TETRALOGY OF FALLOT -CAUSES AND MORPHOLOGY

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Abstract: *Tetralogy of Fallot is a rare heart condition that is present at birth. That means it's a congenital heart defect. A baby born with the condition has four different heart problems. These heart problems affect the structure of the heart. The condition causes altered blood flow through the heart and to the rest of the body. Babies with tetralogy of Fallot often have blue or gray skin color due to low oxygen levels.*

Key words: *tetralogy, physical, stenosis, valvular, subvalvular, pulmonary trunk, aorta.*

Tetralogy of Fallot blue heart powder. Tetralogy of Fallot consists of a violation of hemodynamics, a decrease in blood flow to the lungs and the transfer of venous blood from the right ventricle to the aorta. It includes four anomalies described by the French physician Etienne-Louis Arthur Fallot in 1888.

• Right ventricular outflow tract stenosis (valvular, subvalvular, pulmonary trunk and/or pulmonary artery stenosis or a combination thereof);

• Upper (subaortal) defect of the interventricular septum;

• Dextraposition of the aorta (shifting to the right);

Right ventricular hypertrophy.

Complete information on Tetralogy of Fallot. Tetralogy of Fallot is formed during the 2-8th week of embryonic development as a result of a disturbance in the process of cardiogenesis. The mother experiences infectious diseases (measles, scarlet fever, rubella) in the early stages of pregnancy; taking drugs (sleeping pills, sedatives, hormones, etc.), alcohol and narcotics; Harmful production factors can lead to the development of defects. A genetic factor also plays a role in the development of congenital heart disease. Tetrad of Fallot is often seen in children with Cornelia de Lange syndrome, which includes oligophrenia and multiple developmental abnormalities.

The tetralogy of Fallot is triggered by incorrect rotation of the arterial cone (counter-clockwise), which causes the aortic valve to shift to the right relative to the pulmonary valve. In this case, the aorta is located on the interventricular septum. Incorrect positioning of the aorta leads to displacement of the pulmonary trunk, which is slightly elongated and narrowed. The rotation of the arterial cone prevents its barrier from connecting with the interventricular barrier, as a result of which the CA is formed and the right ventricle expands.

Four anatomical components:

Ventriculoseptal defect - ventricular septal defect (VSD) - unites the right and left parts of the heart. QATN is always large and non-restrictive in tetrad of Fallot. As a rule, this is perimembranous CAD, muscular CAD or supraarterial CAD.

Obstruction of the right ventricular outflow tract occurs due to one or a combination of the following anatomical components. These include infundibular (subvalvular) stenosis of the right ventricular outflow tract, pulmonary artery stenosis, obstruction due to hypertrophied myocardium of the right ventricle, hypoplasia of the pulmonary artery core and/or branches.

Dextraposition of the aorta - the aorta is partially displaced from the right ventricle or the blood flow in it remains dominant due to the activity of the left ventricle.

Right ventricular hypertrophy — hypertrophy of the right ventricular muscle component develops with age.

Tetrad of Fallot can be associated with pulmonary artery atresia, absence of pulmonary artery valve plates, atrioventicular septal defect, coronary artery defect.

ASSOCIATION WITH CHROMOSOMAL ANOMALIES

- 47,XX/XY+13 (Patau syndrome);
- 47,XX/XY+18 (Edwards syndrome);
- 47,XX/XY+21 (Down syndrome).

According to the nature of obstruction of the outflow tract of the right ventricle, anatomical types of tetrad of Fallot are divided into four: embryological, hypertrophic, tubular and multi-component.

Embryological. Obstruction is caused by the forward and left and/or low position of the conical barrier.

Hypertrophic. Obstruction is formed due to forward and left and/or low location of the cone barrier, as well as significant hypertrophy of its proximal segment.

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