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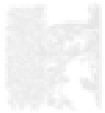
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CLINICAL AND INSTRUMENTAL PECULIARITIES OF THE POSTOPERATIVE PERIOD IN CHILDREN WITH TETRALOGY OF FALLOT

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Abstract. The article presents the results of an examination of 20 patients with tetralogy of Fallot who underwent surgery for the correction of the defect. The research results showed that in children with TF, the postoperative period proceeds with various complications, the course of which directly depends on the severity of the defect, the volume, complexity, duration of surgery, as well as the presence of concomitant diseases in the form of hypoxic-ischemic encephalopathy and eating disorders.

Key words: Tetralogy of Fallot, postoperative complications, course features

Relevance. (TOF) is diagnosed in 8-13% of all patients with congenital heart disease [1,3]. Among malformations requiring surgical treatment in early childhood, Fallo's tetrad (FT) accounts for 15%. The incidence in newborns varies from 4% to 7%. The average life expectancy of patients with FT is 12-13 years and depends on the degree of pulmonary artery stenosis. Mortality during the first year of life is 25%, by the age of 3 years - 40%, by the age of 10 years - 70%. Typically, severe unoperated patients die from thromboembolism in the brain vessels with the formation of abscesses, heart failure and infectious endocarditis. Considering the current results on elimination of this malformation, the majority of patients will undergo surgery and reach adulthood [1, 2, 6, 9].

Despite significant achievements of cardiovascular surgery in the radical correction of FT, the issues of studying the development of postoperative complications and the development of rehabilitation methods for these children still remain relevant, since the prevention of complications after successfully performed FT correction directly depends on the immunity status, the presence of concomitant diseases and the quality of care for these patients [4, 5, 8].

Based on the above, the study of the peculiarities of the postoperative period course in children with FT is urgent.

Objective: to study clinical and instrumental peculiarities of the course of postoperative period in children with FT.

Materials and methods.

We examined 20 patients with FT hospitalized in the department of cardiorheumatology and cardiosurgery at the clinic of Tashkent pediatric medical institute, Republican Children's Multidisciplinary Medical Center in the postoperative period. All patients underwent clinical-anamnestic, laboratory and instrumental investigations (chest X-ray, ECG and Echo).

Results of the study.

Analysis of the findings showed that the postoperative period in children with FT is characterized by the presence of various complications.

The chief complaints on admission were fever (25%), shortness of breath (95%), cough (95%), lividity of lips and fingertips weakness (95%), lethargy (95%), restlessness (95%), and rapid fatigue (100%). Dyspnea-cyanotic attacks occurred more frequently in children with a history of birth trauma or with a hypertensive-hydrocephalic syndrome and were characterized by an abrupt worsening of condition with forced positioning.

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The study of the obstetric history of the mothers of children with TF showed that most children were born from 1-2 pregnancies (90%). The course of pregnancy in 95% of the mothers was aggravated by pre-eclampsia and anemia of varying severity. Most of the women had a respiratory viral infection (65%). 75% of children with TF were born asphyxiated.

The severity of clinical manifestations of the malformation depended on the pre-morbid background of the child. According to our data, 40% of children with FT showed hypoxic-ischemic encephalopathy in the form of hypertension syndrome, hyperexcitability syndrome, seizure and hydrocephalus syndromes. 70% of children suffered from grade I-II anemia. From the first days of life, children suffered from malnutrition and retarded physical development (45%).

The study of anamnestic data of children revealed a high percentage of morbidity in children. Thus, by the time of surgical correction, almost all children with FT had frequent recurrent respiratory diseases in the form of VRI, bronchitis, and pneumonia, which allowed us to classify them as frequently ill children.

Clinically, all patients had a typical picture of malformation manifested as cyanosis, intensifying with crying and child restlessness (75%), dyspnea (95%), tachycardia (45%), widening of the borders of relative cardiac dullness. Frequent symptoms of malformation in older children were thickening and changes in the shape of "watch glasses" nails and "drumstick" nail phalanges (85%), chest deformity in 25% of children (heart hump). The severity of the condition was due to frequent respiratory infections, retarded physical development and phenomena of heart failure.

Percussionly, in children with FT the boundaries of relative cardiac dullness were dilated on both sides, more to the right, the apical thrust was intensified and pervasive. Systolic tremor was palpated in the 3rd-4th intercostal space. On auscultation in children with FT a coarse systolic murmur was heard over the heart area with maximum in 3-4 intercostal space on the left side of the sternum, weakening of II tone over the pulmonary artery.

The electrocardiogram recorded pronounced tachycardia, signs of right ventricular hypertrophy (75%), both ventricles (25%), metabolic changes of myocardium.

The radiological picture was characterized by cardiomegaly, due to enlargement of the right ventricle. Other radiological signs were pulmonary artery retreatment and impoverishment of the pulmonary pattern.

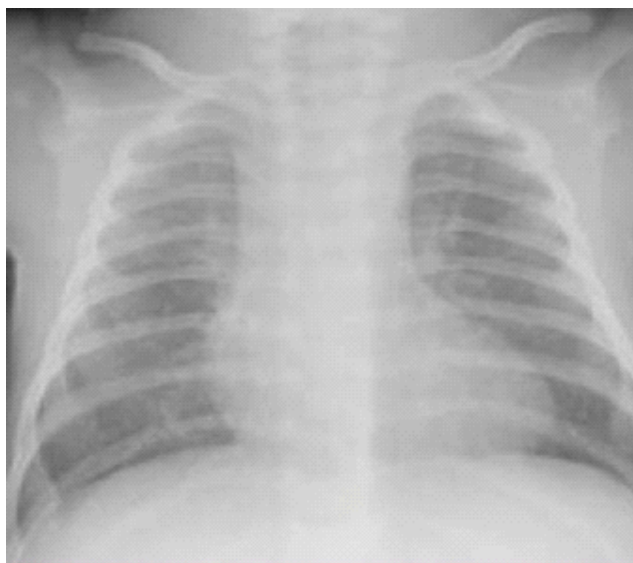


Fig.1. Chest radiograph of patient L., 3 years old. Fallo's tetrad. A segment of the pulmonary artery trunk is sunken. The apex is elevated due to RV hypertrophy.

Echo revealed pulmonary artery stenosis, large VSD, mitral-aortic extension and rightward displacement of the aorta.

The study of laboratory data showed that leukocytosis and lymphopenia predominated in blood tests. Almost all children had degree II circulatory disorders (DC).

The course of the postoperative period was characterized by various complications. They manifested as postoperative pneumonia (20%), postcardiac syndrome (15%), rhythm disturbances (25%), acute heart failure (5%) and bacterial endocarditis (5%) (Fig. 2).

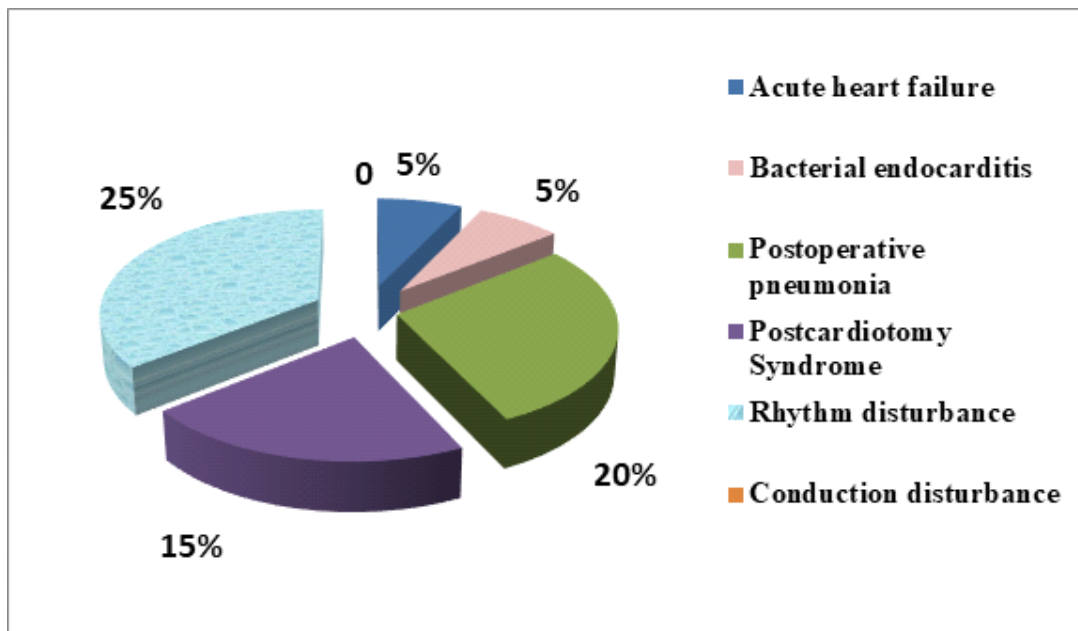


Fig.2. Structure of postoperative complications in children with FT.

According to ECG monitoring in the postoperative period, ventricular arrhythmias occurred in children with Fallo's Tetrad, which accounted for 60% of all rhythm disturbances. Atrial rhythm disturbances were registered in 20% of cases and AV nodal tachycardia in 25% of cases. Echo revealed the following changes: right heart dilatation.

The occurrence of these complications depended on the nature as well as the extensiveness, duration of surgical intervention, premorbid background of the body and age of children. The occurrence of pneumonia and postcardiac syndrome in this period is also facilitated by complications directly related and caused by the surgical trauma itself.



Fig.3. Ellectrocardiogram of child K., 13 years old. Fallo's tetrad. Accelerated AB rhythm HR - 100 bpm. Normal EOS. Complete blockade of the right Giss bundle leg. Left ventricular extrasystole. hypertrophy of both ventricles.

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Clinical manifestations were characterized by increased body temperature and worsened physical findings (percussion sound blunting, moist rales with crepitations. According to literature data, impaired drainage function of bronchi creating favorable conditions for infection development, congestion in pulmonary artery system, decreased immune protective forces of the organism are of great importance for pneumonia development in postoperative period.

Conclusions. Thus, in children with TF the postoperative period proceeds with various complications, the course of which depends directly on the severity of the defect, the volume, complexity, duration of surgical intervention, as well as the presence of concomitant diseases such as hypoxic-ischemic encephalopathy and feeding disorders.

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