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Background and Aims Intrauterine growth restriction (IUGR) complicated by umbilical artery vasculopathy may have adverse effects on integrity and function of vascular endothelium and has been associated to atherosclerosis and to glomerulosclerosis risk in adulthood. Aortic intima media thickening, a preclinical sign of atherosclerosis, has been documented from intrauterine life, whereas the first signs of glomerulosclerosis have not been determined. So the aim of this study was to compare albuminuria/creatininuria ratio (ACR) in IUGR and appropriate for gestational age (AGA) neonates.

Methods A prospective cohort study has been performed on 25 IUGR consecutive fetuses evaluated at Department of Woman and Child Health of Padua University between December 2009 and December 2010. They were considered IUGR if the estimated fetal weight (EFW) was below 10th percentile and the umbilical artery pulsatility index (PI) > 2 standard deviations. Each IUGR newborn was matched with 2 controls AGA neonates, of the same gestational age $\pm$ 1 week. They were considered AGA if the EFW was between 10th and 90th percentile. A urine sample was collected at 24–72 hours after birth for ACR determination.

Results Among the 25 IUGR fetuses enrolled, 2 were excluded because 1 had trisomy 21 and 1 renal agenesis. The remaining 23 were matched with 46 AGA newborns. ACR was significantly higher in IUGR compared to AGA newborns: median (IQR) 183.0 (113.6–264.7) vs 122.8 (72.5–191.9); $p=0.04$.

Conclusions IUGR is associated with significantly greater albuminuria at birth. This may be an early marker of glomerulosclerosis, which leads to renal disease in adulthood.

1217 SENSORINEURAL HEARING LOSS AFTER NORMAL NEONATAL HEARING SCREENING IN VERY PRETERM INFANTS

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Background and Aim To determine the prevalence of sensorineural hearing loss (SNHL) measured by auditory brainstem response (ABR) at 2 years of corrected age in very preterm (VPT) infants with normal neonatal hearing screening (NHS).

Methods 85 VPT infants (gestational age < 32 weeks, birth weight < 1850 grams), born between October 2008 and February 2010, underwent NHS by automated auditory brainstem response (AABR) shortly after birth and ABR at 2 years of corrected age. The frequency of SNHL in VPT infants with bilateral pass AABR was analyzed. SNHL was estimated from the ABR responses and defined as a hearing loss >20 dB for at least one ear, after correction for possible conductive hearing loss. Univariate analyses were performed to identify risk factors associated with SNHL.

Results Bilateral pass AABR shortly after birth was found in 81 (95%) VPT infants. In spite of bilateral pass AABR, 23 (29%) out of 78 VPT infants had hearing loss, defined as an estimated hearing loss >20 dB HL for at least one ear, measured by ABR at 2 years of corrected age. Of these VPT infants, 5 (6%) had SNHL. Proven sepsis was found in 4 (80%) VPT infants with SNHL compared to 23 (32%) VPT infants without SNHL ($P<0.05$).

Conclusions SNHL could be identified in 6% of 2-year-old VPT infants in spite of normal NHS shortly after birth. Follow-up audiometric testing after normal NHS is recommended for VPT infants who had proven sepsis in the neonatal period.

1218 INCIDENCE, MORTALITY, MORBIDITY AND COSTS OF LATE PRETERM BIRTHS

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Background and Aims Since 2005, babies born between 34 0/7 weeks and 36 6/7 weeks are defined as late preterm babies. We aimed to investigate the rates of mortality and morbidity of late preterm babies born at our hospital and compare them with babies born at term.

Material and Methods A retrospective chart analysis was performed on babies born at our hospital between 2006 and 2008. Demographic features, complications and mortalities were recorded.

Results During 3 years, 41752 babies were delivered in our hospital. 6742 (16.2%) of them were late preterm and 30055 (71.9%) were term babies. The rate of hospitalizations (6.5 % vs 17.5%), mortality (3.6% vs. 5 %) and duration of hospitalizations (4 days vs 7 days mean) were significantly higher in the late preterm group. 66% of late preterm infants were transferred to other units for various reasons. When stratified according to gestational age, there were no significant differences in terms of mortality and morbidity among the subgroups. However, the duration of hospitalizations and the costs of babies born at 34 weeks were significantly higher than those of other babies.

Conclusion Late preterm babies have increased rates of mortality and morbidity, including higher costs, hence constitute an important risk group, which need to be followed up regularly. The mortality and morbidity rates did not appear to increase with decreasing gestational age in late preterm babies but the duration of hospitalization and the costs were higher in babies born at 34 weeks.

1219 DIFFERENCES IN MORTALITY/MORBIDITY WITH A COMPLETE COURSE OF ANTENATAL STEROIDS COMPARED TO AN INCOMPLETE/NO COURSE IN EXTREMELY PREMATURE NEONATES

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Background Antenatal steroids have been shown to reduce mortality and morbidity in neonates born less than 29 weeks gestation. Counselling of parents regarding outcomes is generally based on data that includes all neonates whether they have received a complete course of antenatal steroids or not. In the acute setting where delivery is imminent more accurate estimation of outcomes for parents is required.

Aims To determine the differences in survival, short and long term morbidity for those neonates receiving no antenatal steroids or an incomplete course of steroids in comparison to those receiving a complete course.

Methods A retrospective review of prospectively collected data from 10 NICU'S between January 1998 to December 2004.

Results 2549 neonates were included in the study with 319 (12.5%) not given any ante-natal steroids. Hospital mortality was significantly worse without steroids (30% versus 20% $p<0.001$). Those with no steroid coverage were more likely to have NEC (11% vs 7%; $p=0.018$) and Grade 3 or 4 IVH (19% vs 12%; $p=0.001$). In a multivariate model, factors predictive of mortality included: lack of antenatal steroids, male gender, smaller gestation and hypertensive disease of pregnancy.

Long-term data was available for 1473 survivors. There was no difference in long term neurological outcome between those not receiving steroids and those receiving any steroids.

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 (GMDS).

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