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CLINICAL COURSE OF CONGENITAL HEART DEFECTS IN NEWBORNS WHO HAVE EXPERIENCED INTRAUTERINE HYPOXIA

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Summary: This article presents the results of an analysis of the characteristics of the course of congenital heart disease in newborns who have suffered intrauterine hypoxia. It has been established that in 100% of children with organic heart pathology and in 95% of children with the syndrome of maladaptation of the cardiovascular system, the presence of perinatal infection is detected in the maternal history, which is clinically manifested by signs of persistent pulmonary hypertension and the functioning of fetal communications, fluid retention, hepatomegaly, and a decrease in diastolic arterial blood pressure. pressure. In the first year of life, cases of acute respiratory viral infections and pneumonia are often recorded.
Key words: *congenital heart defects, clinical course, perinatal infections, perinatal hypoxia.*

Congenital heart defects (CHD) are a fairly common pathology of the cardiovascular system. Anomalies of the anatomical development of the heart and large vessels usually form in the 2-8th week of intrauterine development as a result of disturbances in embryonic morphogenesis and can be caused by both hereditary (gene, chromosomal, genomic, zygotic mutations) and environmental factors affecting the developing embryo. The specific causes of congenital heart disease are not known. They are often associated with chromosomal abnormalities, detected by karyotyping in more than 1/3 of patients with congenital heart disease. Most often this is trisomy on chromosomes 21, 18 and 13. Defects of the genetic code and disorders of embryogenesis can also be acquired - the impact on the fetus and the mother's body of certain unfavorable factors (radiation, alcoholism, drug addiction), endocrine diseases (diabetes mellitus, thyrotoxicosis), viral and other infections suffered in the first trimester of pregnancy (rubella, influenza, hepatitis B), taking medications (lithium drugs, warfarin, thalidamide, antimetabolites, anticonvulsants). In addition to etiological ones, risk factors for having a child with congenital heart disease are identified. These include: maternal age; toxicosis and threat of termination of the first trimester of pregnancy; history of stillbirths; the presence of children with congenital malformations in close relatives. CHDs are observed with an average frequency of 5-8 per 1000 live births. In recent years, there has been an increase in this indicator, probably due to the use of more advanced methods of functional diagnostics and the increased interest in this problem of doctors of other specialties. Thus, in the USA, up to 30-35 thousand, in Russia – 20-22 thousand children with congenital heart disease are born annually. There are more than 90 variants of congenital heart disease and many combinations of them. The mortality rate of children with congenital heart disease remains very high, despite the improvement in cardiac surgical care for this category of patients. According to world

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statistics, about 40-50% die in the 1st year of life, of which 50% of children with congenital heart disease die during the first month of life.

Purpose of the study: to study the features of the course of congenital heart disease in newborns who suffered intrauterine hypoxia**. Materials and methods.** The examination was carried out on the basis of the Bukhara Regional Multidisciplinary Center. The condition of 90 children was studied, divided into 3 subgroups**.** Group 1 consisted of 40 children with congenital heart disease (28 newborns and 12 infants under 1 year old) who had suffered intrauterine hypoxia. Group 2 included 20 children without organic heart pathology (15 newborns and 5 children under 1 year old), who also suffered intrauterine hypoxia. 20 children (10 newborns and 10 children aged 1 to 2 years) were relatively healthy and constituted group 3 (control). The course of pregnancy and childbirth was assessed. **Results and discussions.** The results of the clinical and epidemiological analysis showed that in the maternal history the presence of risk indicators for congenital viral infection in 100% of children with organic heart pathology and in 95% of children with maladaptation syndrome of the cardiovascular system (DM CVS). In the maternal history of healthy children in the control group, the above indicators of the risk of congenital viral infections were not identified. Frequent causative agents of intrauterine cardiac pathology are Coxsackie enteroviruses, rubella, and enteroviruses that are transmitted vertically to the fetus. Clinically, in the 1st subgroup (23%) it was manifested by hemolytic anemia, hepatosplenomegaly, intrauterine malnutrition, prolonged jaundice, symptoms of central nervous system damage, which may indicate the presence of an intrauterine viral infection if the mother had it. In 32 (80%) newborns, along with congenital heart disease, there were signs of persistent pulmonary hypertension and the functioning of fetal communications, cardiac and respiratory failure associated with both the underlying disease and the influence of chronic hepatitis. 28 (77%) newborns of group 2 and 1 (5%) child of the control group also had signs of persistent pulmonary hypertension.

18 (42%) newborns of group 1 and 7 (35%) children of group 2 had hepatomegaly. A decrease in diastolic blood pressure was observed in all 3 groups. In 19 (95%) children of the 2nd group, a diagnosis was made - posthypoxic syndrome of disadaptation of the cardiovascular system (DM CVS). Clinical manifestations of transient myocardial dysfunction in CVD diabetes in these children were nonspecific. The following symptoms were noted: pallor or marbling of the skin; cyanosis or acrocyanosis, perioral cyanosis; tachypnea; muffled or dull heart sounds, expanding the boundaries of relative cardiac dullness; systolic murmur of mitral or tricuspid valve insufficiency; disturbances of heart rhythm and conduction. The greatest severity of clinical symptoms is observed in the neonatal period, and may be accompanied by the development of symptoms of heart failure (either total heart failure or left ventricular failure). The results of clinical follow-up observation of children made it possible to record frequent ARVI in the first year of life, incl. with a complicated course in 52.8% of

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children with congenital heart disease and in 60% of children with CVD.

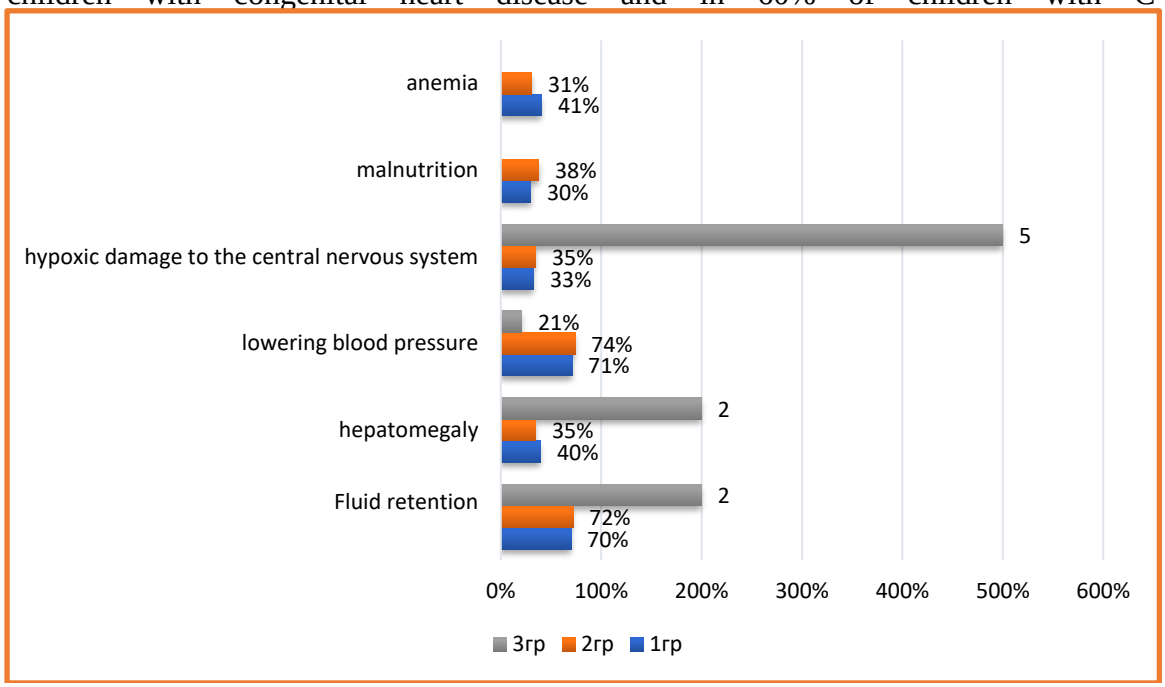

Figure 1. Clinical manifestations in groups.

In the formation of organic heart pathology, the leading role is given to genetic factors. The course of the adaptation period of newborns, combined heart pathology, as well as the long course of concomitant somatic pathology may depend on viral infection. The teratogenic effect of viruses in the earliest stages of intrauterine development leads to the formation of congenital heart disease, after 12 weeks of gestation - to the formation of fetopathies, and at the end of pregnancy - to the development of post-hypoxic heart damage.

Conclusion: Thus, in 100% of children with organic heart pathology and in 95% of children with maladaptation syndrome of the cardiovascular system, a maternal history reveals the presence of perinatal infection, which is clinically manifested by signs of persistent pulmonary hypertension and the functioning of fetal communications, fluid retention, hepatomegaly, decrease in diastolic blood pressure. In the first year of life, cases of acute respiratory viral infections and pneumonia are often recorded**.**

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