



Predictive significance of echocardiography and determination of the concentration of natriuretic peptide in elderly patients with CHF of ischemic origin with preserved LV systolic function.

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ABSTRACT

The article deals with one of the urgent problems of maintaining the health of the population in connection with aging and an increase in the number of people of senile age, hence the huge problem of chronic heart failure.

The most common causes of CHF are various forms of coronary artery disease, hypertension, type 2 diabetes, the role of which is greatest in the age group over 60 years [9]. For such patients, the development of isolated systolic hypertension is most characteristic, due to a decrease in the elasticity of large arteries and their loss of shock-absorbing function [8,4]. The associated myocardial hypertrophy leads to impaired diastolic dysfunction. Such patients are characterized by the development of CHF with preserved LV systolic function. This is also facilitated by age-related fibrotic changes in the myocardium and the development of cardiosclerosis [2,3,6,7]. Due to the limited diagnostic ability of non-invasive research methods for CHF in asymptomatic patients, steps are being taken to search for biological diagnostic criteria. Currently, for verification and,

especially, assessment of CHF prognosis, a significant role is given to the use of biochemical markers, among which natriuretic peptide is of greatest interest [1,5].

Key words: Chronic heart failure, brain natriuretic peptide, echocardiography, left ventricular ejection fraction.

Relevance. It is generally accepted that there are several reasons for the progression of CHF among elderly patients. Among them are transient myocardial ischemia, an atypical form of myocardial infarction (MI), cardiac arrhythmias - atrial fibrillation, ventricular arrhythmias, conduction disturbances, interventricular dyssynchrony, etc. The condition is aggravated by a frequently recorded concomitant pathology at this age - CLD, GB, type II diabetes, chronic anemia, kidney pathology, etc. At the same time, heart failure is often



observed even against the background of preserved LV systolic function.

Material and methods. We examined 82 patients (including 52 men (63.41%)) of ischemic HF with II (44%) and III (56%) FC according to NYHA with preserved LV systolic function (LV EF \geq 50%). The patients' age ranged from 65 to 89 years (mean age 76.17 ± 3.29 years). The control group consisted of 20 healthy volunteers of the corresponding age (CG-1). For comparison, another group was composed of 20 healthy volunteers aged 40-65 years (group CG-2, mean age 58.26 ± 10.78 years, men 12 - 60%). Also, for comparison, 20 healthy volunteers (CG-2) aged 40-65 years (mean age 58.26 ± 10.78 years) were examined, of which 12 were men (60%). All participants in the study underwent echocardiography and determination of the concentration of BNP by a quantitative immunological method in heparinized venous blood.

Research results. A significant decrease in LV EF was found in a group of healthy elderly patients. LV EDV and LA length were comparable in the CG-1 and CG-2 groups, but increased in patients with CHF. An increase in the mass of the LV

myocardium against the background of CHF of ischemic genesis correlates with indicators of neurohumoral regulation and the presence of arterial hypertension (in the group of CHF patients with arterial hypertension, there were 66 people - 80.49%). According to tissue Doppler data, old age was associated with a decrease in the ratio (CG-1 group), while in patients with CHF of ischemic origin, a significantly reduced value of the ratio of the rates of the early and late phases of the diastolic displacement of the lateral segment of the mitral valve was noted. From the side of the right parts of the heart, in the group of CHF of elderly patients, RV ECD was more and more often observed TR (68 patients - 82.93% in the CHF group versus 9 in the CG-1 group - 45% and 4 in the CG-2 group - 20% , $p < 0.001$).

Conclusions. BNP is closely correlated with age, CHF FC, LV and RV EF and can be used to diagnose diastolic dysfunction and the severity of diastolic disorders in patients with preserved LV EF. Echocardiography determines further treatment tactics, immediate and long-term prognosis of the course of CHF, especially, in elderly patients.

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