

Clinical or electrical seizures were not present during the first 72 h nor the staging of HIE increased during this period in any of the patients. Mean CSF NSE at 72 h was 26 ng/mL (+/-7.8).

Conclusions Clinical status of infants with mild HIE at 6 h of age does not worsen in the following 72 h. The aEEG traces are consistently normal and subclinical seizures are uncommon.

PO-0449 **CORRELATION BETWEEN AMPLITUDE INTEGRATED EEG (AEEG) AND CLINICAL EVALUATION IN NEWBORN INFANTS WITH HYPOXIC-ISCHAEMIC ENCEPHALOPATHY (HIE)**

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10.1136/archdischild-2014-307384.1090

Background and aims Both clinical staging and aEEG during the first 6 h correlate with outcome in neonates with HIE and are used for inclusion of patients in therapeutic hypothermia (TH) trials and clinical protocols. However, little is known about the correlation between clinical evaluation and aEEG tracing these infants.

Objective To determine the correlation between clinical evaluation and aEEG during the first 6 h of life in HIE infants.

Methods Prospective observational study of HIE infants admitted in a tertiary unit during 2009 to 2011. A single clinician performed clinical exam before cooling indication. Staging of encephalopathy was done according to a validated scoring system. aEEG recording was performed from admission. Pattern classification was ranked from 1 to 5 (with higher scores indicating more suppressed traces).

Results 55 patients were included; 21.9% had mild, 27.3% moderate and 50.9% severe encephalopathy. The mean duration of a EEG recording was 71.52 ± 34.6 h and aEEG started at a mean age of 4.3 ± 3.1 h. We found a correlation between aEEG and the following items: ability to awaken (AA) ($r = 0.72$), spontaneous movements ($r = 0.73$) and posture ($r = 0.74$). No correlation was observed between aEEG and myotatic reflexes ($r = 0.44$) and breathing pattern ($r = 0.37$). AA correlated with HIE stage ($r = 0.85$). Further, HIE stage correlated with the score of aEEG tracing at admission ($r = 0.77$).

Conclusion aEEG tracing correlates well with the degree of altered alertness and with the clinical grading of HIE, supporting the validity of this tool to reflect the severity of brain dysfunction before cooling in infants with HIE.

PO-0450 **CORRELATION BETWEEN EARLY CEREBRAL FUNCTION MONITORING (CFM) AND CSF NEURON-SPECIFIC ENOLASE (NSE) IN NEONATES WITH HYPOXIC ISCHAEMIC ENCEPHALOPATHY (HIE)**

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10.1136/archdischild-2014-307384.1091

Background and aims aEEG predicts outcome in newborns with HIE. CSF-NSE serves as surrogate for HI brain injury. Little is known about the correlation between early aEEG and CSF-NSE within the first 72 h of age.

Abstract PO-0450 Table 1 Clinical characteristics of patients

	Total HIE N=55	Mild HIE (N=12) 21.8%	Moderate HIE (N=15) 27.3%	Severe HIE (N=28) 50.9%
Outborn%	66.1%	16.7%	73.3%	85.7%
Weight (g), mean (SD)	3035(580)	3056(505)	3075(554)	2994(584)
Death	33.9%	0%	6.7%	64.3%

Aim To examine the correlation between early aEEG and CSF-NSE concentrations in neonates with HIE.

Methods Prospective observational study of term infants with HIE admitted at Agrupació Sanitaria Sant Joan de Déu-Clinic from 2009 through 2011. HIE was clinically graded according to a validated system. Patients with significant HIE underwent therapeutic hypothermia. CFM was performed in all cases. Pattern classification was ranked from 1 to 5 (with higher scores indicating more suppressed traces). The worst CFM tracing within the first 6 h and 6 to 12 h was correlated with CSF NSE performed at 12 h and 72 h.

Results Clinical characteristics of patients are summarised in the Table 1.

The degree of neonatal encephalopathy was related with CSF-NSE concentrations at 12 ($r_s = 0.38$) but overall at 72 h of life ($r_s = 0.83$). aEEG traces at 6 h but also at 6–12 h were correlated with CSF-NSE concentration at 12 h ($r_s = 0.544$ and $r_s = 0.529$) and even more significant at 72 h ($r_s = 0.790$ and $r_s = 0.768$, respectively).

Conclusions Our study provides additional support about aEEG monitoring during the first 12 h is a reliable biomarker for early estimates of ongoing brain damage in neonatal HIE.

PO-0451 **DEFECTS OF CENTRAL NERVOUS SYSTEM: A REVIEW**

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10.1136/archdischild-2014-307384.1092

Background and aims Central nervous system (CNS) appears in the 3rd week of development, derived from the ectodermal sheet and from the neural plate. The frequency of CNS abnormalities ranges from 0.8 to 1.3/100 live births, and neural tube defects (NTD) are the most common. They are associated with a variety of genetic syndromes, chromosomal abnormalities and a variety of environmental factors.

Methods Retrospective descriptive study by review of medical records of patients diagnosed with CNS malformations in pregnancies controlled on our hospital between 2004–2012.

Results There were 17,759 births, 515 fetuses with birth defects diagnosed prenatally and 114 were CNS defects. In 109 cases an abortion was performed, and 5 live births (acraneo, Dandy Walker, ventriculomegaly, choroid plexus cyst, and a combination). Among the aborted fetuses 49 cases were diagnosed of (NTD), 21 brain defects, 9 midline brain abnormalities, 2 cerebellum defects, and 28 syndromic or multiple malformations. Women with affected fetuses present a mean age of 31.5 years (range 14–44 years), 45 were primiparous. The mean gestational age at the time of abortion was 17 weeks (range 11–29).

Conclusions Of all fetuses aborted with prenatal diagnosis of a congenital defect, CNS abnormalities corresponded to 22.5%.