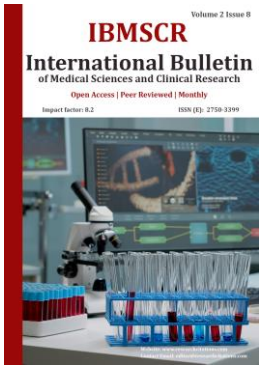

MODERN ASPECTS OF HEART RHYTHM DISORDERS IN YOUNG AGE MEN WITH ACUTE MYOCARDIAL INFARCTION ACCORDING TO ECHOCARDIOGRAPHY

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Annotation:
Despite the successes of modern cardiology, disability and mortality from cardiovascular pathologies are currently increasing, mainly due to patients with acute myocardial infarction. Changes in heart rate variability in patients with acute myocardial infarction (AMI) according to echocardiography were studied. The study included 45 men aged 18 to 45 years (39.2 ± 2.5 years) who were admitted to the cardiac intensive care unit with a diagnosis of ACS with further transformation into AMI with a wave (25 bx) or without a Q wave (20 b -X). Correlation analysis data suggests that timely diagnosis of patients with ST- elevation ACS allows initiating timely and appropriate treatment, which improves the prognosis of cardiovascular diseases and reduces the risk of developing cardiovascular catastrophes.
Key words: acute myocardial infarction, young age, arrhythmia, echocardiography.

Relevance.

Despite the advances in modern medicine, disability and mortality from cardiovascular pathology are currently increasing, mainly due to patients with chronic heart failure, the main causes of which are IHD and acute myocardial infarction (AMI) [13, 15]. According to the WHO, in 2005, the share of AMI in the structure of total mortality in all countries of the world accounted for 13% - more than any other disease [14, 11]. All heart rhythm and conduction disturbances are symptoms of various pathological processes occurring in the heart muscle, which have different significance both in the clinic and in the tactics of treating patients with myocardial infarction [1, 3, 5].

It is generally accepted that the main reason for the development of arrhythmias in AMI is a sharp increase in the hemodynamic load on the left atrium during the development of acute left ventricular failure [2, 4, 6] . Some authors believe that the cause of arrhythmias may be acute myocardial ischemia of the heart due to occlusion of the coronary arteries above the place of origin of the vessels supplying the heart chambers [7, 9, 11] . One way or another, the occurrence of arrhythmias in the acute period of AMI significantly aggravates the patient's condition, leads to a deterioration in hemodynamic parameters and the appearance of recurrent myocardial ischemia due to ventricular tachysystole [12, 15] . The study of the mechanisms of occurrence of arrhythmias in AMI and the effect of these arrhythmias on hemodynamics is essential for the correct choice of treatment tactics and the method of restoring sinus rhythm [13, 14] .

The aim of the study: to study changes in heart rate variability in patients with acute myocardial infarction (AMI) according to echocardiography.

Materials and Methods: The study included 45 men aged 18 to 45 years (39.2±2.5 years) who were admitted to the cardio intensive care unit with a diagnosis of ACS with further transformation into AMI with a tooth (25 bx) or without a tooth Q (20 bx). The control group consisted of 35 practically healthy men aged 18 to 45 years (39.9±3.5 years). During the day, the subjects were monitored for heart rate variability (HRV) using a Holter ECG monitoring system. Intracardiac hemodynamics and the state of diastolic function of the left ventricle (LV) were assessed according to Echo-KG and Doppler-EchoCG performed on the Mindray machine (China) in accordance with the recommendation of the American Association of Echocardiography.

Results : In the study group, according to the results of echocardiography, the ejection fraction (EF) was 46.1±11%, end-systolic size (ESD) 4.3±1.02 cm, end-diastolic size (EDS) 5.7±1 cm, volumes (EDV)– 160.7 ±66 ml, CSR– 90.5±48cm. 72.3% had left ventricular diastolic dysfunction (LVDD). 82% had left ventricular hypertrophy (LVH), myocardial index was– 189±70g/m ^{2}. In the group of patients with coronary artery disease in combination with PICS, AH was found to be EF– 46±9%, EFR– 4.4±1 cm, EDR– 5.8±1 cm, EDV– 161±69 ml, ESD– 90±52 cm, LVDD 43.5%. LVH was found in 55.8% of patients , while the LV IMM was– 189±72 g/m ^{2}. - 3.7±0.9 cm, EDV– 137±51.6 ml, ESV– 67±34 cm, LVDD was detected in 73%. LVH was established in 88% of cases, LV IMM– 161 ± 43.6 g/m ^{2}. In the group of patients with coronary artery disease, without PICS, AH in anamnesis, EF was– 55.5 ± 9%, cavity sizes (ECD, EC) 5.3 ± 0.8 cm and 3.7±0.8 cm, respectively, the dimensions of the cavities were 132±56 ml and 61±32.7 ml. LVH was found in 80.6% of cases, LV BMI was 167±70 g/m ^{2}. Most often, atrial fibrillation occurred in the group of patients with coronary artery disease in combination with PICS, AH. The risk of SCD, according to the literature, also increases in patients with changes in the geometry of the heart (dilation, cardiac hypertrophy) with any pathology of the heart (usually organic). Correlation analysis carried out between HRV and cardiac echogeometry showed that there is a negative relationship between LVMI and SDNN (r =0.36, P<0.05), LVMI and SDANN (r =-0.38, P<0.05), EDV and SDNN (r =-0.37, P<0.05), EDV and SD A NN (r =-0.39, P<0.05), EDV and SDNN ind , ms (r = -0.33, P<0.05), EF and SDNN (r = -0.32, P<0.05), EF and SD A NN (r = -0.38, P<0.05), FIR and SDNN (r = -0.31, P<0.05). From the above results, it can be seen that the deterioration of HRV parameters is more typical for patients with pronounced changes in the echogeometry of the heart in the form of dilatation of the heart cavities with the phenomena of diastolic and systolic myocardial dysfunction, which are typical for patients with AMI with a Q wave .

Conclusion: Thus, the correlation analysis data suggests that timely diagnosis of patients with ST -elevation ACS allows initiating timely and appropriate treatment, which improves the prognosis of cardiovascular diseases and reduces the risk of developing cardiovascular accidents.

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