 (1.1%)		3.14 (0.13 - 14.9)	0.18 (0.00 - 8.03)
20-34 y	5834 (44.9%)	55 (62.5%)		0.49 (0.31 - 0.77)*	0.26 (0.14 - 0.45)*
> 34 y	7098 (54.7%)	34 (36.4%)			
Unknown					
Sex of the baby					
Male	6567 (50.6%)	48 (54.5%)	p 0.46	1.1 (0.71 - 1.74)	1.01 (0.58 - 1.76)
Female	6416 (49.4%)	40 (45.5%)			
GA Median (p25-75)	39 (38 - 40)	30 (26 - 37)	p < 0.01*		
22 - 23+6	-	9 (10.2%)	p < 0.01*	-	-
24 - 25+6	16 (0.1%)	11 (12.5%)		354 (145 - 838)*	220.65 (23.65 - 2632.46)*
26 - 27+6	20 (0.2%)	10 (11.4%)		354 (145 - 838)*	168.12 (21.69 - 1485.27)*
28 - 31+6	100 (0.8%)	15 (17%)		78.2 (38.7 - 154)*	28.61 (7.22 - 116.04)*
32 - 36+6	712 (5.5%)	20 (22.7%)		14.7 (7.9 - 27)*	7.12 (3.1 - 16.02)*
37 - 41+6	12002 (92.4%)	23 (26.1%)			
> 42	133 (1%)	-			
Birth weight Median (p25-75)	3250 (2930 - 3550)	1450 (761 - 2725)	p < 0.01*		
< 1000 g	49 (0.4%)	29 (33%)	p < 0.01*	209 (107 - 403)*	13.36 (1.75 - 93.11)*
1000 - 1499 g	106 (0.7%)	15 (17%)		87.4 (43.3 - 172)*	7.09 (1.61 - 29.22)*
1500 - 2499 g	939 (6.3%)	19 (21.6%)		12.2 (6.62 - 22.2)*	3.14 (1.39 - 6.91)*
> 2500 g	12111 (92.7%)	25 (28.4%)			

OR: odds ratio; ANC: antenatal care; NVD: normal vaginal delivery; AV: assisted vaginal; C-sec: caesarean section; GA: gestational age. * statistically significant

ID 872. Neonatal Hospitalisation in Northwest England: A Comprehensive 10-Year Profile of a Regional NICU

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Introduction

Neonatal intensive care units (NICUs) are essential for providing specialised care to premature and term infants with complex medical needs. However, due to the high cost of care, understanding the admission patterns of neonates is crucial for directing resources and aid in the development of targeted interventions to improve neonatal health.

Methods

In this retrospective study, we aimed to identify the admission patterns and subcategories of diagnoses for preterm and term neonates at the NICU of Manchester Royal Infirmary Hospital using ten-year data collected from 1st January 2013 until 31st December 2022.

Results

The total number of admissions over the last 10 years was 11597. Contrary to general impression, there were more term (63.2%) babies admitted in comparison to preterm (36.8%). Preterm babies however had much longer median duration of admission (13.2 days) as opposed to term babies (3.7 days).

Of preterm newborns, the data showed the commonest diagnoses were, Suspected sepsis (2408, 20.8%) Respiratory Distress Syndrome (1386, 12%), Respiratory Distress of Newborn (1232, 10.6%), Chronic Lung Disease (631, 5.4%).



For term babies, the common diagnoses as disclosed by the data, Suspected sepsis (3696, 31.8%), Respiratory Distress of Newborn (1966, 16.94%), Sepsis (1236, 10.7%), (Respiratory Distress Syndrome (867, 7.47%).

The data for the duration of admission (days) for premature newborns was represented by the median and IQR. For preterm babies, Chronic lung disease (76.5, 23.8–100.4), Laryngomalacia (87.9, 17.9–103.2), Subglottic stenosis (106.4, 74.2–126.4), Metabolic Bone Disease (85.2, 24.1–121.5). For patients born at term, the data showed, Gastro–oesophageal reflux (37.1, 9.2–67.9), Subglottic stenosis (38.9, 16.5–56.9), Cardiomyopathy (20.5, 6–51).

The full table with details of the common diagnoses and their duration of admission is attached to the abstract.

Summary and Conclusions

The results reveal that while there are fewer premature newborns warranting admission, their stay is much prolonged. For individual diagnoses, diagnoses with complications stood out reinforcing importance of preventative medicine. Overall, this study provides valuable insights into the healthcare needs of neonates and emphasises the importance of targeted interventions to improve neonatal outcomes.



Record of NICU hospitalisation over 10 year period (2013-2022)

Group	Diagnosis	Total number	(%)	50 th centile (days)	IQR (25 th centile – 75 th centile)
Premature (<37 Weeks)		4269	36.81%	13.2	5.7 - 31.3
	Sepsis Suspected	2408	20.80%	15	6.6-37.5
	Sepsis	715	6.16%	14.3	7.1-31.2
	RDS	1386	11.95%	31.7	7.1-38.9
	Respiratory distress of Newborn	1232	10.60%	12.2	5.9- 27.9
	Chronic lung disease	631	5.44%	76.5	23.8-100.4
	Persistent pulmonary hypertension of the newborn	85	0.73%	25.4	8.8-65.5
	Patent Ductus Arteriosus	784	6.75%	48	18.5-88.9
	Ventricular septal defect	127	1.09%	31.8	12.9-82.8
	Atrial septal defect	80	0.69%	55	29.9-81.5
	Necrotising enterocolitis	432	3.72%	48.91	20.4-95.4
	Gastro-oesophageal reflux	135	1.16%	61.5	24.8-111.1
	Small Bowel Atresia	43	0.37%	64	23.5-81.5
	Trisomies	44	0.38%	20.1	13.6-35.6
	Subglottic stenosis	10	0.09%	106.4	74.2-126.4
	Intraventricular haemorrhage of the newborn (IVH)	545	4.70%	40	16-92
	Hydrocephalus	61	0.53%	19.8	12.1-62
	Metabolic Acidosis	201	1.73%	25.8	8.1-67.7
	Metabolic Bone Disease	109	0.94%	85.2	24.1-121.5
	Retinopathy of prematurity	489	4.21%	67.4	17.9-105
Term (≥37 weeks)		7328	63.19%	3.7	1.6-9.2
	Sepsis Suspected	3696	31.80%	3.6	1.7-8.8
	Sepsis	1236	10.70%	4.4	2-9.4
	RDS	867	7.47%	4.6	2.2-9.2
	Respiratory distress of Newborn	1966	16.94%	3.4	1.8-7.3
	Meconium aspiration syndrome	167	1.44%	5.9	2.6-10.9
	Chronic lung disease	86	0.74%	12.4	3-60.3
	Congenital Diaphragmatic Hernia	87	0.75%	15.8	8.6-25.9
	Persistent pulmonary hypertension of the newborn	183	1.58%	10.8	4.2-22.6
	Patent Ductus Arteriosus	522	4.50%	11.3	5.4 - 25
	Ventricular septal defect	376	3.24%	10.1	4.5-23.1
	Atrial septal defect	138	1.19%	11.6	5.8-23
	Tetralogy of Fallot (TOF)	70	0.60%	6.7	2.3-13.7
	Necrotising enterocolitis	84	0.72%	21	7.8-54.7
	Gastro-oesophageal reflux	89	0.77%	37.1	9.2-67.9
	Trisomies	141	1.21%	14.7	7.7-26.9
	Small Bowel Atresia	96	0.82%	22	18-38.8
	Laryngomalacia	46	0.40%	10.9	3.2-33.5
	Subglottic stenosis	7	0.06%	38.9	16.5-56.9
	Intraventricular haemorrhage of the newborn (IVH)	75	0.65%	14.9	8.2-33.4
Hydrocephalus	68	0.59%	13.9	8.7-24.5	
Metabolic Acidosis	133	1.15%	5.6	2.2-14.9	



Record of NICU hospitalisation over 10-year period (2013–2022)

Record of NICU hospitalisation over 10-year period (2013–2022)

None declared

ID 974. Death during admission and expenditures of the department of neonatology at Rigshospitalet in the years 1996-2015

Professor gorm greisen¹

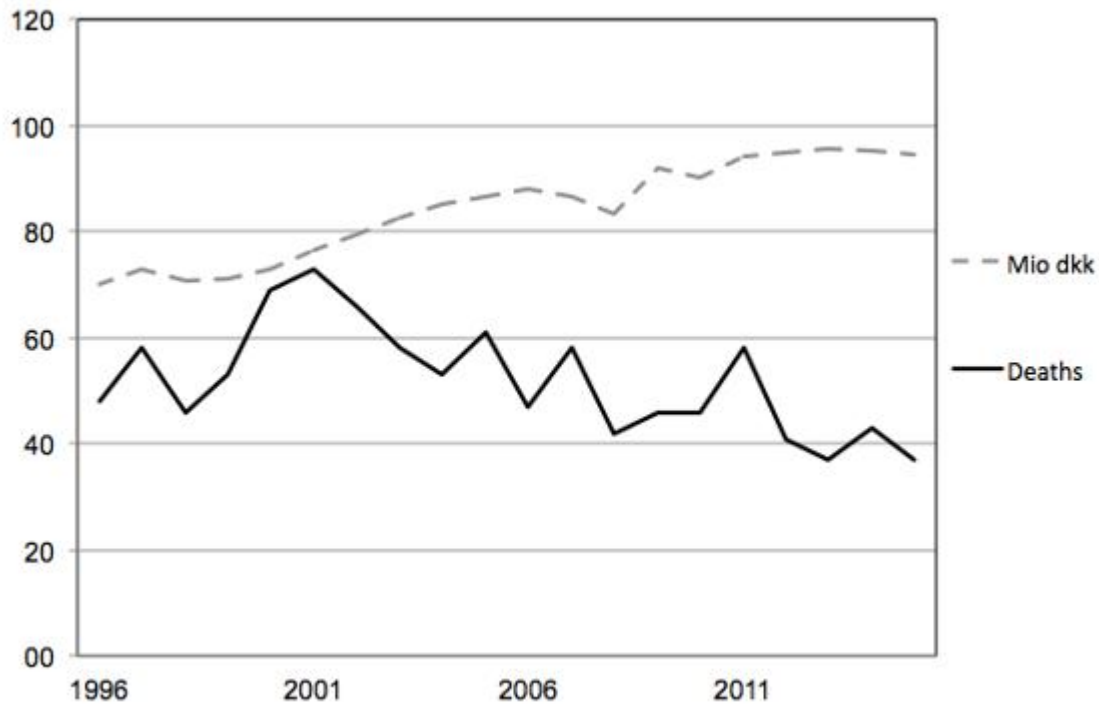
¹Rigshospitalet, Copenhagen, Denmark

Background. Health care costs are rising and challenge public budgets. Rigshospitalet in Copenhagen provides tertiary care for newborns in Eastern Denmark with about 30.000 deliveries per year, including pick-up transport, ECMO and all surgery. Since 2002, non-cardiac intensive care for children up to one year has also been provided.

Methods. Data was collected from annual reports from the department of neonatology and a departmental clinical database. The relation between annual expenditure and the number of deaths before discharge from the department was estimated by linear regression as an indicator of the incremental cost/effectiveness ratio (ICER)

Results. From 1996 to 2015 the expenditure for salaries, drugs and disposables increased by approximately 30% in fixed 2015 prices while the number of deaths after an initial increase from 48 in 1996 to 73 in 2001, decreased to 37 in 2015. The regression coefficient was -0.58 ± 0.23 death/million ddk ($p=0.023$), corresponding to ICER = 1.7 mio dkk or 230.000 euro per death averted.

Comments. This is a simplistic approach. Among other factors, hospital overhead was not accounted for (about 30%), nor the costs of surgery or care after discharge, nor (obstetric) care before admission. On the other hand, total infant mortality in Denmark decreased from 178 in 1996 to 117 in 2015, so the department of neonatology has a pivotal role, and the results may be seen as reassuring, given the long life expectancy of most neonatal care graduates.



Deaths and expenditures in the department of neonatology at Rigshospitalet during a 20-year period

Deaths and expenditures in the department of neonatology at Rigshospitalet during a 20-year period

I was the head of the department from 2001 to 2012 and now honorary consultant

ID 1030. NEURODEVELOPMENTAL OUTCOMES AT AGE 5 1/2 AMONG CHILDREN BORN PRETERM RECEIVING OPIOIDS AND MIDAZOLAM. RESULTS FROM THE EPIPAGE 2 COHORT STUDY, FRANCE.

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Background

Preterm neonates frequently receive opioids and/or midazolam. Few studies have explored these drugs' association with neurodevelopmental outcomes and with contradictory results. Our objective was to describe these drugs' association with neurodevelopmental outcomes at 5 1/2 years in children born preterm in the EpiPAGE 2 cohort.

Methods

Preterm infants between 23 and 31 weeks of gestation (GW) were included. We used descriptive statistics to describe the demographic and baseline maternal and infant characteristics. We aimed to evaluate the association between opioid and/or midazolam exposure and neurodevelopmental outcomes (cerebral palsy, full scale intelligence quotient, visual or hearing disability, developmental coordination disorders). We used a multinomial model after multiple imputation (MICE) and a multinomial model after MICE and propensity score.



Results

3613 infants were included. After multiple imputation there was no association with opioid and/or midazolam exposure and mild disabilities or moderate/severe disabilities. After MICE AND propensity score, there was a significant association between an exposure to both opioid and midazolam and mild disabilities and moderate/severe disabilities at 5 1/2 years.

Conclusion

An exposition during the neonatal period in preterm neonates below 32 WG to both opioids AND midazolam is associated with more mild disabilities and moderate/severe disabilities. This association is not described with opioid alone or midazolam alone.

None declared