

Group 1: BNP value 0 to 500, of 25 babies 11 had at least 1 course of Ibuprofen of which 2 babies PDA closed, 9 needed ligation. Of the 25 babies 14 had contraindications for medical treatment of which 6 babies needed PDA ligation.

Group 2: BNP value of 501 to 1000, of the 4 babies all were treated with Ibuprofen only 2 babies PDA closed and 2 babies PDA needed ligation.

Group 3: BNP value of 1001 to 2000, of the 2 babies all treated with Ibuprofen 1 baby's PDA closed and 1 baby's PDA needed ligation.

Group 4: BNP>2000, of 3 babies 2 were treated with Ibuprofen, PDA not closed needing ligation and 1 baby not treated with PDA closed.

**Conclusion** In our study group 59% (20/34) of babies with PDA needed ligation. BNP level did not predict severity or early referral for PDA ligation in our study group. We need further study with large sample and randomization to support our study conclusion.

#### 1154 SPONTANEOUS CLOSURE OF PATENT DUCTUS ARTERIOSUS IS PRESUMABLE IN VERY LOW BIRTH WEIGHT INFANTS

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**Background and Aims** Emerging evidence suggests, that routine pharmacological or surgical closure of patent ductus arteriosus (PDA) is not beneficial for preterm infants. Informations about natural closure of ductus are lacking. Aim of the study was to evaluate untreated preterm infants with PDA.

**Methods** Retrospective observational study. Very low birth weight infants born during the 18 months period were enrolled. Only babies with severe signs of hemodynamically significant PDA were treated. All patients were followed until closure of PDA (clinically or echocardiographically approved).

**Results** 198 infants with mean birth weight 1113±690 grams and mean gestation age 28.4±7 weeks were eligible for the study. 22 (12%) died before discharge for morbidities directly unrelated to PDA. 13 patients were treated – 6 with ibuprofen and 8 were ligated. One neonate had residual flow through the PDA after ligation. 15 (7.5%) have been discharged with PDA. From them, 8 had spontaneous closure in the first year of corrected age and 1 in the second year. 6 infants have a small, hemodynamically nonsignificant PDA and are in cardiology follow up.

**Conclusions** Routine treatment of PDA should be abandoned. Chance of spontaneous closure is likely during the first year of corrected age. Cardiological and long term neurological follow up is needed for infants with PDA.

#### 1155 SURGICAL LIGATION OF PATENT DUCTUS ARTERIOSUS IN PRETERMS LESS THAN 30 WEEKS GESTATION IN A TERTIARY NEONATAL UNIT

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**Background** Patent ductus arteriosus is inversely related to gestational age. It remains a significant morbidity and challenge to manage in extremely preterm babies. Medical therapy reduces the need for surgical ligation.

**Aim** To audit our management of PDA and the need for surgical ligation.

**Methods** The Badger database was interrogated for babies less than 30+0 weeks gestation who had a PDA. Their management and

outcomes were audited over a 3 year period from 01/04/09 to 31/03/12.

**Results** In the last 3 years, there were 300 babies less than 30+0 weeks gestation who were admitted to our tertiary neonatal unit. PDA was confirmed on echocardiography in 190 (63%) babies. 72 (38%) babies were treated with Indomethacin (62 complete and 10 incomplete course: 5 renal impairment, 3 thrombocytopenia and 2 NEC). 25 (13%) babies had a surgical ligation of their PDA (The median gestational age at birth was 24 weeks and median birth weight was 725 grams). 13 (52%) babies who underwent ligation, received at least one complete course of Indomethacin. Median age at ligation was 30 days of life. There was no surgical morbidity or mortality from the PDA ligation. 67 babies died and 233 babies were discharged home. 25 babies needed home oxygen of which 21 previously had a significant PDA.

**Conclusion** Despite medical therapy, there is a small population of extremely preterm babies who have a recalcitrant PDA that need surgical ligation. Early identification with serial echocardiography and proactive management of these babies might improve their respiratory morbidities.

#### 1156 HYPOXIC PERINATAL CARDIOMYOPATHY-DIAGNOSIS AND EVOLUTION

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**Purpose** To present the main aspects of myocardial injury secondary to perinatal hypoxia.

**Methods/patients** 88 newborns aged 0–14 days, normal birth weight, with perinatal hypoxia (Apgar score 3–7), receiving resuscitation, without major congenital heart diseases. All cases: clinical exam, ECG, chest X-ray (Rx.CT), Doppler echocardiography (ECHO). Most of patients were evaluated and after 6 months.

**Results** The patients had mainly signs of neurological post hypoxic suffering, 8 cases signs of severe heart injury (cardiomegaly, respiratory distress, cyanosis, peripheral hypoperfusion), other cases: systolic murmur (64) and signs of PPHN (8). Chest X-ray: cardiomegaly (32). ECG: severe left ventricle (LV) repolarization disturbances and low voltage of QRS complexes (37), without ischemic changes. ECHO at 2–7 days of life: \*the absence of severe congenital cardiac anomaly; \*permeability of foramen ovalae (100%); mild to severe tricuspid insufficiency, RV and RA dilation (29); sometimes right-left shunt through the FO \*myocardial hypertrophy (42) mainly IVS(29), signs of PPHN(6); increased myocardial performance index (44 cases), the systolic dysfunction (5) and severe LV diastolic dysfunction (45 cases). New evaluation at 6 months showed; reduction of the myocardial hypertrophy and of tricuspid regurgitation, normal LV systolic and diastolic function.

**Conclusions** The perinatal hypoxia can induce a important myocardial injury as hypoxic ischemic myocardopathy or transient post hypoxic hypertrophic cardiomyopathy (62.2% of patients), the signs of cardiovascular suffering missing often. Echo is the main method for diagnosis and follow up of perinatal hypoxic cardiomyopathy and is necessary performed from the first week of life.

#### 1157 A REPORT OF TWO CASES OF GLUCOCORTICOID ASSOCIATED CARDIAC DYSFUNCTION IN NOONAN SYNDROME

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**Background and Aims** To review the potential exacerbating factors of cardiac function in 2 cases of Noonan syndrome.

**Methods** 2 cases of PTPN11 gene mutation confirmed Noonan syndrome selected for review based on clinical course.

### Results

1. Male born at 35+3 weeks with antenatal diagnosis of bilateral pleural effusion. Transferred to The Children's University Hospital on day 10 for management of malrotation; echo revealed structurally normal heart with mild pulmonary hypertension. Day 24 monocytosis and splenomegaly noted. Day 25 echo demonstrated increasing left ventricular hypertrophy (LVH) with normal function. Day 27 diagnosed with Juvenile Myelomonocytic Leukaemia and commenced on treatment with methylprednisolone. Day 32 repeat echo showed severe LVH with near obliteration of the left ventricle. Rate of acceleration queried to be secondary to glucocorticoids. Patient died day 32 secondary to multisystem organ failure.
2. Male born at 37+6 weeks with antenatal diagnosis of right side pleural effusion. Day 1 profound hypotension resistant to multiple inotropes support, chest drain inserted and commenced on inotrope resistant hypotensive dose of hydrocortisone. Echo day 1 moderate biventricular hypertrophy and structurally normal heart. Day 15 echo demonstrated severe left ventricular hypertrophy with significant cardiac compromise. Despite maximum efforts continued to deteriorate and died on day 17.

**Conclusions** Noonan syndrome is an uncommon condition with an association of hypertrophic cardiomyopathy in 20% to 30% of patients. In this case series complications of Noonan syndrome treated with glucocorticoids may have exacerbated cardiac function to an irreversible degree. This should be considered in the management of these patients.

1158

### SYSTOLIC-DIASTOLIC FUNCTION IN CONGESTIVE HEART FAILURE SECONDARY TO CONGENITAL HEART MALFORMATIONS EVALUATED BY CLASSICAL AND TISSUE DOPPLER ECHOCARDIOGRAPHY

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**Background and Aims** Tissue Doppler velocities are relatively independent of ventricular geometry, particularly right ventricular geometry that is predominantly affected in the case of congenital heart disease (CHD).

**Aims** The evaluation of systolic and diastolic function in pediatric patients with congestive heart failure (CHF) secondary to CHD using classical echocardiographic parameters and pulsed tissue Doppler parameters.

**Methods** The study included 27 children diagnosed with CHF secondary to congenital heart malformations. The parameters of systolic and diastolic function were measured by 2D echocardiography, 2D guided M mode, color and pulsed Doppler, as well as by pulsed tissue Doppler at the level of the mitral and tricuspid annulus.

**Results** A relaxation alteration pattern or a pseudonormal pattern of E diastolic velocity compared to the A wave was found (E=A; E>A) in the group of subjects with heart failure. E wave deceleration time (EDT) had significantly increased values in the case of patients with CHF, being correlated with diastolic dysfunction. Left ventricular flow propagation velocity Vp was decreased in patients with heart failure. Associations between the severity of systolic dysfunction and the diastolic dysfunction evaluated by 2D echocardiographic parameters, M mode and Doppler and measured by pulsed tissue Doppler velocities at the mitral and tricuspid annulus were found in pediatric patients diagnosed with congestive heart failure (p<0.05).

**Conclusions** In children with heart failure, some conventional parameters of the diastolic function were maintained within

normal or pseudonormal values, diastolic dysfunction being confirmed in these cases by tissue Doppler measurements.

1159

### LONG TERM GROWTH OF EXTREMELY LOW BIRTH WEIGHT INDIAN INFANTS AT CORRECTED AGE 1 YEAR

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**Background and Aims** In spite of increasing survival of ELBW infants in India there is significant paucity of data on their long term growth. The aim of our study was to assess growth of ELBW infants at corrected age 1 year.

**Methods** Prospective observational study conducted in the follow up clinic of a level III neonatal unit. Forty eight ELBW infants discharged from neonatal intensive care unit were followed for weight, length and Head circumference at corrected age (CA) 1 year and z-scores were calculated.

**Results** The mean (SD) birth weight and gestation were 872±82 g and 29.9±2.3 weeks. At CA 1 year, as per WHO growth charts (2006), growth at < 3<sup>rd</sup> centile was observed in 60.4% infants for weight, 54% for length and 58.3% for HC. Growth was more than 50<sup>th</sup> centile in 6.3% infants for weight, 4.2% for length and 2.1% for HC. Z-scores of 0 and above was recorded in 9% infants for weight and 7% for length.

Twenty eight babies (58%) were SGA. SGA infants were smaller in weight (856±87 g vs 901±66 g, p=0.023), higher in gestation (30.9±1.9 wks vs 28.2±1.8 wks, p=0.000) and discharged earlier (p=0.003) than AGA. There was no difference in growth parameters between SGA and AGA and male and female at CA 1 year.

**Conclusion** ELBW infants had significant growth failure at CA 1 year and intergroup differences between SGA and AGA were not observed.

1160

### EFFECT OF CERVICAL COLONIZATION ON NEONATAL OUTCOME IN HIGH RISK PREGNANCIES: RESULTS FROM A TERTIARY MATERNITY CENTER IN TURKEY

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**Background and aim** To evaluate and compare the morbidity and mortality of neonates born to pregnant women with positive and negative cervical cultures.

**Methods** The demographic and clinical features of mothers included in this study, along with details of the microorganisms isolated on maternal cervical cultures and the number of days between a positive cervical culture and delivery were recorded. Neonates were stratified into two groups based on cervical culture results of their mothers - Group 1, positive cervical culture; Group 2, negative cervical culture.

**Results** A total of 216 women who delivered 242 infants were included in the study. Group 1 consisted of 90 neonates while Group 2 had 152 newborns. Mean levels of the acute phase reactants, CRP and IL-6, obtained 6 hours after delivery were significantly higher in Group 1 compared to Group 2 (p<0.05 for CRP and p<0.001 for IL-6). Although there was no difference between groups in terms of duration of respiratory support, mean duration of hospitalization as well as mortality rate were significantly higher in Group 1 (p<0.001, p<0.05, respectively).

**Conclusions** Women diagnosed with a high-risk pregnancy should be treated with antibiotics immediately after a positive cervical culture result, and delivery should be delayed until the success of