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Cardiac remodeling in patients with atrial fibrillation in chronic heart failure

Authors:
VV Kirillova¹, EYU Prosviryakov², ¹GAUZ SO Institute for medical cell technologies - Ekaterinburg - Russian Federation, ²Institute of Engineering Science, UB RAS, Laboratory of Nonlinear Vortex Hydrodynamics - Ekaterinburg - Russian Federation,

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Background. Dissatisfaction with the results of drug and non-drug therapy of atrial fibrillation causes clinicians and scientists to seek new methods for treatment of this arrhythmia.

Objective. The paper aims at studying the features of cardiac remodeling and morphological changes of myocardium in chronic heart failure patients with atrial fibrillation.

Materials and methods. The features myocardial remodeling and the morphology of the myocardium of a right atrial auricle segment were studied, respectively, by echocardiography and by microscopy in chronic heart failure patients with (n=35) and without (n=36) atrial fibrillation.

Results. Compared to patients without cardiac arrhythmia, patients with chronic heart failure, with atrial fibrillation, revealed more pronounced hypertrophy of the walls of the myocardium of the left and right ventricles (thickness of the posterior wall of the left ventricle-11.21±0.15; 11.88±0.20 and of 8.26±0.14 mm respectively; the thickness of the interventricular septum 11.41±0.24; 12.38±0.20 and 8.26±0.12 mm; thickness of right ventricular wall - 6.39±0.17; 7.29±0.18 and 3.75±0.31 mm, respectively), increased myocardial mass index (97,15±1,7; 125.09±5,74 and 75,94±2.30 g/m2), dilatation of both right (18,36±0,36; 20.72±0.50 and of 13.73±0,24 cm2) and left atria (23,27±0,34; 27.09±0,58 and 15.27±of 0.21 cm2), increased pressure in the pulmonary artery (27,79±0,94; 34,11±1,81 and 34,11±1,81 mm of mercury. calendar) and veins (the maximum diameter is 21,62±0,28; 21.67±0.30 and of 14.7±0.2 mm; minimum diameter of 10.41±0,22; 11,98±of 0.65 and 6.4±0.3 mm), P<0.05. With a constant form, unlike paroxysmal atrial fibrillation, structural disorders of the walls and chambers of the heart were more pronounced. The interstitial edema of the myocardium of the auricle of the right atrium was detected in patients with atrial fibrillation (B) compared to patients without arrhythmias (A).

Summary. More pronounced atrial dilatation in patients with atrial fibrillation is accompanied by interstitial myocardial edema.