



LEVEL OF SODIUMURETIC PEPTIDE IN EARLY DIAGNOSIS OF CHRONIC HEART FAILURE IN PATIENTS WITH ARTERIAL HYPERTENSION

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Annotation

Chronic heart failure (CHF) is the most common and serious complication of cardiovascular disease. Arterial hypertension is the most common cause of CHF. The study of the problem of heart failure in the early stages of its development is of particular interest to clinicians. At the same time, the diagnosis of CHF in the early stages is important to prevent its further progression. To date, data have appeared on the possibility of early diagnosis of CHF of any etiology and predicting the occurrence of unfavorable outcomes of heart failure using brain natriuretic peptide - B - type Natriuretik Peptide (BNP) In recent years, as a marker of the early (preclinical) stage of CHF in patients with arterial hypertension group B natriuretic peptide (BNP) is used. Serum BNP is becoming the standard in the early diagnosis of CHF. The main stimulus for increased BNP secretion is left ventricular volume overload. Natriuretic peptides (NP) are physiological angiotensin II antagonists in relation to the stimulation of aldosterone secretion. An increase in plasma renin activity and aldosterone concentration causes left ventricular remodeling, accumulation of fibrous tissue, and ventricular overload. The main trigger for BNP is increased myocardial tension.

Keywords: Chronic heart failure, arterial hypertension, natriuretic peptide, echocardiography.

Introduction

In 80 patients with chronic heart failure on the background of arterial hypertension, the level of natriuretic peptide type B (NP) was studied. In 32 (40%) patients who had obvious clinical signs of chronic heart failure, the NPL level was higher than normal values. In 48 (60%) patients who did not have obvious clinical





and instrumental signs of chronic heart failure against the background of arterial hypertension, the LPP in the blood plasma was lower than normal values (less than 200 pg / ml) in 37 (77.1%) patients. And the remaining 11 (22.9%) patients with NP in the blood plasma were 220+ 10.1 pg / ml (above normal values). This means that these patients, in the absence of complaints and clinical manifestations, still develop chronic heart failure. Thus, an elevated BNP level indicates the presence of latent heart failure.

The aim of the investigation was to study the dependence of the development of CHF in patients with arterial hypertension on the level of brain natriuretic peptide (BNP).

Materials and research methods. We examined 80 patients, including 38 women and 42 men with arterial hypertension with and without clinical signs of CHF at the age of 35 to 65 years, while 32 (40%) patients had chronic heart failure against the background of Arterial Hypertension (AH) and 48 (60%) patients with AH without clinical and instrumental signs of CHF. Comprehensive examination of patients included collection and analysis of complaints and anamnestic data, clinical examination, general clinical, laboratory and instrumental studies such as: standard ECG, Doppler echocardiography, 24-hour Holter ECG monitoring, chest X-ray. All our patients underwent a quantitative assessment of the concentration of brain natriuretic peptide (ng / ml) in blood plasma by enzyme immunoassay.

Discussion of the results obtained. In arterial hypertension, chronic pressure stress leads to thickening of the walls of the left ventricle with a normal size of its cavity and intact systolic function. This is how diastolic heart failure is formed. The corresponding type of remodeling is called concentric. The voltage developed by the left ventricle is determined by the load on the myocardium. The main trigger for increased BNP excretion is increased end-diastolic pressure (EDB). The examined AH patients, depending on the BNP level, did not significantly differ in sex, duration of AH, body mass index, frequency of CHF symptoms and the regularity of taking antihypertensive drugs. However, an increase in the BNP level was associated with the age of the patients. In our examination, there was some insignificant tendency to an increase in the NPL in women compared with men, and in more obese patients, there was a tendency to a decrease in the NPL level. The main indicators of blood pressure between the analyzed groups did not differ significantly. According to echocardiography, an increase in IVS thickness in the





group of AH patients with a BNP level > 200 (two hundred) pg / ml with comparable parameters of the left atrium size, relative wall thickness index and LV myocardial mass, may indicate that an increase in BNP occurs not only due to the age of patients, but also the development of adaptive LV remodeling. It was assumed that the dynamics of the level of BNP and NT-pro-BNP in the direction of both an increase and a decrease could individualize the assessment of the clinical state of a patient with CHF, become a reliable indicator of the risk of adverse clinical events, and also be considered as an argument in favor of changing the treatment strategy. The patients examined by us were divided into two groups. The first group consisted of 32 hypertensive patients with obvious signs of CHF, such as shortness of breath, fatigue, edema and palpitations. And the second group included 48 patients with AH without obvious clinical and instrumental signs of CHF. The BNP level was studied in all subjects. Analysis of the survey data indicates that in the first group (with clear signs of CHF) in thirty-one (96.8%) patients, the BNP level was higher than normal values and amounted to 350 ± 20.8 pg / ml.

In the second group, there was an increase in BNP concentration in eleven patients (22.9%) who did not have obvious clinical signs of CHF development. The BNP level in this group was also higher than normal values - 220 ± 10.1 pg / ml.

Output. Analysis results BNP in our patients showed that 11 - minute 48 -th CHF patients without overt signs of the level of BNP higher than normal, i.e. was above 200 pg / ml. This means that these patients, in the absence of complaints and clinical manifestations, still develop chronic heart failure. Thus, an elevated BNP level indicates the presence of latent heart failure.

The results obtained indicate that the use of the laboratory BNP criterion makes it possible to objectively diagnose the development of CHF with high sensitivity and specificity. Currently determining BNP is a prognostic marker and indicator of treatment efficiency and is the standard method for diagnosing heart failure.

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