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 paedecardiologic assessment should be recommended in suspicious cases and not used just for reassurance of the primary care physician.

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.
Abstracts

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Obesity and accompanying risk factors important for the onset of atherosclerosis

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Obesity is one of the significant risk factors in the development of atherosclerosis, the most common metabolic disorder which the world’s health organization classified as an epidemic disease.

Aim: Point to frequency of obesity in children, risk factors significant for the onset of atherosclerosis in obese children and association of these factors.

Methods: 2069 children aged 2–19 were examined. Body mass index (BMI) (Body weight/Body height²) (kg/m²) was calculated. Tables of international standards for BMI of children corresponding to BMI in adults were used for the assessment of nutrition. Obesity is classified with BMI> 30 kg/m². Blood pressure (BP/mmHg), systolic and diastolic was measured. Total cholesterol (TC), high density lipoprotein cholesterol (HDL-C), triglycerides (TG) concentrations were determined. Low density lipoprotein (LDL-C), non-HDL cholesterol (TC-HDL-C) were calculated. 2016 ESC/EAS guidelines for the management and European guidelines for prevention, diagnosis and treatment of high BP in children and adolescents (2010) were used to estimate the results.

Results: There were 10.45% obese and 15.6% overweight children. BP (Systolic, Diastolic) were significantly higher in obese (105.71/65.82) than in normal weight children (94/58.79). In the obese there was a really significant connection between BMI and BP, Systolic (r = 0.625) and diastolic (r = 0.541). TC, LDL-C, TG and non-HDL-C values were significantly higher in obese (4.25; 2.53; 1.13; 3.02 mmol/l) than in normal weight (4.06; 2.31; 0.92; 2.73 mmol/l). HDL-C values were significantly lower (<0.001). The percentage of children with increased values of SBP, DBP, and SBP and DBP was higher in obese children (15.35%; 6.64%; 5.81%) than in normal weight (1.26%; 1.08%; 0.42%).

The percentage of children with lipid and lipoprotein values which are a high risk factor for the development of cardiovascular diseases in adulthood was higher in obese children and also was the percentage of children with more associated values.

Conclusion: Blood pressure values, lipids and lipoproteins values, which are significant risk factors for the onset of atherosclerosis, were higher in obese children. It is necessary to detect obese children on time and apply all preventive measures in its control and elimination. The chosen doctor plays a major role in this. It is necessary to have continuous parents and teachers education about proper child diet and the role of physical activity, smoking and alcoholism prevention. The whole community should also be involved.

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Pathogenetic value of endothelin in predicting the clinical course of cardiomyopathy in children

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Relevance: The study of biochemical changes in cardiovascular diseases is one of the urgent problems of pediatric cardiology. Biochemical markers of myocardial damage include cardiospecific proteins - troponin, endothelin and myoglobin, which provide some assistance in specifying an unfavorable cardiomyopathic prognosis.

Purpose of the study: To study the pathogenetic significance of endothelin in predicting the clinical course of cardiomyopathy in children.

Materials and methods: 54 children with diagnoses of dilated and hypertrophic cardiomyopathy were hospitalized in cardiology departments of the Republican Specialized Scientific and Practical Medical Center of Pediatrics in Tashkent and the Republican Children’s Multidisciplinary Medical Center in Nukus. The age of the examined children ranged from 1 year to 17 years and averaged 7.1 ± 0.7 years. Biochemical methods included the determination of endothelin in the serum by immunofluorescence analysis on an IMAXIZ...