



PREVALENCE OF HEART RHYTHM DISORDERS IN THE ACUTE PERIOD OF MYOCARDIAL INFARCTION ACCORDING TO ECHOCARDIOGRAPHIC DATA

Khasanjanova F.O. ¹, Saidov M.A. ², Nizamov X.Sh. ²,
Abdivaliev B.K. ²

1. Samarkand State Medical University
2. Samarkand regional branch of the Republican Scientific and Practical Specialized Medical Center for Cardiology, Samarkand, Uzbekistan.

Article history:	Abstract:
<p>Received: April 6th 2023 Accepted: May 6th 2023 Published: June 7th 2023</p>	<p>In this scientific work The prevalence of cardiac arrhythmias in the acute period of myocardial infarction was studied according to echocardiography data. The study included 55 patients diagnosed with acute coronary syndrome (ACS) with further transformation into AMI with a Q wave (35 b-x) or without a Q wave (20 b-x) , hospitalized in the departments of coronary heart disease and AMI of the Samarkand Regional Branch of the Republican specialized scientific and practical medical center of cardiology (SRF RSNPMCC). According to the 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 .</p>
<p>Keywords: myocardial infarction, cardiac arrhythmia, echocardiography, dysfunction, etc.</p>	

INTRODUCTION:

In all countries of the world, including Uzbekistan, there has recently been a trend towards the prevalence of patients with acute myocardial infarction (AMI) and different segments of the population are involved in the pathological process. The increase in the number of young patients with AMI is an important socio-economic problem due to the early disability of the population and early mortality, since this part of the population is the labor and intellectual potential of society. In patients with acute myocardial infarction (AMI), the death of part of the functioning myocardium of the left ventricle (LV) initiates a number of biochemical signaling mechanisms that trigger compensatory changes in the heart, affecting its size, geometry, and function. The function and volume of the left ventricle are the most important parameters that determine the prognosis of life and cardiovascular complications in patients with AMI [1, 3, 5, 21]. The complex of these changes is united by the concept of postinfarction remodeling [2, 4, 6, 22].

Numerous studies conducted in recent years have demonstrated a relationship between an increase in LV end-diastolic volume (index) [8, 10, 12, 24], its end-systolic volume (index) [7, 9, 11, 23] and a decrease in ejection fractions [14, 16, 25] associated with postinfarction remodeling , with an increased risk of cardiac death, recurrent MI, development of congestive heart failure (HF), and embolic stroke. Thus, the ability to predict the unfavorable nature of

postinfarction LV remodeling is equivalent to the ability to identify patients with a high risk of cardiovascular complications and cardiac death in the long term already in the early period of infarction. The risk of adverse remodeling may play a significant role in assessing the feasibility of early endovascular / surgical revascularization after thrombolysis , aimed at eliminating stenosis of the infarct-related artery [15, 17, 19]. In addition, prognostic data regarding the nature of remodeling allow a more differentiated approach to drug therapy in the postinfarction period. In patients with a high probability of adverse remodeling , special attention should be paid to the appointment of the maximum tolerated dosages of beta-blockers, as well as ACE inhibitors / ARAI, i.e. drugs that can prevent remodeling [18, 20].

THE AIM OF THE STUDY: to study the prevalence of cardiac arrhythmias in the acute period of myocardial infarction according to echocardiographic data.

MATERIALS AND METHODS: The study included 55 patients diagnosed with acute coronary syndrome (ACS) with further transformation into AMI with a Q wave (35 b-x) or without a Q wave (20 b-x) , hospitalized in the departments of coronary heart disease and AMI Samarkand Regional Branch of the Republican Specialized Scientific and Practical Medical Center for Cardiology (SRF RSNPMCC) for the period 2021-2022 The control group consisted of 35 practically healthy



individuals aged 35 to 60 years (47.9 ± 2.5 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 $48.1 \pm 11\%$, end-systolic size (ESD) 4.2 ± 1.02 cm, end-diastolic size (EDS) 5.6 ± 1 cm, volumes (EDV) $159 \pm 7 \pm 66$ ml, CSD 9.15 ± 48 cm. 72.3% had left ventricular diastolic dysfunction (LVDD). 81% had left ventricular hypertrophy (LVH), myocardial index was -188 ± 7 g/m². In the group of patients with AMI in combination with PICS, AH, EF was found to be $45 \pm 9\%$, 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 LV IMM was -189 ± 72 g/m². 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/m². In the group of patients with coronary artery disease, without PICS, AH in anamnesis, EF was $55.5 \pm 9\%$, the dimensions of the cavities (ECD, EC) were 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/m². 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 SDANN ($r = -0.39$, $P < 0.05$), EDV and SDANN ind, ms ($r = -0.33$, $P < 0.05$), EF and SDNN ($r = -0.32$, $P < 0.05$), EF and SDANN ($r = -0.38$, $P < 0.05$), FIR and SDNN ($r = -0.31$, $P < 0.05$).

CONCLUSION: thus, 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. Correlation analysis

data suggests that timely diagnosis of patients with Q-wave AMI allows initiating timely and appropriate treatment, which improves the prognosis of cardiovascular diseases and reduces the risk of developing cardiovascular catastrophes.

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