

indications were small bowel atresia (16.1%), oesophagus atresia (14.3%), omphalocele (10.7%), meconial ileus (7.1%), imperforate anus (7.1%), gastroschisis (7.1%). Odd ratio for developing cholestasis after surgery was 14.31 (IC95 [6.64-30.85]). Cholestasis resolved in all cases.

Prematurity, SGA, perinatal asphyxia, early neonatal respiratory distress, secondary sepsis, PN > 7 days, time allowed for enteral intakes > 100 kcal/kg/d, IV lipids, proteins and glucids were significantly associated with cholestasis ( $p < 0.05$ ).

In multivariate analysis, cholestasis was associated with SGA (OR 7.64; IC95 [1.47-39.85]).

**Conclusion:** Surgical neonates have a high risk for the development of cholestasis and additional risk factors, such as being SGA, should be considered.

945

**GASTRIC ASPIRATE SHAKE TEST FOR PREDICTING OF SURFACTANT THERAPY IN PREMATURE NEONATES WITH HYALINE MEMBRANE DISEASE**

**R. Iranpour**, M. Mohammadzadeh, M. Mohammadi, B. Soleymani, M. Hajjheydari  
*Isfahan University of Medical Sciences, Isfahan, Iran*

**Background and aims:** In order to rapidly and reliably identify surfactant assessment of neonates with Hyaline Membrane Disease (HMD), the Gastric aspirate shake test (GAST) evaluated in such neonates.

**Methods:** 81 neonates with gestational age less than 34 weeks enrolled to study (51 healthy newborns and 31 newborns with HMD). The clinical characteristics of HMD considered as the gold standard of diagnosis. About 1 ml mixture of normal saline (0.5ml) and stomach contents were collected within 30 minutes of birth (0.5ml) were shaking for 15 seconds into a glass tube. Then 1 ml of 95% ethanol was added and tube agitated for a further 15 seconds. After a waiting time of 15 min, if no bubbles were present, the test was NEGATIVE (very little surfactant). If bubbles were seen around the top of the fluid, the test was INTERMEDIATE (only some surfactant). If bubbles were present right across the surface of the fluid, the test was POSITIVE (adequate amounts of surfactant).

**Results:** All infants who developed HMD had negative or intermediate test results. The GAST had a specificity of 66%, sensitivity of 100%, positive predictive value of 64.5% and negative predictive value of 100% for developing HMD. The sensitivity and specificity of the GAST for prediction of surfactant requirement in HMD patients were 100% and 64.8%, respectively, with a positive and negative predictive value of 62.5% and 100%, respectively.

**Conclusion:** GAST within 0.5 hour of delivery is a rapid and simple procedure for rule out of HMD and surfactant requirement.

946

**DOES SERUM TROPONIN I CORRELATE WITH SEVERITY OF HYPOXIC ISCHAEMIC ENCEPHALOPATHY?**

**A. Shastri**, S.I. Samarasekara, P. Clarke  
*Neonatology, Norfolk and Norwich University Hospital, Norwich, UK*

**Background:** Myocardial dysfunction occurs frequently in babies with perinatal asphyxia. Cardiac Troponin I (cTnI) is a surrogate marker of myocardial dysfunction in adults but there are few data from neonates. We aimed to compare serum cTnI concentrations in asphyxiated neonates with clinical severity of encephalopathy.

**Methods:** Retrospective review of cTnI concentrations in neonates admitted to a tertiary neonatal unit with hypoxic ischaemic encephalopathy (HIE) in the 63-month period January 2005 to March 2010. We compared serum cTnI concentration measured in the first 48 hours postnatal with clinical grade of HIE (Sarnat-Sarnat classification), and also with duration of inotropic support.

**Results:** 42 neonates were admitted with HIE in the study period. Median gestational age and birth weight were 38.8 (37.4 to 40.1) weeks and 3012 (2540 to 3285) grams. The table shows their cTnI concentrations and duration of inotropic support according to HIE grade. Data are median (95% CI)

HIE grade	cTnI concentration, µg/L	Duration of inotropic support, hours
1 (n=7)	0.05 (0.02 - 0.09)	0 (0 - 24)
2 (n=20)	0.12 (0.08- 0.20)	24 (12 - 48)
3 (n=15)	0.67 (0.41-2.06)	48 (40 - 76)

[Troponin I and severity of HIE]

Serum cTnI concentrations and duration of inotropes were significantly greater with increasing severity of HIE ( $p < 0.0001$  and  $p < 0.001$  respectively, Kruskal-Wallis test).

**Conclusion:** Cardiac troponin I concentrations correlate strongly with clinical grade of HIE and with duration of inotropic support in asphyxiated neonates. These data suggest a direct correlation between clinical severity of HIE and the severity of myocardial dysfunction.

947

**EVALUATION OF PAROXYSMAL ACTIVITY ON AEEG AND EEG TRACINGS DURING COOL CAP TREATMENT OF ASPHYXIATED NEWBORNS WITH HIE**

Y. Korzhynskyy<sup>1</sup>, S. Laponog<sup>2</sup>, V. Zdvizhkova<sup>3</sup>

<sup>1</sup>Pediatrics and Neonatology, Danylo Halytsky Lviv National Medical University, Lviv, <sup>2</sup>Neonatal Intensive Care Unit, Zhytomyr Regional Centre of Maternal and Children's Care, Zhytomyr, <sup>3</sup>National Medical Centre of Rehabilitation of Children with Organic CNS Impairment, Kyiv, Ukraine

**Aims:** To evaluate the incidence, type and duration of paroxysmal activity on aEEG and simultaneous EEG activity during therapeutic cranio-cerebral hypothermia in term severely and moderately asphyxiated newborns.

**Methods:** aEEG tracings of 23 newborn infants with severe and moderate HIE undergoing therapeutic cranio-cerebral hypothermia were studied. Single-channel aEEG together with regular EEG were obtained with OLYMPIC GFM 6000 monitor. Bifrontal placement of electrodes was used. An interelectrode impedance was maintained at the level of 5 kOhm. aEEG was monitored continuously from the moment of diagnosis of HIE to the 15-th day of life. All the aEEG tracings during the entire period of aEEG monitoring were reviewed together with regular EEG tracings in zones of concern.

**Results:** There were "saw tooth" patterns or episodes of elevation of the lower margin of band of aEEG activity detected in the tracings of all 23 babies undergoing cool cap treatment with simultaneous paroxysmal activity on EEG. In all the patients these encephalographic changes were treated with phenobarbital. In 14 cases aEEG seizures were observed together with clinically apparent seizures, at least before cooling. In majority of patients aEEG seizures were observed throughout and beyond the period of head cooling despite the phenobarbital treatment.

**Conclusions:** Electroencephalographic seizures are common in asphyxiated newborn undergoing neuroprotective hypothermia, in many cases without clinical manifestations. aEEG monitoring may be helpful in evaluation of CNS condition and indicates that the anticonvulsive treatment probably needs to be enhanced during cranio-cerebral hypothermia.

948

**INFLUENCE OF DIFFERENT MODES OF DELIVERY ON SUCCESSFUL BREASTFEEDING FOR HEALTHY TERM INFANTS**

Y.-K. Lee<sup>1</sup>, H. Minami<sup>1</sup>, S. Nakago<sup>2</sup>

<sup>1</sup>Pediatrics & Neonatology, <sup>2</sup>Obstetrics & Gynecology, Takatsuki General Hospital, Takatsuki, Japan

**Objective:** The objective of this study was to explore how different modes of delivery influenced on successful breastfeeding for healthy term infants.

**Methods:** The subjects studied were 1,167 healthy term infants and their mothers in Takatsuki General Hospital with tertiary perinatal center in 2008. All of them were encouraged with early skin-to-skin contact, rooming-in and breastfeeding on demand after delivery, and continuously supported in breastfeeding after discharge. They were classified into a vaginal delivery (VD) group and a cesarean section (CS) group, which were prospectively surveyed and compared with regard to the number of breastfeeding within 24 hours after birth, weight loss, exclusive breastfeeding rate in hospital, and breastfeeding rate at the hospital discharge and at 3-month-old checkup.

**Results:** Of all 1,167 subjects, 917 and 250 of them belonged to VD group and CS group respectively. Average number of breastfeeding within 24 hours after birth was 8.5 times in VD group and lower 7.9 times in CS group. Average weight loss was larger