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CHEST PAIN IN CHILDREN: COMMON SYMPTOM THAT MAY CONCEAL ORGANIC HEART DISEASE

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Introduction Chest pain is a common symptom in the pediatric population which, contrary to the adults, occurs usually at rest but may conceal severe organic disease. This study prospectively evaluated clinical characteristics and causes of chest pain in children presenting in the emergency department with this chief complaint.

Methods The study included children with chest pain evaluated in the emergency department of a district hospital during the last 2 years. Associated symptoms, family history, physical examination findings, electrocardiogram and laboratory workup (complete blood count, biochemical values and cardiac enzymes where indicated) and electrocardiogram were recorded in all patients.

Results A total of 52 patients (age 4.5–14 yrs, 29 boys) were evaluated. Chest pain was 94% at rest and mostly (73%) acute. Chest pain was found to be idiopathic in 46% and associated with organic causes in the remainder, in whom heart disease was relatively rare at 8%, while association with the musculoskeletal system was found in 12%, the respiratory system in 11% and the gastrointestinal system in 8% of patients. Patients with a history of psychological issues (8%) were evaluated by a child psychiatrist. Laboratory tests were deemed necessary in 40.6% of patients with only 8 patients (15%) having results related to the organic background of chest pain. Electrocardiogram was normal in 43 children (82.7%), with 9 patients (17.3%) showing non-specific abnormalities, such as RBBB, negative T in V1-V3 and respiratory arrhythmia. Echocardiogram by the adult cardiologists was requested in 24 patients (46%), while 14 patients (27%) were referred for paediatric cardiology evaluation. Only 2 patients (3.8%) in this cohort were found to have previously unknown cardiac disease possibly related to the chest pain, myocarditis in one and pulmonary stenosis in a second patient.

Conclusions Chest pain in the paediatric population is mostly idiopathic or associated with noncardiac disorders, but may also be a symptom of serious heart disease that should not be missed. Paediatric history, physical examination, laboratory testing and electrocardiogram can usually diagnose organic causes and paedocardiologic assessment should be recommended in suspicious cases and not used just for reassurance of the primary care physician.

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INCIDENCE AND SPECTRUM OF CONGENITAL HEART DEFECTS AMONG NEONATES IN THE TERTIARY CARE CENTRE OF YAKUTIA

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Introduction Congenital heart disease (CHD) is the largest class of all major congenital anomalies. It occurs in 0.6– 1%

of live births throughout the world. The prevalence of specific defects is known to be associated with race/ethnicity. Asian children are reported to be at higher risk of complex CHDs than non-Asians. Various factors were supposed to be the cause of higher CHD prevalence in individual ethnic groups with genetic, lifestyle, socioeconomic, ecological factors and restricted access to health services being among them. The goal of this study was to reveal the dynamics of incidence and spectrum of CHDs among neonates of different ethnic groups delivered in the tertiary care center of Yakutia in 2001 - 2013.

Methods Spectrum of CHD among neonates examined in the Yakutsk Diagnostic Centre was analyzed retrospectively. Eligibility criteria for the detailed medical evaluation: a CHD in family history or any clinical sign of CHD. Neonates, suspected of having CHD, were further evaluated by pulse oximetry, chest X-ray and echocardiography to ascertain the diagnosis. Information regarding gender, mode of delivery, gestational age, body weight and length at birth, socioeconomic status of the family, family history, ethnicity and place of residence of 724 and 1226 babies, who were examined in 2001 – 2003 and in 2011 - 2013 respectively, were processed using the SPSS-16 package.

Results Of all babies, eligible for the detailed evaluation in both periods, ventricular septal defect was revealed in 6.4%, atrial septal defect - in 4.6%, patent ductus arteriosus - in 2.6%, tetralogy of Fallot - in 1.4%, coarctation of the aorta - in 0.9%, pulmonary atresia - in 0.7%, complete atrioventricular canal - in 0.5% and Ebstein's anomaly - in 0.5%. Comparison of CHD incidence and patterns in 2001 – 2003 and in 2011 – 2013 revealed an almost 2-fold increase in the total number of CHD ($p < 0.01$). Ratio of simple CHD increased from 22.4% to 39.9% ($p < 0.03$) and ratio of complex CHD - from 3% to 8.2% ($p < 0.02$). Data mining didn't reveal associations between the incidence of CHD and indices of socioeconomic status but identified associations with ethnicity and place of residence ($p < 0.05$).

Conclusions Revealed higher incidence of CHD is due to the fact that the study was carried out in a tertiary care unit, which is the only referral hospital in Yakutia. Increased number of CHD reflects rather better availability of cardiac services and higher professional qualification of specialists than a higher incidence of CHD in 2011 - 2013.

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A CASE OF VEIN OF GALEN MALFORMATION WITH ATRIOVENTRICULAR SEPTAL DEFECT

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Background Vein of galen, is a cause of congestive cardiac failure. It can be difficult to diagnose as the clinical picture can mimic the congenital heart defects. Neonates and young infants with vein of galen can present with intractable heart failure.

Objectives Vein of galen can present with features of congestive heart failure. Presence of congenital heart defect can make it difficult to diagnose. Thorough physical examination can help in early diagnosis.

Methods Patient history and examination retrieved from the patient notes and images retrieved from the system.