

TREATMENT OF CHRONIC HEART FAILURE

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Abstract. Chronic heart failure (CHF) is one of the most severe and prognostically unfavorable complications of cardiovascular diseases. Over the past 30 years, the average life expectancy of patients with this diagnosis has increased from 3.5 to 8 years. This module contains information on modern CHF treatment options that a cardiologist should have at all stages of medical care: from outpatient care to a heart failure specialist.

Keywords: chronic heart failure, treatment, high-tech treatment methods.

INTRODUCTION

Chronic heart failure (CHF) is a disease with a complex of characteristic symptoms (shortness of breath, fatigue and decreased physical activity, edema, etc.), which are associated with inadequate perfusion of organs and tissues at rest or under stress and often with fluid retention in the body. The underlying cause is a deterioration in the heart's ability to fill or empty, caused by myocardial damage, as well as an imbalance of vasoconstrictor and vasodilating neurohumoral systems [1].

MATERIALS AND METHODS

Ischemic heart disease is the main cause of heart failure in 2/3 of all cases [2]. This poses the problem of choosing approaches to myocardial revascularization in CHF for the clinician. Isolated left ventricular plastic surgery in patients with CHF of ischemic etiology with low left ventricular EF, despite a decrease in cardiac volume, did not affect the prognosis and cannot be considered recommended (class III, level of evidence B). The decision on the advisability of aneurysmectomy is made jointly by the surgeon and cardiologist; such intervention is justified in the case of large saccular aneurysms of the LV. The relevance of the problem of surgical treatment of post-infarction aneurysms is due to the low survival rate of patients: only 30-50% survive for 5 years, according to various authors (development of heart failure, thromboembolic complications, life-threatening rhythm disturbances in more than half of patients). Remodeling of the LV in post-infarction aneurysm is the appearance of akinesia zones, a decrease in stroke volume, an increase in the size and volume of the left ventricle, a compensatory increase in heart rate, and the occurrence of "ischemic mitral insufficiency".

RESULTS AND DISCUSSION

One of the main problems in patients with left ventricular systolic dysfunction is aortic valve stenosis with a low gradient (EF <40%, aortic valve orifice area <1 cm², mean gradient <40 mmHg). In some patients this is a true severe stenosis, and in some it is a "pseudo-aortic stenosis", when the reduced blood flow through the aortic valve is caused not by leaflet

obstruction, but by a low stroke volume. If the mean gradient is >40 mmHg, then there are no theoretical limitations for valve replacement in symptomatic patients. In patients with contraindications to open surgery (for example, due to severe lung pathology), it is possible to use transcatheter techniques for aortic valve replacement TAVI (Transcatheter aortic valve implantation) [3].

Aortic valve repair or replacement is recommended for all symptomatic and asymptomatic patients with severe aortic regurgitation and $EF < 50\%$, unless there are contraindications to surgery. Surgery may also be appropriate in patients with severe aortic regurgitation and LV end-diastolic diameter >70 mm or end-systolic diameter >50 mm (or >25 mm/m² of patient body area) [4].

Evaluation of mitral regurgitation should be comprehensive, especially in patients with LV systolic dysfunction (in mitral regurgitation there are certain difficulties in assessing systolic function).

Differential diagnosis between primary and secondary mitral regurgitation is complex. The decision to perform surgery should be based on the severity of clinical symptoms, patient age, atrial fibrillation, degree of left ventricular systolic function impairment, pulmonary hypertension, and the possibility of valve replacement. The latter is the most important predictor in the postoperative period. Relative (non-valvular) mitral regurgitation occurs due to dilation and change in the shape of the left ventricle and the mitral valve annulus, which leads to incomplete closure of its leaflets. Full-scale drug therapy and, in some cases, resynchronization therapy can lead to reverse left ventricular remodeling and a decrease in functional mitral regurgitation. depending on the area of mitral regurgitation.

Ischemic mitral regurgitation is a special type of secondary mitral regurgitation that is most suitable for surgical intervention [2]. Combined surgical intervention – CABG + mitral valve replacement – can be considered appropriate in symptomatic patients with left ventricular dysfunction, coronary artery disease with a sufficient amount of viable myocardium. Predictors of late complications after mitral valve reconstruction are a large distance between the papillary muscles, rigidity of the posterior mitral valve leaflet and a marked increase in the left ventricle (end-diastolic diameter >65 mm). In such patients, mitral valve replacement is preferable to plastic surgery. In atrial fibrillation, atrial arrhythmogenic ablation procedures and left atrial appendage closure may be appropriate during mitral valve surgery.

Heart transplantation is a generally accepted treatment for end-stage CHF [3]. Although controlled studies have never been conducted, it is believed that HT, provided that patient selection criteria are met, significantly increases patient survival, increases exercise tolerance, improves quality of life, and enables a faster return to work compared with traditional treatment.

CONCLUSION

In addition to the shortage of donor hearts, the main problems with HT are the consequences of the limited effectiveness of the method and complications from immunosuppressive therapy in the late period (for example, antigen-antibody-mediated graft rejection, infectious

complications, hypertension, renal failure, malignancy and vasculopathy of the coronary arteries).

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