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HEAD CIRCUMFERENCE AT BIRTH IS NOT SUFFICIENT TO DETECT BRAIN INJURY IN INFANTS WITH CONGENITAL HEART DISEASE

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Background: Congenital heart disease (CHD) is associated with impaired development. Wide spread brain abnormalities can be detected in some infants with CHD before they undergo cardiac surgery. It is not clear if the deranged brain metabolism in utero in this group of infants may result in decreased brain growth resulting in microcephaly at birth.

Aim: to determine if head circumference (OFC) at birth would be a useful measure of possible brain injury in infants with CHD

Methods: Retrospective study of infants born with CHD born in our institution in 2008 and 2009

Results: 68 infants with CHD were assessed. 21 with Hypoplastic left heart syndrome (HLHS) 26 with Tetralogy of Fallot (TOF) and 21 with Transposition of the great arteries (TGA). The mean OFC was 33.4 cm, 32.8 cm, 33.7cm in infants with HLHS, TOF, TGA. OFC below the 3% was present in 9.5% of HLHS, 11.5% of TOF and 9.5% of TGA infants. Out of these infants 50% in the HLHS, 33% in the TOF and 50% in the TGA groups had an OFC centile significant below the centile for birth weight.

Conclusion: OFC alone in infants with CHD is not sufficient to determine infants with brain injury. More detailed evaluation is necessary to determine the infants that have sustained brain injury in utero

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LARGE FOCAL CEREBRAL HAEMATOMAS: NEONATAL PRESENTATION AND OUTCOME

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Background and aims: To evaluate perinatal factors and outcome in term neonates with large focal cerebral haematomas.

Methods: All term neonates seen between 1994-2009 with a neonatal brain MRI and large focal haematomas were included. Lesions were classified by site. Perinatal data and sequential neurodevelopmental outcome at 2,4,>5yrs (neurological exam, Griffiths scales/WPPSI, Movement ABC) were available.

Results: 32 infants were studied: Haematomas were frontal(F) in 10, temporal(T) in 8, parietal(P) in 8, cerebellar(C) in 3 and in deep grey matter (DGM) in 3. Mean GA was 40.1 week, mean birthweight 3.33 kg, median 1.5 min Apgar scores were 7.5 and 9. Eight required major resuscitation at birth. Eight presentation with seizures alone, 14 seizures+other symptoms, 2 HIE (no seizures), 1 postnatal collapse, 3 full fontanelle, 4 apnoeas/bradycardias Outcome: 1 infant died (HIE), 8 are < 2 years, two moved abroad. 2yrs, n=21: 3 cerebral palsy (CP) and developmental delay (1P, 1C, 1T+C), 3 developmental delay without CP (1T, 2DGM) and 14 normal DQ(91-110). 4yrs: n=15; 11 normal; 4 DQ<85 (1T, 1T+C, 1DGM, 1C). No new CP. >5yrs: n=13; 9 normal FSIQ(WPPSI) including 3 with abnormal MABC (2F, 1DGM); 1 child was autistic (normal range DQ at 4yrs, F) two mild/moderate delay (1C, 1DGM), one severely delayed (DGM). One child had febrile seizures and two had late-onset epilepsy.

Conclusions: At each assessment age about 1/3 of children had developmental problems, some were severely affected, mostly those with cerebellar