ID: 435

TITLE: STANDARDISATION OF THE PARENT REPORT OF CHILDREN’S ABILITIES-REVISED (PARCA-R): A NORM-REFERENCED MEASURE OF COGNITIVE AND LANGUAGE DEVELOPMENT AT 2 YEARS OF AGE

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CONTENT:

The PARCA-R is a parental questionnaire that can be used to identify children at risk of developmental delay at 2 years of age. However, only a limited number of cut-off scores have been derived for use in preterm populations and a lack of standardised scores limits its use for all children in the general population and as a continuous outcome measure for research. Therefore the objective of this study was to develop age- and sex-standardised PARCA-R scores for assessing cognitive and language development and identifying children with delay at 24 months of age.

The PARCA-R comprises scales to assess non-verbal cognition and language development. Scores on these scales can be summed to produce a total Parent Report Composite score (PRC; range 0-158). Existing PARCA-R data for 6402 children aged 24 to 27 months were used to form a standardisation sample from which standardised scores with a normative mean of 100 (SD 15) at 24, 25, 26 and 27 months of age were developed, separately for boys and girls and for both non-verbal cognition and language development. Existing data from three further studies were used to assess the external validity (n=709) and clinical validity (n=1456) of the standardised scores.

For all PARCA-R scales, mean (SD) standardised scores approximated 100 (15) in both sexes and all age groups. The external validity of the scores was confirmed as the mean standardised score in the validation sample was 100 (SD 15) for boys and 99 (SD 16) for girls. Children born very preterm or with neonatal sepsis had standardised scores approximately 0.4 to 0.9 SD lower on average than the normative mean, confirming clinical validity.

The PARCA-R provides a standardised measure of cognitive and language development at 24-27 months of age. The questionnaire is available non-commercially, providing clinicians and researchers with a cost-effective tool for assessing development and identifying children with delay at 24 months of age.

COI: None declared
ID: 436
TITLE: THE EPICURE STUDY: DISABILITY AT 11 YEARS OF FOLLOWING EXTREMELY PRETERM BIRTH IN 1995 AND 2006
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CONTENT:

Developing neonatal care has led to consistently rising survival at extremely low gestations. In national data from 2006 increasing survival without disability and improved developmental scores at 30 months were seen compared to births in 1995, but there was no reduction in the proportion with severe or moderate impairment. We report a study to evaluate whether early advantages have translated into improved outcomes in early adolescence.

We compared published outcomes for the 1995 EPICure cohort at 11 years with the outcome for a sample of the 2006 EPICure2 cohort. For the latter we evaluated outcomes for 200 extremely preterm children born in two geographic regions of England. Outcome definitions and measures were chosen to match those used in the original study.

The EPICure2 sample was representative of the whole cohort over a range of clinical characteristics and the index of multiple deprivation decile. The 2006 sample was comparable to the 11 year EPICure sample over the same measures but showed higher deprivation (IMD 1995 mean IMD 5.3; 2006 mean IMD 4.9).

Outcome for 176 children <26 weeks of gestation born in England in 1995 was compared to that of 112 children born in 2006. Moderate or severe disability was present in 43% of those born in 2006 compared to 51% in 1995 (OR 0.64 (95% CI: 0.36, 1.11)). Motor disability was present in similar proportions in each cohort (20% v 19% respectively; OR 0.92 (95% CI: 0.46, 1.83)). Mean IQ scores were 81.4 (sd 19.2) in 2006 and 82.7 (sd 18.4) in 1995 (difference in means adjusted for confounders -0.2 (-0.6 to 0.2).

Despite evidence of increasing survival at <26 weeks of gestation, early signals of improving outcomes are not reflected in the 11 year outcomes in the sample evaluated.

COI: None declared
ID: 743

TITLE: POST-DISCHARGE PROTEIN SUPPLEMENTATION IN 137 VERY PRETERM BORN BREASTFED INFANTS DID NOT IMPROVE COGNITIVE OR NEUROPSYCHOLOGICAL DEVELOPMENT AT SIX YEARS OF AGE.

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CONTENT:

Very preterm infants are at increased risk of cognitive deficits, motor impairments and behavioral problems. Insufficient growth has been linked to increased risk of adverse neurodevelopmental outcome in this group of children. Several studies have evaluated the importance of post-discharge preterm formula (PF) to this group of infants but breastfeeding continues to be the recommended nutrition if possible. Human breast milk contains fewer proteins than preterm formula, but demonstrates other advantages. However little is known about the need for protein supplementation in breastfed very premature infants and the effect on cognitive and neuropsychological development in childhood.

A follow-up study on cognitive and neuropsychological development at 6 years corrected age (CA) (mean 6.5 ± 0.4 years) in 137 very preterm born infants (gestational age (GA) 24+3 to 32+0 weeks; median 30+0 weeks) randomized to either mothers milk (66 children/33 boys) or fortified mothers milk (71 children/31 boys) from shortly before discharge to 4 months CA. The intervention group received human milk fortified with 1.375 grams of protein/day. Only infants without serious congenital or chromosomal anomalies, or major neonatal morbidities were eligible for the study. Infant growth was closely monitored during the first year of life. At six years of age the children were tested using Wechsler Intelligence Scale for Children IV and parents completed the Five to Fifteen questionnaire.

Total IQ was unaffected by protein supplementation, mean score 103.4 ± 11.1 points in the intervention group and 105.7 ± 10.1 points in the control group, both groups were within the normal range of the test. Children in the lowest social groups had a total of 7.0 IQ points (95% CI: 3.6-10.4) less than children from the highest group (p<0.001) and multiple births had 6.8 (95% CI: 2.8-10.7) IQ points lower than their singleton peers (p=0.001). GA, sex and birth weight did not affect the total IQ score. The results of the Five to Fifteen questionnaire was unaffected by the intervention. In all subdomains boys reported significantly more difficulties than girls. The same effect was seen in children from the lowest social group compared to children in the highest social group in the subdomains; executive functions, perception, memory, language and social skills but not in motor skills.

Post-discharge protein supplementation in very preterm breastfed infants without severe neonatal morbidity did not affect cognitive or neuropsychological development at six years of age. The study revealed mean total IQ scores in the normal range for both groups. Healthy very preterm infants in this study did not benefit from supplementary protein in addition to breastfeeding but the amount of protein supplementation might have been too small.

COI: None declared.
TITLE: AN INTERNATIONAL RANDOMISED CONTROLLED TRIAL OF RANIBIZUMAB COMPARED WITH LASER THERAPY FOR THE TREATMENT OF VERY LOW BIRTHWEIGHT INFANTS WITH RETINOPATHY OF PREMATURITY

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CONTENT:

Current therapy does not eradicate ocular morbidity and visual disability following retinopathy of prematurity. Anti-vascular endothelial growth factor treatment provides a potentially new treatment, but research-based evidence has not confirmed ocular efficacy, the appropriate drug and dose, the need for re-treatment, or defined long-term systemic effects from sustained suppression of systemic VEGF in a developing infant.

RAINBOW, RAnibizumab compared with laser therapy for the treatment of INfants BOrn prematurely With retinopathy of prematurity, was designed to evaluate the efficacy and safety of two doses of ranibizumab against laser therapy in a randomised open-label study. Infants <1500g birthweight meeting established criteria for ROP treatment were recruited in 87 centres in 26 countries. We performed a randomised, multicentre, open-label, 3-arm, parallel-group study evaluating efficacy and safety of intravitreal injection of ranibizumab 0·2mg or ranibizumab 0·1mg against laser therapy. The primary outcome was treatment success, defined as survival with no active retinopathy, unfavourable structural outcomes or the need for an additional treatment modality at or before 24 weeks.

Treatment success occurred in 56/70 (80%) infants receiving ranibizumab 0·2mg compared with 57/76 (75%) receiving ranibizumab 0·1mg and 45/68 (66%) infants following laser therapy. The odds ratio of a successful outcome following ranibizumab 0·2mg compared with laser therapy was 2.19 (95% confidence interval 0.99–4.82; p=0.051). One infant had an unfavourable structural outcome following ranibizumab 0·2mg, compared to five following ranibizumab 0·1mg and seven after laser therapy. Ranibizumab 0·2mg was effective in both Zone I and Zone II disease. Ranibizumab 0·1mg offered no advantage over 0·2 mg. Death, serious and non-serious systemic and ocular adverse events were evenly distributed between the three groups. Sparse sampling identified high VEGF levels and a return of plasma VEGF levels toward baseline by four weeks in all three treatment groups.

In the treatment of retinopathy of prematurity, ranibizumab 0·2mg was effective with fewer unfavourable ocular outcomes than laser therapy and with an acceptable short-term safety profile.

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