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THE SIGNIFICANCE OF CARDIAC MURMURS IN DIFFERENT AGE GROUPS

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Introduction: Heart murmurs in childhood are detected at any age. Echocardiography is the gold standard to diagnose or rule out cardiac malformations. As this tool is not always available, these children need a referral to a Paediatric Cardiologist, which involves time and increases the workload of the physicians and causes parental anxiety.

Aim: The aim was to analyze the significance of cardiac murmurs in different age groups with respect to the probability to detect true cardiac malformations.

Methods: Data of patients referred with cardiac murmurs to our murmur screening clinic was collected, separated into different age groups and analyzed. Group 1 consisted children with murmurs during 1st week of life, group 2 between 2 - 8 weeks, group 3 between 8 weeks - 1 year, group 4 beyond 1 year of life.

Result:

N= 148 patients

N=; Murmur still present; Abnormal Echo of those with murmur

Group 1; 48; 46% (22/48); 68% (15/22)

Group 2; 45; 51% (23/45); 57% (13/23)

Group 3; 24; 54% (13/24); 46% (6/31)

Group 4; 31; 87% (27/31); 12% (3/27)

Main abnormalities were pulmonary stenosis, peripheral pulmonary stenosis, ventricular septal defects and atrial septal defects.

Conclusion: Our data showed that with increasing age of the patients the cardiac murmur is more likely to persist but it also showed that the probability to detect an abnormal echocardiographical finding is more likely in the neonatal group of patients. Nevertheless larger studies with more patient numbers are needed to verify our findings.

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IMPACT OF DUCTAL SIZE ON SUCCESSFUL MEDICAL CLOSURE OF PATENT DUCTUS ARTERIOSUS IN PRETERM INFANTS

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Cyclooxygenase inhibitors (CI) are widely accepted treatment for hemodynamically significant persistent ductus arteriosus (HsPDA) of the preterm infant (PI). Failure of medical closure of PDA is associated with more complications.

Objective: Analyze the effect of PDA diameter on medical treatment success in PI.

Methods: retrospective study of very PI (≤ 32 GW) admitted with respiratory distress requiring mechanical ventilation in the first 24 hours of life with a diagnosed HsPDA. Failure of treatment was defined by persistence of HsPDA after complete course of CI treatment.

Results: among 217 PI, 54 patients (25%) were diagnosed with hemodynamically significant PDA. Five patients died before CI treatment and 49 PI were treated. 12 patients (25%) had failed to medical treatment, 4 of them had a surgical ligation, 6 died with a significant PDA and 2 were discharged with a pauci-symptomatic PDA. Mean anterior PDA diameter in the Fail group ($3,1 \text{ mm} \pm 1,1$) was higher than that in the Success group ($2,3 \text{ mm} \pm 1,2$; $p:0,001$). When using an index of PDA diameter/birth weight, a cutoff value of less than $2,8 \text{ mm/kg}$ predicts medical PDA closure in 81% of patients. Other risk factors associated with failure of treatment were low gestational age and postnatal age ≥ 72 hours at initiation of treatment.

Conclusion: In preterm infants with HsPDA, mean anterior PDA diameter reported to the birth weight $> 2,8 \text{ mm/kg}$ predicts failure of medical treatment. Delay of CI treatment and low gestational age are also a great risk factors for failure of medical management of PDA.