

**PO-0392** LATERALITY OF INTRAVENTRICULAR HAEMORRHAGE INFLUENCES NEURODEVELOPMENTAL OUTCOME IN PRETERM INFANTS

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**Background** Intraventricular haemorrhage (IVH) is a significant cause of morbidity and mortality in premature infants. There is a well known correlation between IVH grade and neurodevelopmental outcome. However, to our knowledge, there are only a few studies taking into account the side of the lesion.

**Methods** Data of 178 infants with grade III IVH with and without parenchymal involvement were retrospectively analysed. Diagnosis was based on cerebral ultrasound. 36% (n = 64) of neonates showed equal IVH severity on both brain sides, the remaining 64% (n = 114) had IVH severity which differed between the hemispheres (right > left, n = 53; left > right, n = 61).

Neurodevelopmental outcome was evaluated at 2 years corrected age via Bayley Scales of Infant development II (BSID II). The data was corrected for influence of gestational age by multiple regression analyses.

**Results** Mental Development Index (MDI) and Psychomotor Development Index (PDI) were compared between the groups and infants with a larger lesion within the right hemisphere showed statistically significant lower developmental scores at the age of two years (mean (median) ± SD for 'right > left' vs. 'left > right': MDI 64,2 (54,0) ± 19,6 vs. 78,8 (84,0) ± 17,6 [p = 0,047] and PDI 59,7 (56,5) ± 11,4 vs. 75,9(80,0) ± 17,1 [p = 0,021]).

**Conclusion** Laterality of IVH has a significant influence on neurodevelopmental outcome in preterm infants. Further studies referring to outcome at school age based on more sophisticated imaging techniques are warranted.

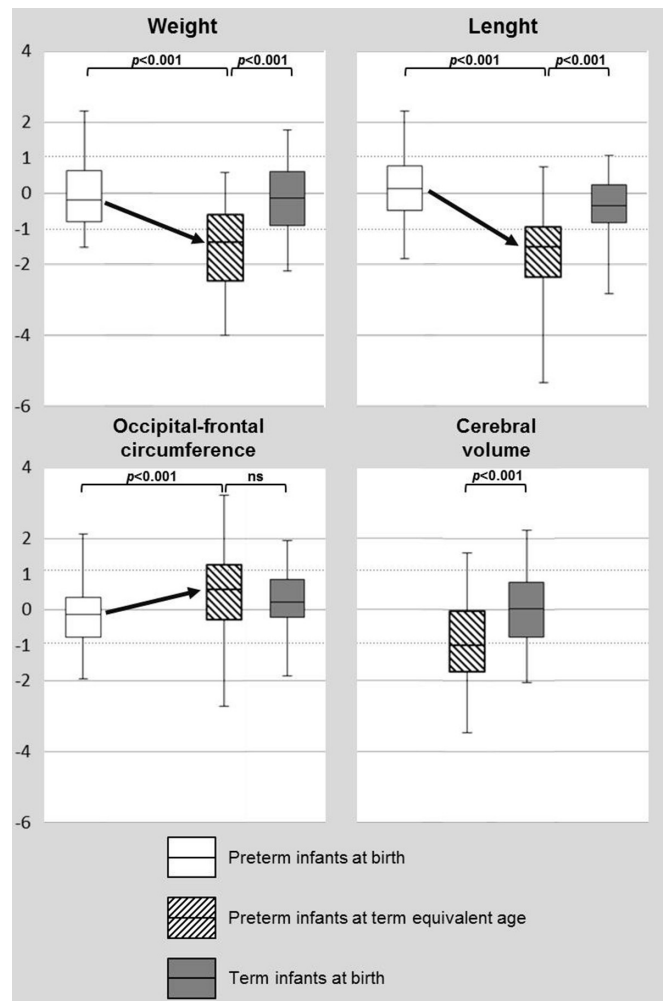
**PO-0393** RECOVERY OF OCCIPITAL-FRONTAL CIRCUMFERENCE Z-SCORE OF HEALTHY VERY PRETERM INFANTS AT TERM-EQUIVALENT AGE DOES NOT REFLECT A BRAIN SPARING EFFECT

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**Background and aims** To evaluate the growth of occipito-frontal circumference (OFC), length and weight, between birth and term equivalent age (TEA) of very preterm infants and to compare to somatometry of term-born control infants.

**Methods** We assessed prospectively a cohort of infants born at ≤32 weeks gestation and term control newborns. Infants with cerebral abnormalities were excluded. Measurements of OFC, length and weight were performed at birth and TEA for preterm and at birth for term infants. Brain volume was estimated by a previously described ultrasonographic model (Graca A, *Early Hum Dev* 2013). Z-scores for somatometric variables were determined based on Fenton 2013 growth charts and z-scores for estimated brain volume were defined in controls. We used



**Abstract PO-0393 Figure 1**

paired samples t-test to compare z-scores between birth and TEA for preterms and independent samples t-test to compare z-scores between preterm infants at TEA and controls.

**Results** We assessed 128 infants (72 preterms and 56 controls). Weight and length z-scores decreased significantly between birth and TEA and were significantly inferior to controls, whereas OFC z-scores increased and were identical at TEA to controls (Figure). Estimated brain volume was nevertheless significantly inferior for preterm infants at TEA.

**Conclusion** Recovery of OFC z-score of healthy very preterm infants at TEA does not reflect a brain sparing effect, since despite OFC growing in a opposite direction than weight and length, estimated brain volume is significantly lower than controls.

**PO-0394** IS ACUTE KIDNEY INJURY RELATED TO WORSE OUTCOMES IN NEWBORNS TREATED WITH HYPOTHERMIA?

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