

Conclusions Antenatal steroids still confers a survival benefit in neonates born < 29 weeks gestation and reduces short term morbidities of NEC and severe IVH, but does not have an impact on long term neurodevelopment.

1220 COMPARISON OF SOMATIC AND NEURODEVELOPMENTAL OUTCOMES OF SMALL AND LATE PRETERM INFANTS

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Objective The aim of this study was to compare the somatic and neurodevelopmental outcomes of small and late preterm infants and also to determine the prenatal, natal and postnatal factors affecting these outcomes.

Methods A total of 163 infants that were born < 32 weeks of gestation (small preterms, control group) and 240 infants born >32 weeks of gestation (late preterms, study group) were included to this prospective study. All infants were evaluated at postnatal 42 weeks. Neurodevelopmental outcomes of these infants were evaluated with neurological examination and Denver II Developmental Screening Test. Also somatic evaluation including the determination of the length according to Turkish children percentiles was also performed.

Results The major neurological sequelae ratio was significantly higher in small preterm infants (13.9%) compared with the late preterms (2.4%). Apgar scores at 5 minute, need of resuscitation in delivery room and male gender were all significantly associated with an increased risk of adverse neurological outcomes. Also presence of neonatal morbidities including neonatal hypoglycemia, sepsis, bronchopulmonary dysplasia, intraventricular hemorrhage greater than stage III were also abnormal Denver results. Somatic growth failure was detected in 2% and 4.9% of the late and small preterm infants.

Conclusion Small preterm infants might have significantly higher abnormal neurodevelopmental outcomes compared with late preterms. However, late preterm infants might be routinely followed-up for somatic growth and also neurodevelopmental outcomes.

1221 LATE PRETERMS HOW DO THEY MANAGE THEIR PSYCHOMOTOR DEVELOPMENT DURING THE FIRST TWO YEARS?

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Background and Aim The neurodevelopmental pace of late preterms during the first 2 years has hardly been investigated. Our aim was to assess longitudinal neurodevelopmental status of babies of gestational ages (GA) between 34–36^{6/7} weeks (Group I), 37–40 weeks (Group II) with Bayley II Infant Development Scale (BAYLEY II) and neurologic examination done regularly and to correlate scores with the risk factors in neonatal intensive care units (NICU).

Method 100 infants (Group I) 50 (Group II) were included in the study all had serial BAYLEY-II scores and neurologic examination done at the ages of 6, 9, 12, 18, 24 months.

Results There were no difference between the total BAYLEY-II scores of the patients in both groups at all ages ($p>0.05$). However, the longitudinal rate of change of the PDI and MDI scores of the two groups showed a different pattern. Between 6–9 months patients in group II had a higher rate of change of PDI scores than those of Group I ($P<0.05$) between 12–18 and 18–24 months; it was viceversa ($P<0.05$) There was no significant difference between groups regarding to the change of MDI scores at all ages. When the

pooled data was evaluated; of the NICU risk factors only mechanical ventilation had an impact on BAYLEY-II scores ($p<0.05$).

Conclusion Knowing the rate of neurodevelopmental follow up of these patient group could be important when an early individualized management is needed.

1222 NEUROCOGNITIVE OUTCOME AT 3 YEARS IN EXTREMELY LOW BIRTH WEIGHT INFANTS (VLBW) WITH CEREBELLAR HEMORRHAGE (CH)

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Introduction CH is an increasingly diagnosed problem in VLBW, reaching up till 19% among the ELBW due to improved neuroimaging techniques and increased VLBW survivors. The impact of CH on long-term neurodevelopmental outcome is still not well known.

Aim To evaluate the consequences of CH on neurocognitive outcome in VLBW.

Methods CH and other brain lesions were identified by MRI performed at TEA. The neurological development quotient (DQ) of 9 ELBW infants with CH, without white matter (WM) lesions (median GA- 25wks, range 23–27; birth weight -BW- 710 g, 425–980), was compared with the DQ of others two groups: 43 control VLBW infants without lesions (GA 27.7 wks, 23–33; BW 780 g, 430–1000) and 8 VLBW babies with WM major abnormalities (GA 28.7 wks, 26–32; BW 725 g, 430–970). The DQ was evaluated at the age of 3 years with the Griffiths Mental Developmental Scales (GMS).

Results The 3 groups were comparable for BW ($p=0.088$), but not for GA ($p=0.005$). The CH group, compared with controls, showed: a lower not significant DQ score ($p=0.07$), a significant lower score in the motor areas (locomotor $p=0.006$, eye and hand-coordination $p=0.002$, performance $p=0.014$) and in the personal social skill ($p=0.05$), not in language ($p=0.13$) and practical reasoning ($p=0.38$). When compared to the WM lesions group not significant difference was found in the DQ and the other areas.

Conclusions Our data showed that CH plays an important role mainly in the motor and behavioral dysfunctions at long-term outcome in VLBW infants.

1223 THE EFFECT OF EXTREMELY PRETERM BIRTH ON ADULT RELATIONSHIPS

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Background The traumatic births of Extremely Preterm (EPT) infants and long hospital stay may affect parent-child interaction, the child's attachment security negatively and impact relationships in adult life.

Aim To investigate whether EPT birth affects attachment in adulthood.

Subjects 39 young EPT born adults (gestational week, mean (SD), 27 (1.0), birth-weights 990g (228)) and 39 full-term (FT) controls, all part of a South Swedish cohort born 1985–86 < 29th gestational weeks. EPT spent, mean (SD) 51(20) days in NICU.

Methods Adult Attachment Interview (AAI) and WAIS-III, Wechsler Adult Intelligence Scale.

Results AAI: Significantly more EPT adults had an insecure attachment style. 37 % EPT vs. 75% FT were secure attached ($p=0.006$). WAIS-III: There were significant differences between the EPT- and FT-groups on Full Scale IQ (FSIQ), mean (SD) 92.8(15.4) vs. 105.7 (12.5), $p<0.001$. In the EPT group statistically significant

correlations were shown between Secure and Insecure attachment, the attachment variables Coherence of Mind, Coherence of Transcript and Full Scale Intelligence Quotient. No statistically significant correlations were obtained in the FT- group.

Conclusions Extremely Preterm born, when young adults, shows significantly lower IQ-scores, have negative self and positive others model and shows a higher proportion of insecure attachment. To our knowledge, this is the first study to report data on EPT and its impact on the attachment organization in adulthood. Insecure attachment, low IQ and prematurity may be considered as significant risk factors for developing psychopathology, they deserve careful attention in future research and clinical follow-ups.

1224 SOCIODEMOGRAPHIC AND NEONATAL FACTORS ASSOCIATED WITH EARLY CHILDHOOD SOCIAL-COMMUNICATION DIFFICULTIES IN CHILDREN BORN PRETERM

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Background The Quantitative Checklist for Autism in Toddlers (Q-CHAT) is a parent-completed questionnaire providing a quantitative measure of early childhood social-communication difficulty (Allison *et al*, J Autism Dev Disord, 2008). The Q-CHAT scores of children born preterm are higher than the general population, indicating greater autistic traits (Wong *et al*, Neonatal Society Proceedings 2012 Spring Meeting).

Aim To examine sociodemographic and neonatal factors associated with social-communication abilities in preterm infants at 24 months corrected age.

Methods The parents of children born at < 30 weeks gestation and enrolled in a study evaluating routinely collected neurodevelopmental data were asked to complete the Q-CHAT. Children with severe neurosensory disabilities and cerebral palsy were excluded. The effect of factors identified *a priori* (maternal age, gestation, birth-weight z-score, gender, multiple pregnancy, length of mechanical ventilation, supplemental oxygen requirement at 36 weeks post-menstrual age (BPD) and index of multiple deprivation (IMD)) on Q-CHAT scores were examined using univariable and multivariable linear regressions.

Results The Q-CHAT was completed by the parents of 104 children (mean[SD] gestation 27.0[1.7] weeks, when the children were at a mean corrected age of 24.7[2.7] months). On univariable analysis, gestation, multiple pregnancy, BPD and IMD were positively associated with Q-CHAT scores. Low gestation ($p=0.02$) and higher IMD ($p<0.01$) were independently associated with higher Q-CHAT scores on multivariable analysis.

Conclusion Preterm birth is a recognised risk factor for autism spectrum disorder. We report a novel finding of high deprivation as an independent predictor of early childhood social-communication difficulty in the preterm population.

1225 PRETERM BORN PRESCHOOLERS' DISABILITIES IN DAILY ACTIVITIES

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Aims Do very low birth weight (VLBW) preschoolers without Cerebral Palsy (CP) have disabilities in daily activities and what are risk factors for these disabilities?

Methods Disability in daily activities was assessed with the Dutch Pediatric Evaluation of Disability Inventory (PEDI-NL) in 143 VLBW children, at 44 months corrected age (CA). Children with CP are known to have disabilities and were therefore excluded. Multiple logistic regression analyses were performed to determine the risk factors for disabilities in daily activities. Perinatal and socio-demographic factors, a low (< 1SD) Psychomotor- Developmental Index (PDI) and low (< 1SD) Mental Developmental Index (MDI) of the Bayley Scales of Infant Development (BSID II) at 24 months CA were considered as potential risk factors and included in the analyses.

Results One or more disabilities were found in 27 VLBW children (19%). The highest frequencies were found in mobility (19 (13%) children) and in social functioning (12 (8%) children). Logistic regression analyses detected a low PDI and a low MDI as risk factors for disability in mobility; R-square 0.211. For disability in social functioning, a low MDI and being first born were detected as risk factors: R-square 285.

Conclusions At school entry, one in five VLBW children does have a disability in daily activities especially in mobility and social functioning which may reduce participation with their peers. However, prediction of the disabilities by risk factors is limited. Therefore, adding the PEDI to follow up assessments may enable adequate referral for intervention focussing on participation.

1226 VISUAL SEARCH AND ATTENTION IN VERY LOW BIRTHWEIGHT (VLBW) PRESCHOOLERS

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Background and Aim Very Low Birth Weight (VLBW) is associated with visual perceptual and visuomotor problems (Geldof *et al*, 2012). This study investigated the nature of the visual search problems in VLBW children and sought to test the hypothesis that visual search problems originate from deficits in attentional networks.

Methods Visual search and attentional network function was assessed in 105 VLBW children and 64 age matched term controls. Visual search performance was investigated with a newly developed paradigm that manipulated target density and ordering of targets. Attentional network function was measured using the Posner Attentional Network Test (ANT; Posner, 2007).

Results Visual search was less efficient in VLBW children compared to controls ($F_{1,167} = 4.0$; $p = 0.05$ partial $\eta^2 = 0.02$). In addition, VLBW children demonstrated poor executive attention as indicated by lower accuracy levels on the executive attention measure of the ANT ($p < 0.001$; partial $\eta^2 = 0.08$), but not on the alerting ($p = 0.45$; partial $\eta^2 = 0.003$) and orienting ($p = 0.32$; partial $\eta^2 = 0.01$) attention measures. None of the attention measures significantly predicted visual search efficiency (alerting: $\beta = .24$; $p = 0.22$; orienting: $\beta = -0.11$; $p = 0.65$; executive attention: $\beta = 0.17$; $p = 0.14$).

Discussion VLBW children were characterized by less efficient visual search ability and reduced executive attention. Deficits in executive attention did not explain the deficits in visual search, suggesting that both deficits occur independently of each other.

1227 LONGTERM FOLLOW UP OF COGNITIVE FUNCTION CHILDREN BORN AT THE LIMIT OF VIABILITY AFTER ACTIVE PERINATAL CARE, UMEÅ-UPPSALA STUDY

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