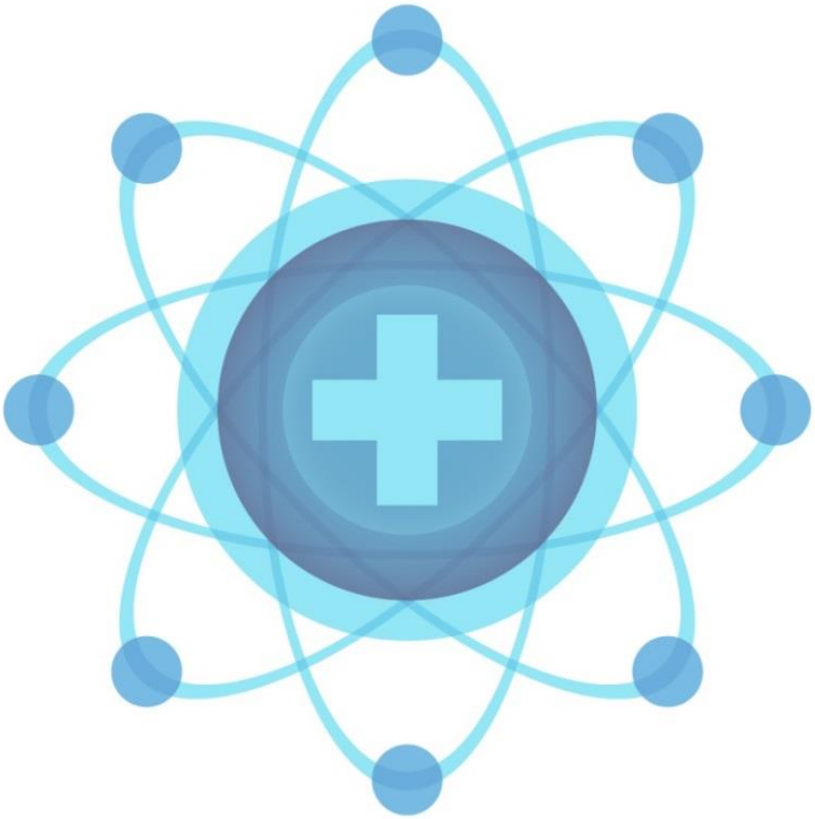

INTERNATIONAL MEDICAL SCIENTIFIC JOURNAL

ART OF MEDICINE

Art of Medicine *Volume-3*
International Medical Scientific Journal *Issue-1*
Founder and Publisher **North American Academic Publishing Platforms**
Internet address: http://artofmedicineimsj.us
E-mail: info@artofmedicineimsj.us
11931 Barlow Pl Philadelphia, PA 19116, USA +1 (929) 266-0862

Available at https://www.bookwire.com/
ISBN: 978-0-578-26510-0

Preoperative and postoperative clinical condition of a child born with congenital heart defect of general anomalous drainage of pulmonary veins

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Abstract: In the given clinical case, the patient has total pulmonary vein drainage defect, mixed type. TAPVD (total anomalous pulmonary venous drainage). Intercompartmental barrier defects have been observed together.
In the sick child, the predominance of the total drainage defect of the pulmonary vein was more pronounced. A 2-year-old patient had an intercompartmental septal defect combined with a total pulmonary vein drainage defect, and the patient did not receive medical treatment in the first years of his life. In the clinical course of the disease, symptoms of respiratory and cardiovascular insufficiency were evident, especially during physical exertion.
Clinical signs of increased pressure in the right lobe and right ventricle, insufficient blood flow to the lungs, due to failure of timely treatment of intercompartmental barrier defect combined with total pulmonary vein drainage defect. An intercompartmental barrier defect combined with a total drainage defect of the pulmonary vein was determined using an instrumental diagnostic method.
The specified endovascular method made it possible to completely eliminate changes in the lungs and its networks, to normalize pulmonary pressure. Up to 7% live with TAPVD when the defect is not corrected in time (over 20 years old). The natural course of the disease is not positive, so early surgical treatment is very necessary.
Keywords: pulmonary vein total drainage, stenosis, open septal defect, heart, defect, pressure, diagnosis.

Total anomalous drainage of the pulmonary veins (TADPV) is a rare congenital heart defect characterized by the absence of a direct connection of the pulmonary veins with the left ventricle [1]. The incidence of TADPV is 1.0-1.5% of congenital heart defects. [2; 3]. According to a population-based study of 19 Pediatric Heart Centers in Great Britain, Ireland and Sweden (2010), total anomalous pulmonary vascular drainage (TADPV) was reported in 7.1 per 100,000 infants [4], with a total of 1.5 congenital heart defects. -3%. [5] analyzed the natural course of TADPV, and according to the autopsy of 183 of those who died between the ages of 1 and 49 years, the median survival without correction of the defect was no more than 2 months; by the end of the 1st year of life, with the natural course of TADPV, the mortality rate reaches 90% [6]. When the defect is not corrected in time (over 20 years old), up to 7% live with TADPV [7]; sometimes rare patients live up to 61-66 years. [8-10, 11, 12] The natural course of the disease is not positive, so early surgical treatment is very necessary [2; 3]. Surgical correction of total anomalous drainage of the pulmonary veins (TADPV) remains a challenging task despite great advances in surgical technique and postoperative care. [13]

Patient Nabijonov D. born on April 15, 2021 in Yangiyol district of Tashkent region. He was admitted to the resuscitation department of the multidisciplinary

clinic of the Tashkent Medical Academy with the following complaints. His complaints: according to his mother, wheezing, turning blue, gasping for breath, getting tired quickly, restlessness.

From the anamnesis. The patient is the 2nd child from the 5th pregnancy. 3 fetuses died without development. His mother had a positive history of TORCH infection. Pregnancy passed with anemia and severe toxicosis. There was a risk of miscarriage in the 6th month of pregnancy. Doppler examination revealed that the fetus has a heart and blood vessel defect. The child was born by planned caesarean section at 38 weeks with a body weight of 3770 g and a height of 54 cm. Apgar score 7/8. It was given to the chest on the second day. Not shown to a cardiologist after birth. The child was admitted to the hospital with the above complaints when he was one month old. According to his mother, the child has been sick for the last 4 days. The disease started with bruising, difficulty breathing, wheezing and fever. The resident was brought by ambulance to the children's admission department of the TTA multidisciplinary clinic with a referral from the multidisciplinary medical association. The patient was admitted to the intensive care unit due to his serious condition. Conducted examinations: biochemical blood analysis - Hb-90g/l, Ht- 36, RK- 0.8, leukocyte- 14, neutrophil s/n - 50%, eosinophil - 2%, monocyte - 3%, EChT - 7 mm.cm . Hepatitis markers "V" and "C" are negative. ECG analysis: The rhythm is sinusoidal. UP-130 per minute. The electrical axis of the heart is shifted to the right. Right ventricular hypertrophy and increased activity. Partial blockade of the bundle of Hiss right leg. Figure 1.

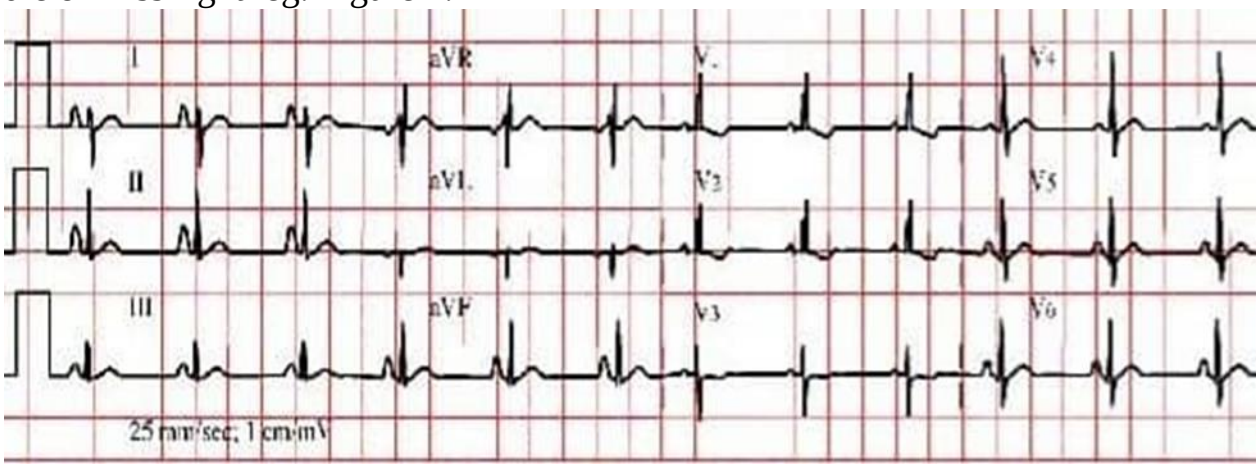

Figure 1. Electrocardiogram.

EchoCG: Total pulmonary vein drainage defect, mixed type. TADV (total anomalous pulmonary venous drainage). Intercompartmental barrier defect. Figure 2.

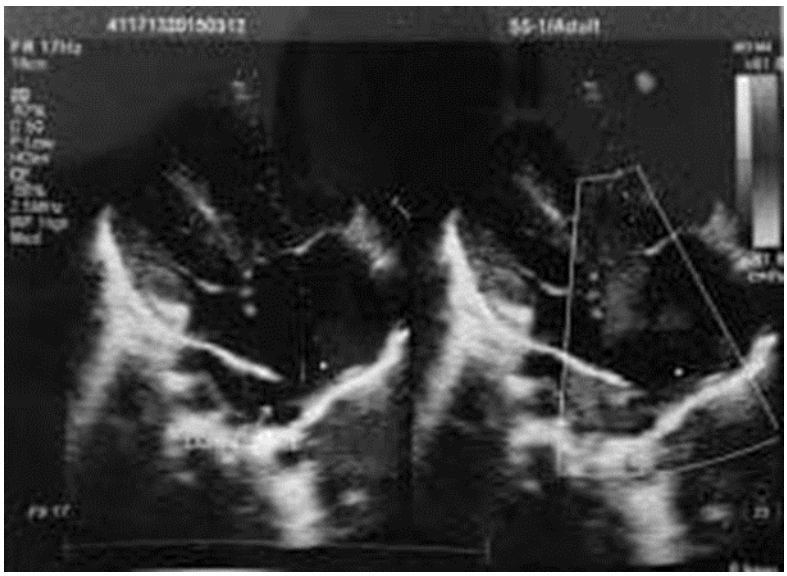

Figure 2. Echocardiography.

X-ray examination: sinuses are free, pulmonary roots are enlarged. Cardiovascular bundle is dilated. Figure 3.

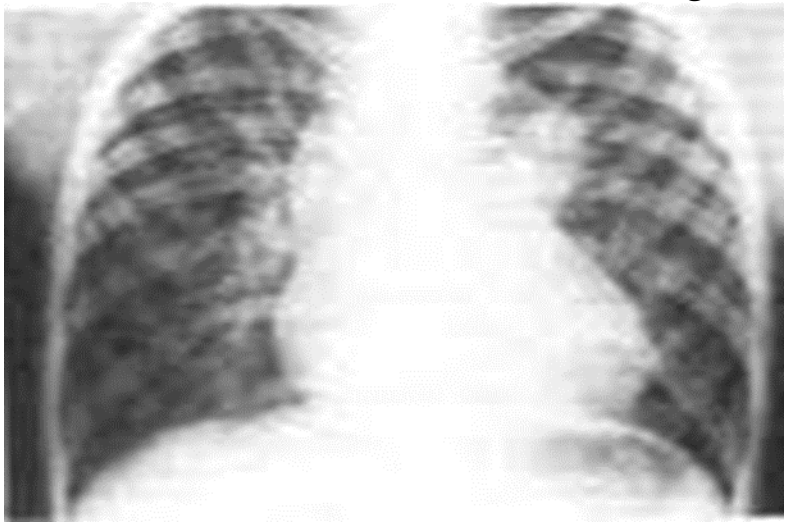

Figure 3. X-ray of the chest.

Objectively: general condition is severe. Severity of symptoms of heart failure. An annoying freak. Body structure is norm asthenic type. The skin is dry; the color is cyanotic. There is blueness in the corners of the eyes and the triangle of the nose and lips. The subcutaneous fat layer is moderately developed, its turgor and elasticity are reduced. No swelling was observed. Visible mucous membranes without clear rash. Peripheral lymph nodes are not enlarged, mobile. Musculoskeletal system without deformation. The size of the skull is 2.5x2.0 cm. The wings of the nose are widened; intercostal auxiliary muscles are involved in breathing. The number of breaths in 1 minute is 62. Pulmonary sounds are reduced on percussion. On auscultation, moist crackles are heard in the lungs against the background of rough breathing. Cardiovascular system - muffled, rhythmic heart sounds on auscultation. A systolic murmur is heard at all points. There is a second double tone over the pulmonary artery. Digestive system - nutrition with natural mother's milk. His tongue was coated with a wet white coating. The abdomen is relaxed, painless on palpation. The liver was 2.0 cm below the right rib cage, the spleen was not enlarged. Diarrhea is prone to

constipation. The urine is smooth. The patient was recommended to see a resident pediatrician and a cardio surgeon.

He was brought to the Children's National Medical Center in July 2021 due to worsening symptoms of shortness of breath and rapid fatigue, despite receiving consultation and treatment. Conducted examinations: General blood analysis - Hb-94g/l, Ht- 36, RK- 0.8, leukocyte- 10, neutrophil count - 47%, eosinophil - 1%, monocyte - 2%, ESR - 8 mm.cm. above.

ECG analysis: The rhythm is sinusoidal. UP-136 per minute. The electrical axis of the heart is shifted to the right. Right ventricular hypertrophy. Incorrect blockade of the bundle of Hiss right leg. Disorders of myocardial metabolism (Figure 4).

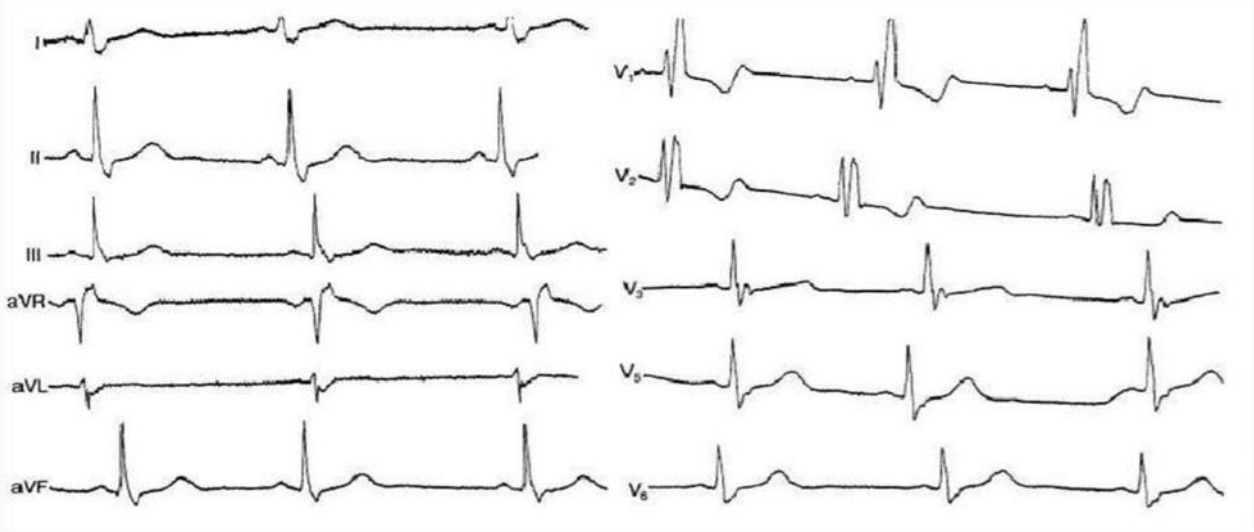

Figure 4.

X-ray analysis: Increased pulmonary imaging. Expansion of the pulmonary roots. Enlargement of the heart.

Ultrasound: abdominal organs without echo pathology.

EchoCG: (TADLV) Total pulmonary vein drainage defect, mixed type. Intercompartmental barrier defect. Open arterial corridor. Tricuspid valve regurgitation 1st degree (Figure 5).

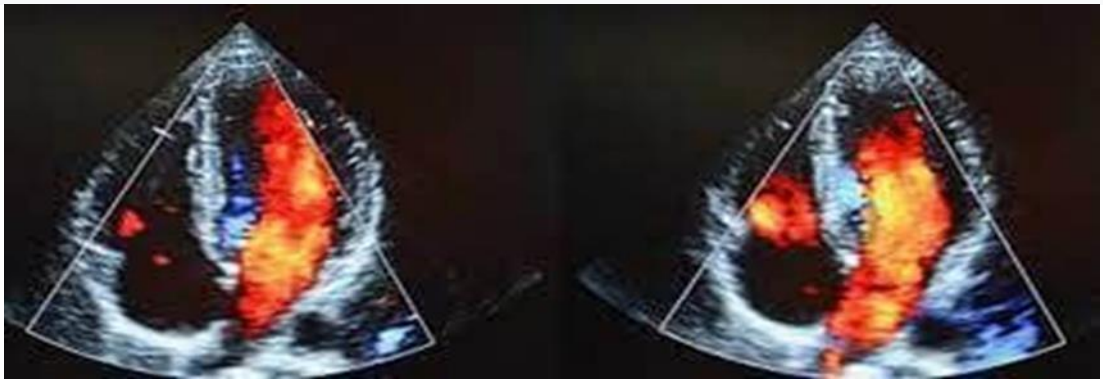

Figure 5. Echocardiography.

In the objective view: the general condition of the patient is severe, due to the severity of cardiovascular and insufficiency symptoms. The memory is in itself. The condition is stable. The skin is dry, dark under the eyes and cyanotic in the triangle of

the nose and lips. The subcutaneous fat layer is moderately developed, its turgor and elasticity are reduced. Visible mucous membranes are clear. Body weight - 4.8 kg, height - 54 cm. The size of the skull is 2.0 x 2.0 cm. The chest is normasthenic type. Respiratory system - breathing is mixed type, wheezing is obvious. The wings of the nose are widened; intercostal auxiliary muscles are involved in breathing. The number of breaths in 1 minute is 48. On auscultation, rough breathing is heard in the lungs. Cardiovascular system - muffled, rhythmic heart sounds on auscultation. A coarse systolic murmur is heard at all points. The noise is strongly heard on the left edge of the sternum between the II-IV ribs. There is a second double tone over the pulmonary artery. HIGH - 128. A/P – 80/50 mm Hg. Saturation - 97%. Digestive system - nutrition with natural mother's milk. The tongue is wet and white. Abdomen is more relaxed on palpation. The liver and spleen are not enlarged. Constipation alternates with diarrhea. The urine is smooth. To the patient: Congenital heart defect. General anomalous drainage of the pulmonary veins. Mixed type. Intercompartmental barrier defect. An open arterial passage was diagnosed, and surgery was recommended. On 03.07.2021, the patient underwent surgery. Total pulmonary vein drainage defect, mixed type, was corrected. The septal defect was closed. Postoperative condition of the patient: His condition after resuscitation is critical. Weight due to symptoms of heart and respiratory failure. The dynamic state is stable. Artificial lung ventilation, cardiopulmonary arrest therapy was established. EchoCG: EF - 60%, no transition in the intercompartmental barrier. Open arterial corridor is closed. There is no fluid in the pericardium. A repeat ECG was performed (Figure 6).

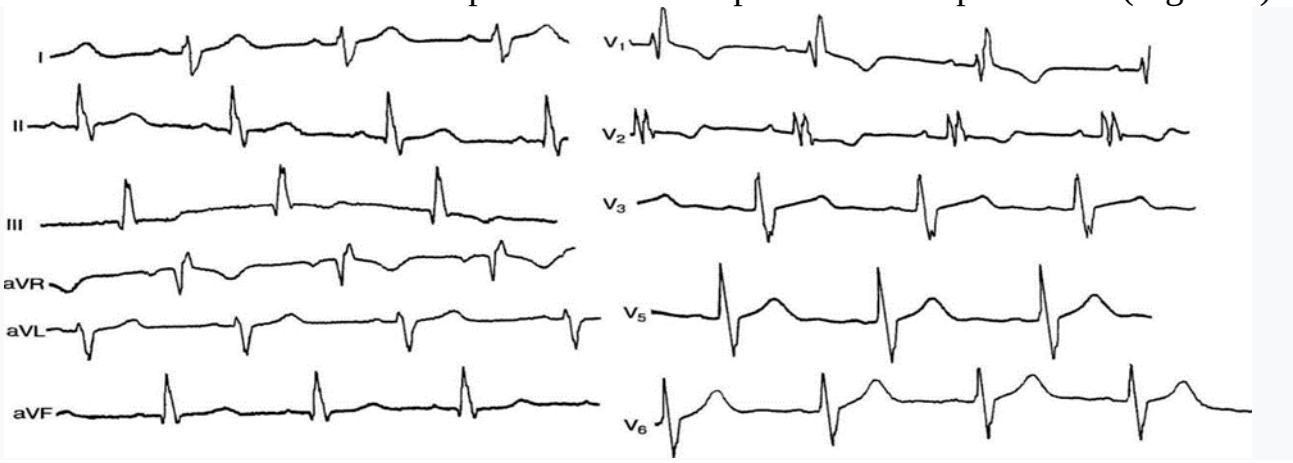

Figure 6. Cardiac electrocardiogram: Sinus rhythm. UP-130 per minute. The electrical axis of the heart is shifted to the right. Increased activity of the right ventricle. Partial blockade of the bundle of Hiss right leg.

X-ray: no changes were detected in the lungs. The patient's condition has improved and he was transferred from the intensive care unit to the somatic department. Body temperature is not expected. Skin coverings are clean without rashes. Eating is relatively active (90 ml every 2 hours). There is no vesicular breath or wheezing in the lungs. Heart tones are rhythmic, clear, heart rate - 128 beats/min. The pulse coincides in the arms and legs. Arterial blood pressure - 80/50 mm Hg. The postoperative wound is non-inflammatory. Blood and urine analysis without pathology. On the seventh day after the operation, the patient's condition is satisfactory, he is preparing to go home. Recommendation: to continue the treatment

and after 10 days after discharge from the hospital, repeat the general blood and urine analysis, after 1 month ECG, EchoCG analysis. Residential pediatrician, cardiologist and neurologist consultation. Vaccination after 6 months under observation.

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