**Coarctation of the aorta in adult patients (case report)**

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**Background:** Coarctation of the aorta among all anomalies of the heart and great vessels is 6-14.2%. (A.V. Pokrovsky, 2004); Average life expectancy is about 30 years. (V.I. Burakovsky, L.A. Bokeria, 1996); Survival - only 10% of patients reach 50 years. (N.A. Belokon, V.P. Podzolkov, 1991; M. De Leval, 1993); Mortality - at the age of 10-20 years - 19% of patients, at the age of 20 years and older - 59% of patients. (A.V. Pokrovsky, 2004).

**Objectives:** to identify the need and validity of mandatory surgical correction of aortic coarctation.

**Methods:** Coarctation of the aorta is quite rare in adult patients due to a number of reasons: it is a likely surgical correction in childhood or deaths due to uncorrected symptomatic arterial hypertension leading to hemorrhagic stroke. Therefore, the presence of arterial hypertension in young and middle-aged people who are not amenable to drug therapy requires examination to identify the main three diseases leading to this condition: 1. Coarctation of the aorta; 2. Vasorenal hypertension; 3. Pheochromocytoma of the adrenal glands.

We present a case from practice. A 37-year-old man with arterial hypertension 220/120 mm Hg applied to the clinic, while the blood pressure do not decrease despite the use of antihypertensive drugs. Examination carried out:

ECG: Sinus arrhythmia, heart rate 67-56-70 in 1 min. Normal position of the cardiac axis. Complete blockade of the right bundle of His. Hypertrophy of the right ventricle. Signs of enlargement of the left ventricle.

Echocardiography сonclusion: СHD. Coarctation of the aorta with an intersystem gradient up to 69 mm Hg, kinking of the aorta (descending). The chambers of the heart are not dilated. Pumping function is satisfactory EF - 59%, marked hypertrophy of the left ventricular myocardium.

Transesophageal echocardiography: Tricuspidal AV. In the region of the isthmus of the aorta, there is narrowing of the "hourglass" type, a membrane is located in the lumen of the aorta, and a turbulent flow is recorded at the same level. Flow width 0.8 cm, pressure gradient 49 mm Hg. The descending aorta is 2.7 cm in diameter.

Thoracic aortography: Tortuosity and severe coarctation of the aorta after the origin of the left subclavian artery. Pressure gradient - 55 mm Hg.

According to the results of the examination, the diagnosis was made: CHD. Caorctation of the aorta, type I (isolated). Symptomatic arterial hypertension.

Aortic coarctation is an absolute indication for surgical correction of the defect in order to: 1. prevent and exclude the onset of hemorrhagic stroke in the future; 2. "transfer" of uncorrected symptomatic arterial hypertension into drug-corrected.

The operation was performed: Mid-posterior-lateral thoracotomy on the left. Resection of the coarctation of the aorta in a typical place with synthetic linear graft insertion.

**Results:** The postoperative period was uneventful, the increase in blood pressure up to 160/100 mmHg was successfully corrected with medications. The patient was discharged on the 10th day in a satisfactory condition.

**Conclusions:** 1. Coarctation of the aorta is an absolute indication for surgical correction in order to prevent fatal, life-threatening complications in the future;

2. Carrying out the whole complex of non-invasive and invasive examinations is mandatory to determine the location, extent of aortic narrowing and the presence or absence of an aneurysm in the coarctation zone;

3. In adult patients with coarctation of the aorta, due to the duration of the process and the presence of different compression chambers, sclerosis of the aortic wall, linear aortic replacement with a synthetic prosthesis is the method of choice.