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.

**Background and Aims**

Emerging evidence suggests, that routine pharmacological or surgical closure of patent ductus arteriosus (PDA) is not beneficial for preterm infants. Information 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. 15 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.

**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.
Methods 2 cases of FTPN11 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 mononcytosis 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 methyprednisolone. 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 inotrope 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 a high risk of complications including conduit failure, atrial septal defect, pulmonic valve stenosis, mitral valve incompetence, and right ventricular outflow tract obstruction. Surgical repair is required for conduit failure and severe right ventricular outflow tract obstruction. In the setting of right ventricular compromise, conventional treatment with glucocorticoids may have exacerbated cardiac function and the diastolic dysfunction evaluated by 2D echocardiography.

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.