

Heart Disease of Children

Mavlonov Namoz Halimovich

Assistant, Department of Internal disease in family medicine, Bukhara State Medical Institute

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Annotation: Arrhythmia is one of the most common diseases of the cardiovascular system among children and adolescents. They appear in heart failure. Arrhythmia is characterized by changes in the frequency, regularity and sequence of heart contractions. In a broader sense, arrhythmia is any deviation of the heart rhythm from the norm.

Key words: childhood, arrhythmia, conduction disorder.

Often, arrhythmias in children are the result of congenital or acquired diseases of the cardiovascular system. It is very difficult to detect arrhythmias in childhood without instrumental diagnosis, because the child may not pay attention to the discomfort caused by the disease and may not complain. Therefore, it is very important to visit doctors on time and undergo regular examinations.

Arrhythmias in children are divided into two main groups - diseases characterized by an increased heart rate (tachyarrhythmia) and diseases with a rare heart rhythm (bradyarrhythmia).

Manifestation of arrhythmia in a child can have different characteristics. Each age group has its own characteristics.

Arrhythmia in newborns and infants can be manifested by the following symptoms:

- Refusal to eat.
- Slow growth.
- Intermittent sleep.
- Pallor.
- Shortness of breath.

About half of all cases of arrhythmia in school-aged children and adolescents are asymptomatic and are detected during routine medical examinations. In other cases, a sign of arrhythmia may be increased fatigue, intolerance to exercise, pallor, decreased appetite, apathy or, on the contrary, slight agitation.

With a low heart rate, dizziness, pain in the heart area and fainting can occur. Such manifestations require the immediate intervention of specialists and hospitalization of the child.

The causes of arrhythmia in children are divided into several groups:

- **Related to the work of the heart (heart causes).** These include congenital and acquired heart defects, carditis and cardiomyopathies, arterial hypertension, myocarditis, etc. This group also includes the consequences of severe infectious diseases such as tonsillitis, pneumonia, diphtheria.
- **Causes other than the heart.** These include diseases of the central nervous system, brain injuries and tumors, genetic diseases, premature birth, complicated births, etc. Traditionally, this group includes arrhythmia in adolescents, which is a consequence of rapid growth of the body in conditions where the heart and blood vessels do not match the growth of muscles and skeleton.

Psychologists also point out possible problems in the family if parents are overly demanding of the child and use other children or even adults as an example.

Purpose. Analysis of the prevalence of arrhythmias in different age groups child population.

Materials and methods. Children without **organic** pathology were examined hearts (81 people, 42 boys and 39 girls), from 4 to 16 years old, mean and t age 10.8 ± 1.0 years, in children's polyclinic No. 4. Research includes studying the anamnesis and the clinical presentation of possible arrhythmias; conducting instrumental studies, i.e. electrocardiography (ECG)

In 12 standard directions, using conventional echocardiography two-dimensional, one-dimensional, Doppler mode using color Doppler map, 24-hour Holter ECG monitoring.

Results. When performing a standard ECG and every day ECG monitoring According to Holter, patients of this category have been identified: sinus bradycardia 31 (38.3%) children, sinus tachycardia - 13 (16.0%), ventricular extrasystole - 38 (46.9%), the phenomenon of PQ interval shortening - 17 (20.9%), ventricular pre-excitation event - in 3 (3.7%), supraventricular tachycardia in 12 (14.8%) children.

Sinus bradycardia was recorded more often at 11-16 years old (53.1%), at 2 years old. cases (12.5%) were manifestations of sick sinus syndrome. In children with sinus bradycardia, a decrease in the variability of the heart rate, a predominance of bradyarrhythmia at night and a decrease in the circadian index by 1.15 ± 0.03 ($p < 0.05$) according to the age norm were noted. According to echocardiography increase global contractility and vascular volume ($p < 0.05$). changes in the size of heart chambers were observed in children with sinus bradycardia.

Ventricular extrasystole was more often observed in children aged 11-16 years without signs of organic heart pathology according to echocardiography and medical history and was classified as "idiopathic". In 3 (7.9%) children, often (more than 20%) per day. the total number of complexes), with which antiarrhythmic therapy should be prescribed to prevent arrhythmogenic cardiomyopathy. Atrioventricular orthodromic reciprocal tachycardia was observed in 5 cases (41.6%). supraventricular tachycardia) patients, 4 of them had reduced PQ intermediate and 1 ventricle with the phenomenon of pre-excitation.

It should be noted that the described rhythm disturbances were observed frequently in the older age category of children (from 11 to 16 years old).

Summary. Disruption of the rhythm occurs at different ages of childhood, often in the pre-pubertal period, which can be its manifestation. Immuno-biological changes of the mature organism and require dynamic monitoring.

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