

**CLINICAL AND METHODOLOGICAL BASIS OF HEMODYNAMIC DISORDERS AND PEDIATRIC DIAGNOSTICS IN CONGENITAL HEART DEFECTS**

***Rakhimova Mashhura Shahobiddinovna***

*Navoi State University , Medicine faculty student*

*Email: rakhimovamashhura05@gmail.com*

***Turdiyev Shuhrat Berdiyevich***

*Navoi State University, Medicine Faculty,*

*General medical sciences department associate professor*

**Abstract:** This scientific article presents a clinical-methodological analysis of congenital heart defects (CHDs), focusing on hemodynamic disorders in Tetralogy of Fallot, ventricular septal defect (VSD), and atrial septal defect (ASD). Based on the principles of propedeutic pediatrics, the work explains the mechanisms of left-to-right and right-to-left shunts, the role of teratogenic and genetic factors in antenatal morphogenesis, and the diagnostic value of echocardiography as the “gold standard”. The article emphasizes the pediatrician’s role in early detection during infancy. Key pathophysiological changes – cardiomegaly, “drumstick” fingers, and pathological murmurs – are discussed in detail.

**Keywords:** congenital heart defects, Tetralogy of Fallot, VSD, hemodynamics, echocardiography, pediatric cardiology, cyanosis.

## **1. INTRODUCTION**

Birth heart defects (TYN) neonatal and infantile in the era death and disability main from the reasons one every 1000 alive born in 8–10 babies [1, p. 45; 2, p. 112] . This anatomical defects heart or large of the veins uterus inside development during formation violation as a result to the body comes [3, p. 78]. Pediatrics in the propaedeutics TYN early in stages detection – on auscultation pathological murmurs , cyanosis , cardiomegaly differentiate – future doctor for important from competencies is [4, p. 203]. This in the article clinical-methodical approach based on tetralogy of Fallot , interventricular septal defect (IVS) and interdepartmental hemodynamics of defects (BATN) mechanisms analysis will be done .

## **2.LITERATURE REVIEW**

Read more Studies have shown that the etiology of TYN It is considered polyetiological . Chromosome anomalies (Down, Patau, Turner syndromes ) in 10-15% of cases organization if it does , the main share of teratogenic factors right comes : pregnancy first trimester measles (rubella), alcohol , tobacco , anticonvulsants [5, p. 301; 6, p. 88]. Mazurin and Vorontsov classification according to TYN “ white ” (

without cyanosis , from the left shunt to the right ) and “ blue ” ( cyanotic , right - sided shunt to the left ) types [ 1 , p. 47] .

Tetralogy of Fallot four component own inside gets : COCK, lungs stenosis of the aorta dextraposition and right ventricle hypertrophy [7, p. 154]. QATN most wide widespread ( up to 30 % ) , small in defects from the left right shunt , large in defects and Eisenmenger syndrome take goes [3, p. 82; 8, p. 67]. In BATN and blood compartments at the level interferes , lungs hypervolemia Echocardiography ( EchoKG ) is a modern “ gold standard” standard ” [9, p. 412] .

### **3.DISCUSSION**

Hemodynamic disorders defect type directly related . White kind of In defects (QATN, BATN, OAY) , blood flows from the left ventricle right towards is thrown , as a result lungs blood rotation hypervolemia to the body Clinically , the child is pale , short of breath. contraction , tachypnea , tachycardia , time passing with " heart" " heart murmur " (gibus cardiacus ) is formed [2, p. 115; 4, p. 206]. On auscultation for QATN bed 3-4 ribs on the left edge of the bone between rough systolic noise is pathognomonic [10, p. 89].

Blue typical in defects ( tetrad of Fallot , transposition ) from the right arterial blood due to left shunt venous blood added , diffuse cyanosis develops . In tetralogy of Fallot Hypoxemic “ attacks ” – the child is calm in case suddenly blue , breathless shrink , lose consciousness loss – dangerous is considered chronic . hypoxia as a result finger phalanges " drum " "sticks " and quotes “ clock window " shape takes [7, p. 158].

Percussion and palpation heart of the borders It is determined by the enlargement of the heart ( cardiomegaly ) . In tetralogy of Fallot, the heart appears “ shoe-shaped ” on radiographs. shadow , in QATN and lungs veins increased seen [5, p. 305]. On the ECG right or left ventricle hypertrophy record ExoKG – defect clear anatomical localization , size , shunt direction determiner mandatory method [9, p. 415].

### **4.RESULTS**

Based on the analysis following to the results achieved:

1. It was a hard one. in children physical from development behind stay ( hypotrophy ) and recurring bronchopneumonia in 78% of cases is observed .
2. In the tetralogy of Fallot since birth in the next 1-6 months progressive cyanosis and the frequency of “ attacks ” is 65% organization will reach .
3. ExoKG's The sensitivity reaches 96-99% for TYN , which to radiography relatively much high (72%) [9, p. 418].
4. "Heart murmur " ( chest crack) deformation ) long term hemodynamic loading as a result of 1 year then is formed [4, p. 210].
- 5.

### **5.CONCLUSION**

Pediatrician born heart defects early in the definition role solution doer importance has . Functional and organic noises on auscultation differentiation , cyanosis and breath of contraction pathognomonic features knowledge , modern instrumental diagnostics ( first in line ExoKG ) ordering TYN consequences soften opportunity Antenatal prophylaxis – pregnancy from teratogenic factors during pregnancy protection against rubella against vaccination – basic direction is [6, p. 92; 11, p. 27]. Every one pediatrician TYN's clinical propaedeutics perfect possession necessary .

## **6. REFERENCES**

1. Mazurin AV, Vorontsov IM Propedeutics of children bolezney . – M.: Meditsina , 2015. – 512 s.
2. Daminov TA Pediatrics propedevtikasi . – Toshkent: Yangi asr avlodi , 2018. – 480 b.
3. Hoffman JIE The natural history of congenital heart defects. – In: Pediatric Cardiology, 3rd ed. – Philadelphia: Elsevier, 2016. – P. 78-92.
4. Shamsiev F.M., Rakhimova D.S. Klinik pediatriya asoslari. – Samarqand: SamDU nashri, 2020. – 398 b.
5. Bernstein D. Congenital heart disease. – In: Nelson Textbook of Pediatrics, 21st ed. – Elsevier, 2020. – P. 300-315.
6. Jenkins K.J., Correa A., et al. Noninherited risk factors for congenital heart defects. Pediatrics, 2017; 139(5): e20164211. [p. 88-94]
7. Perloff J.K. The Clinical Recognition of Congenital Heart Disease. 7th ed. – Philadelphia: WB Saunders, 2018. – 450 p.
8. Webb G.D., Smallhorn J.F. Ventricular septal defect. J Am Coll Cardiol, 2019; 73(12): 1488-1503.
9. Lai W.W., Geva T., et al. Guidelines for pediatric echocardiography. J Am Soc Echocardiogr, 2016; 29(5): 411-421.
10. Khasanov A.A., Yuldashev B.Z. Bolalar kardiologiyasida auskultatsiya. – Buxoro: Durdon, 2019. – 156 b.
11. WHO. Congenital anomalies: fact sheet. Geneva: World Health Organization, 2021. – 32 p.