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CONGENITAL HEART DEFECTS

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Abstract
This article is about congenital heart flaws. Congenital heart flaws are the result of incorrect formation of heart and large blood vessels in the early stages of fetal development. The article information about genetic and external factors that cause these diseases, their emergence, and the various accessiolas of chromosoma anomalies and pregnancy (viral infections, malicious habits, mother chronic diseases) given. It is also explained in detail about the effects of congenital heartvisions, their effect on the body, clinical forms, and most common forms, aortic stench, etc.. The article is the importance of timely diagnosis and treatment of these diseases and the need for prenatal preventive measures.

Keywords: Congenital heart flaws, cardiever anomalies, genetic factors, cyanical heart flaws, associated heart flaws.

INTRODUCTION

Congenital heart defects are a group of diseases that occur during the early stages of fetal development as a result of improper formation of the heart or large blood vessels that exit the heart. These diseases are structural abnormalities of the heart that interfere with the proper functioning of the circulatory system. Congenital heart defects are the most common of all congenital anomalies and occur in approximately 8-10 out of every 1,000 newborns. They can manifest in various clinical manifestations, depending on their severity. In some cases, congenital heart defects may not pose a significant threat to the life of the child, but severe forms require urgent surgical intervention. If timely treatment is not carried out, heart failure, pulmonary hypertension, developmental delay and other serious complications may occur. Therefore, it is important to pay special attention to the mother's health during pregnancy, undergo the necessary prenatal examinations and follow the doctor's recommendations.

The occurrence of congenital heart defects is associated with many reasons. Genetic factors play an important role in the development of these diseases. Some heart defects are hereditary and are passed down from generation to generation. Especially if there are people with heart defects in the family, the risk of this disease increases for future generations. In addition, chromosomal abnormalities can also be associated with congenital heart defects. Genetic diseases such as Down syndrome, Turner syndrome, DiGeorge syndrome can cause improper development of the heart and blood vessels. For example, more than 50 percent of children with Down syndrome have various heart defects. Girls with Turner syndrome may have narrowing of the aorta and impaired development of heart valves.

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External factors also play an important role in the development of congenital heart defects. Viral infections of the mother in the first three months of pregnancy, especially the rubella virus, can lead to abnormalities in the development of the heart. Also, during pregnancy, the mother's consumption of alcohol, smoking, or taking certain medications can cause heart defects. In some cases, chronic diseases of the mother, such as diabetes, phenylketonuria, and cardiovascular disease, can negatively affect the structure of the fetal heart.

Congenital heart defects are divided into cyanotic and acyanotic types. Cyanotic heart defects are caused by oxygen deficiency and are manifested by bluish (cyanotic) skin and mucous membranes in children. One of the most common cyanotic heart defects is tetralogy of Fallot. This disease is characterized by a hole in the wall between the ventricles of the heart, narrowing of the pulmonary artery, malposition of the aorta, and thickening of the wall of the right ventricle. In the case of malposition (transposition) of the great arteries, the blood vessels leaving the heart are incorrectly connected, resulting in oxygen deficiency. Truncus arteriosus occurs as a result of the failure of the great arteries leaving the heart to separate. In tricuspid atresia, the valve between the right atrium and the right ventricle is underdeveloped, causing circulatory disorders.

Atypical congenital heart defects are not associated with oxygen deprivation, but they do cause problems with the heart and circulatory system. These include a hole in the wall between the ventricles of the heart (ventricular septal defect), a defect in the wall between the chambers of the heart (atrial septal defect), and a patent ductus arteriosus that should close after birth. Aortic stenosis is a narrowing of the heart valves, which makes it difficult for blood to flow. Coarctation of the aorta causes the heart to work too hard as a result of the narrowing of the aorta.

Modern diagnostic methods play an important role in the detection of congenital heart defects. Prenatal echocardiography helps to detect heart abnormalities at an early stage during pregnancy. Electrocardiography (ECG), echocardiography, X-ray examinations, and pulse oximetry are used to assess heart function in newborns. In some complex cases, more in-depth examinations such as cardiac catheterization and MRI are also required.

Treatment for congenital heart defects depends on the type and severity of the condition. In mild cases, medication may be sufficient. Diuretics and heart-pumping drugs are used to reduce heart failure. Minimally invasive procedures, such as cardiac catheterization, can close holes in the heart or widen narrowed vessels. However, many congenital heart defects require surgery to correct them. Open-heart surgery can correct abnormalities in the heart's structure, restore blood flow, and restore normal heart function. In some cases, more complex surgeries, such as heart transplantation, may be performed. Children with congenital heart defects require ongoing medical care and rehabilitation. Thanks to long-term preventive measures and medical advances, many children born with heart defects can live healthy and active lives. Prenatal diagnosis, a healthy lifestyle, and adherence to medical advice are important in preventing these diseases.

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