¹C Llewellyn, ²A Kapetanakis, ¹S Goyal. ¹Electrophysiology; ²Neonatal Medicine, Evelina Children's Hospital Guy's and St Thomas' Hospital NHS Foundation Trust, Kings Health Partners, London, UK

Introduction Therapeutic Hypothermia (TH) is an effective neuroprotective treatment for infants with HIE. EEG remains a valuable tool that can that could assist refining neurocritical care and aid in prognosis. The impact of TH on EEG has not been elucidated.

Aim Identify any differences in EEG characteristics caused by TH in infants with Grade 2 and 3 HIE.

Methods Comparison of EEG characteristics (inter burst interval, EEG grade and prognosis) in infants treated with TH compared to infants treated before TH established as standard treatment.

Results see Table.

Conclusions There are apparent subtle differences in the EEG characteristics of infants receiving TH compared to non cooled infants. The significance of these differences need to be further studied to improve our understanding of the TH effects.

1074 VENTRICULAR INDEX REMAINS STATIC BETWEEN 24 AND 34 WEEKS

doi:10.1136/archdischild-2012-302724.1074

¹R Gnanasakaran, ¹R Shim, ²M Boyle, ³A Tarrant, ³S Ryan, ⁴N McCallion. ¹Department of Paediatrics, RCSI; ²Department of Paediatrics; ³Dept of Radiology, Rotunda Hospital; ⁴Department of Paediatrics, Rotunda Hospital/Royal College of Surgeons in Ireland, Dublin, Ireland

Background Intraventricular hemorrhage (IVH) and Post Hemorrhagic Ventricular Dilation (PVHD) are serious complications in premature infants and are associated with a high risk of disability. These conditions can be diagnosed by measuring the ratio of ventricular size to overall hemisphere width using Ventricular Index (VI), which was designed for use in infants >40 weeks gestation.

Aim To establish Normal Ranges and Median Values for VI.

Method The Ventricular sizes of cranial ultrasounds of infants with a Gestational age at Scan under 34 weeks were assessed using

VI. Ultrasounds with Grade III or IV IVH or PVL were excluded from the study. Ventricular index was measured.

Results From 255 infants, 816 cranial ultrasounds were reviewed. The Normal ranges for LVI were 0–0.69 and RVI were 0.23–0.88. The Median Values for both LVI and RVI are 0.31 overall and there was no significant change with increasing gestational age.

Conclusion The Median Values for VI did not significantly change with Gestational Age at scan, and it is appropriate to use the same reference ranges for gestation across all gestation.

1075 RISK FACTORS FOR POSTHEMORRHAGIC HYDROCEPHALUS IN A NEONATAL INTENSIVE CARE UNIT

doi:10.1136/archdischild-2012-302724.1075

¹F Kulali, ¹N Altuntas, ¹E Kazanci, ¹S Aktas, ¹S Unal, ¹I Hirfanoglu, ¹E Onal, ¹C Turkyilmaz, ¹E Koc, ¹Y Atalay, ¹E Ergenekon, ²K Gucuyener. ¹Pediatrics/Newborn Medicine; ²Pediatrics, Pediatric Neurology, Gazi University Hospital, Ankara, Turkey

Background and Aim Post-hemorrhagic hydrocephalus (PHH) is one of the most serious complications of intraventricular hemorrhage (IVH) in a newborn. Causes are multifactorial including genetical, pre and postnatal complications. Conditions associated with hydrocephalus following IVH were investigated.

Methods Charts of patients admitted to the neonatal intensive care unit (NICU) over last 5 years were investigated retrospectively, newborns with grade 3–4 IVH were analyzed for risk factors in the perinatal and neonatal period. Ones with and without hydrocephalus were compared. Results are expressed as median and range and percentage where required.

Results 24 newborns were diagnosed with IVH, 9 of whom developed hydrocephalus. Most significant risk factors are shown in table 1.

Hypotension, asidosis, were more frequent in the PHH group. GA, BW, Apgar scores, lowest-highest CO₂, Crib score are shown in table 2.

Highest CO₂ in the first 10 days of life was significantly higher in the PHH group (p=0.044).

Abstract 1073 Table 1 EEG Findings

	Non cooled Group	TH group
Total patients	13	16
Interburst Interval <20	43.7%	54%
Patients with HIE 2	7	7
EEG grade	Mild: 14.2% (n=1) Moderate: 71.4% (n=7), Severe: 14.2% (n=1)	Mild: 42.8% (n=3) Moderate: 42.8% (n=3), Severe 14.2% (n=1)
EEG Prognosis	Good: 14.2%, Guarded: 14.2%, Poor: 71.4%	Good: 42.8%, Guarded: 14.2%, Poor: 42.8%
Patients with HIE 3	9	6
EEG grade	Mild: 0% (n=1) Moderate: 11.1% (n=1), Severe 88.9% (n=8), inactive: 0	Mild: 0% (n=1) Moderate: 16.6% (n=1), Severe 16.6% (n=1), inactive: 66.6% (n=4)
EEG Prognosis	Good: 0%, Guarded: 22.2%, Poor: 77.7%	Good: 0%, Guarded: 16.7%, Poor: 83.3%

Abstract 1075 Table 1

	Female (%)	Male (%)	PPV in DR (%)	Asidosis (%)	Hypercarbia (%)	Hypotension (%)	Pneumothorax (%)	Low Plt (%)
PHH (+) n=9	44	56	44	78	78	78	11	66
PHH (-) n=16	31	69	32	37	44	44	25	62

Abstract 1075 Table 2

	GA (w)	BW (g)	Crib Score	1st min Apgar	5th min Apgar	Lowest CO ₂ (mmHg)	Highest CO ₂ (mmHg)
PHH (+) n=9	31 (26–38)	1715 (866–3330)	3 (0–14)	7 (1–9)	9 (6–10)	29 (18–59)	117 (84–187)
PHH (-) n=16	34 (24–40)	1820 (660–4000)	2.5 (0–11)	7 (1–9)	9 (3–10)	28 (16–43)	65 (31–180)
p	0.2	0.44	0.5	0.6	0.8	0.8	0.044