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FEATURES OF DIASTOLIC DYSFUNCTION OF THE RIGHT VENTRICLE IN PATIENTS WITH HYPERTENSION

Ярмухамедова С. Х.
Вафоева Н. А.
Хайдарова З. Э.,
Амирова Ш. А.
Самаркандский государственный медицинский университет

Annotation
Currently, hypertonic disease is one of the most pressing problems of clinical medicine. This is due to the fact that arterial hypertension leads to disability and mortalityand is also characterized by a wide prevalence. Early diagnosis of diastolic dysfunction of the hearts in hypertensive patients is of great practical interest, which makes it possible to take timely preventive measures and treatment.

Keywords: Hypertensive disease, arterial hypertension, diastolic dysfunction, right ventricle, echocardiography, maximum filling rate, maximum expulsion rate.

Relevance
Hypertension is currently one of the most pressing medical problems. This is largely due to the fact that arterial hypertension, which largely causes high cardiovascular morbidity, disability and mortality, and is also characterized by a wide prevalence.
Myocardial remodeling remains a significant factor that worsensthe course and prognosis of hypertension. While the remodeling of the left ventricle in hypertension has been studied quite well, much less attention has been paid to the condition of the right ventricle. Violations of the diastolic function of the right ventricle in patients with cardiac insufficiencyThey are an independent prognostic factor for survival, and the use of tissue Dopplersonography allows you to identify new informative parameters of diastolic dysfunction, as well as to prove its connection with the development of pulmonary hypertension.
It should be noted that diastolic function, being a complex process consisting of numerous, interrelated factors, depends on such indicators as: age, gender, body surface area, phases of respiration, ventricular myocardial masses, heart rate, pre- and afterload. With the help of various research methods, it has been established that the pancreas in hypertension also undergoes hypertrophy, violations of its contractility and clinically pronounced insufficiency develop.

Objective:
To study the diastolic function of the right ventricle in patients with various stages of hypertension and with the addition of heart failure of II-III functional classes.

Materials and methods of research
We examined 71 hypertensive patients. All patients were subjected to a comprehensive examination in order to exclude symptomatic hypertension and other diseases. The diagnosis of hypertension was also made on the basis of the criteria proposed by the WHO expert committee. The study included hypertensive patients of stages II-III - 31 women (4, 3.66%) and 40 men (5, 6.3 %) (aged2.5 to 63 years). The mean age for the group was 50.3±4.6 years. The mean age was 43.4±4.9 years for men and 52.7±4.9 years for women. Taking antihypertensive drugsor 24 hours before the start of the study.
Electrocardiographic examination was performed in 12 conventional leads at a speed of 50 mm/s.
Blood pressure measurement was carried out after at least 5 minutes of the patient's rest. Blood pressure was measured on the right brachial artery according to the Korotkov method. The diagnosis of stage II hypertension was established in 46 patients. The mean age of the patients was 42.3±4.2 years. Of these, 2 were1 women (mean age 44.7 ± 4.7 years) and 2 5 men (mean age 37.4 ± 4.7 years). Patients with diseases that significantly affect the systolic and diastolic function of the right ventricle, such as diabetes mellitus, obesity, chronicnonspecific lung diseases, tricuspidregurgitation were excluded from the study more than II degree, tachycardia with a heart rate of more than 100 beats per minuteand atrial fibrillation.

Results andinvestigations
All patients showed signs of left ventricular hypertrophy on the ECG and the presence of hypertensive angioretinopathy of the retina. The diagnosis of stage III hypertension was established in 25 patients with target organ lesions. The mean age of the patients was 57.1 ± 4.3 years. Of these, 10 were women (mean age 55.9 ± 4.6 years) and 15 men (mean age 62.4 ± 4.5 year). Of these, 7 patients (2 women and 5 men, mean age 63.3 ± 4.7 years) had a history of transient cerebrovascular accidents, the remaining 18 (6 women and 1 2 men, mean age 56.2 ±5.3 g ode) had documented coronary heart disease. By sex and age of the patient group with hypertension stages II and III did not differ significantly. The combination of hypertension and coronary heart disease and 8 men, mean age 54.3 ± 2.6 years) and 15 patients with stage III hypertension (60%) (7 women and 8 men, mean age 61.2 ± 7.3 The diagnosis of coronary heart

disease in hypertensive patients was made according to thecriteria recommended by WHO.

Discussion

In the group of patients included in the study, the duration of hypertension was 13.4 ± 3.2 years, the duration of a stable increase in blood pressure was 9.7 ±3.8 years. 3 8 examined patients (53.5%) complained of headaches, dizziness 21 patients complained of 29.5%), pain in the left half of the chest was observed in 30 patients (42.2%).

Among the examined patients included in the study, the labile course of the disease was noted in 7 (9.8%), stable blood pressure figures in 6 and 4 (90.1%) patients.

According to the "Recommendations of Committee Eto the WHO Institute", patients with mild, moderate and high arterial hypertension were distinguished during the examination Patients with a mild form of increased blood pressure were 25 people (35.2%), with a moderate form - 37 (52.1%) and high arterial hypertension - 9 patients (12.7%).

In an objective clinical study in 2-6 patients (3, 6.6%), an expansion of the boundaries of relative dullness of the heart to the left was revealed. Steel clinical indicators between the subgroups practically did not differ. The parameters of the diastolicfunction of the right ventricle depending on the level of elevation were analyzed diastolic blood pressure between patients with mild and high arterial pertension. At the same time, significant differences were revealed that concerned the ratio of the maximum filling rate to the maximum expulsion rate with a tendency to increase the time of the rapid filling phase of the contribution of the fast filling phase in the diastole of the right ventricle, which is due to the initial signs of diastolic dysfunction of the right ventricle with a decrease in the maximum filling rate and a moderate increase in the contribution of right atrial systole to the filling of the right ventricle. Both relaxation and filling of the right ventricle between patients with a mild and moderate increase in blood pressure did not differ significantly, except for patients with a moderate increase in diastolic blood pressure. In the analysis of the diastolic function of the right ventricle, depending on the stage of hypertension, significant differences between the subgroups of patients with hypertension concerned only the ratio of the maximum filling rate to the maximum expulsion rate, which significantly decreased in stage II hypertension.

Further study of diastolic function in patients with stage II hypertension revealed that 31 patients (40.8%) had a "pseudonormal" type of diastolic disorders, which consisted

in approaching the standard indicators of the maximum filling rate, as well as in normalizing the contribution of atrial systole.

Inference

Thus, the diastolic function of the left ventricle depends on the level of blood pressure and / or the presence of myocardial hypertrophy, but also on neurohumoral changes that are characteristic of the initial stages of hypertension. The revealed data show the processes of myocardial hypertrophy not only on the left, but also on the right The development of diastolic disorders on the part of the right ventricle begins with a decrease in the maximum filling rate and a compensatory increase in pressure in the right atrium. These disorders are significant in comparison with the pseudonormal type of diastolic dysfunction.

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