Abstract: P1053

Features of the clinical picture and remodeling of the left heart in patients with heart failure on the background of ischemic heart disease and thyrotoxicosis

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Background. Comorbidity affects the clinical aspects of heart failure (HF) and cardiac remodeling in comorbid patients. With the development of thyrotoxicosis in patients with coronary heart disease (CHD) the risk of atrial fibrillation increases 4.5 times, and CH decompensation - 3.3 times.

Purpose. To study the clinical aspects of chronic heart failure (CHF) and the features of structural and functional remodeling of the left ventricle (LV) in patients with coronary artery disease and thyrotoxicosis.

Methods. 131 patients were enrolled into the study: the main group consisted of 30 patients with coronary artery disease (CAD), CHF and thyrotoxicosis; 1st comparison group - 35 patients with CHD and CHF, without thyroid pathology; 2nd comparison group - 35 patients with thyrotoxicosis without cardiovascular diseases (CVD); 3rd group - 31 patients with CHD, CHF and thyrotoxicosis with no signs of CHF. A rating scale of clinical state (RSCS) was used, a 6-minute walk distance (6MWD), an echocardiographic study (EchoCG) was performed, and the functional state of the thyroid gland was also determined.

Results. The evaluation of the clinical symptoms of CHF by RSCS did not reveal significant differences when comparing the indices between the main and 1st comparison groups, however, exercise tolerance in patients with CHF with CHD and thyrotoxicosis was significantly lower by 15.4% (p = 0.01). There were revealed significantly lower values of indexed linear (EDD) and volume indices (EDV, ESV) of the LV in patients of the main group compared with the corresponding results in the group with IHD and CHF without thyrotoxicosis, which is due to increased cardiac output on the background of hyperactivity of the sympathetic nervous system during thyrotoxicosis. In patients with CHD, CHF and thyrotoxicosis, LV concentric hypertrophy (LVHL) was determined significantly more often - in 84% of cases than in patients with CHD and CHF without thyrotoxicosis - in 70% (p = 0.03). In both groups, the values of the LV ejection fraction corresponded to the intermediate type of HF (HFmrEF), and no significant differences were found between the indicators - 48.1 (41.0; 52.0) and 47.0 (40.0; 48.0) (p = 0.1). Transmirtal blood flow indices indicate more pronounced signs of diastolic dysfunction (LVDD) in patients of the main group: V?/V? are lower by 12.5% (p = 0.01), isovolumetric relaxation time (IVRT) is by 11.11% (p = 0.02) compared with the results in patients of the 1st comparison group. Conclusions. The peculiarities of structural and functional remodeling of the left heart in patients with CHF of ischemic genesis and thyrotoxicosis were revealed: significantly more frequent incidences of LVHL (84% of cases), lower values of EDD, EDV, ESV, expressed by LVDD, which is probably caused by significant activation of renin-angiotensin-aldosterone (RAAS) and, especially, sympatho-adrenal (SS) systems in conditions of attendant thyrotoxicosis.