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## DEVELOPMENT OF MEASURES TO REDUCE THE RISK FACTORS LEADING TO ARRHYTHMIAS IN ACUTE MYOCARDIAL INFARCTION

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**Abstract.** The priority of reperfusion therapy in the prevention of acute heart failure and improving the prognosis in myocardial infarction is undeniable. Thrombolysis remains an important factor as a cheap and effective method of reperfusion. Identification of factors related to thrombolysis efficacy, including genetic factors, is a unique process.

**Keywords.** Thrombolysis, inotropic therapy, cardiotoxic, compliance.

**Introduction.** The current assessment of the degree of restoration of blood flow in the arteries associated with infarction (IBA) is of particular importance for risk stratification and the choice of subsequent treatment. (1)

In 10-30% of cases of acute heart failure in patients with myocardial infarction, the use of cardiotoxic, inotropic drugs is necessary (5). However, these drugs provide only short-term symptomatic improvement, and their mortality rate may increase due to widespread arrhythmogenic potential, increased oxygen consumption, and severe damage to myocardial cells due to calcium overload. In this context, it is important to identify criteria for the timely identification of patients with myocardial infarction in need of inotropic therapy, which may contribute to the more differentiated use of drugs in this group. It is important to look for new drugs that provide the necessary symptomatic effect and at the same time do not worsen the prognosis of the disease. The most promising drug is levosimendan, but its clinical efficacy and safety have been studied mainly in acute decompensation of heart failure and only one large randomized placebo-controlled 2-

stage study in myocardial infarction included more than 500 patients with grade II-III acute heart failure. Killip (2). The efficacy of levosimendan was first evaluated using clinical data. In this regard, a more detailed study of the effect of the drug on myocardial contractility using tissue Doppler ultrasound is relevant. In addition, the effect of such treatment on arrhythmogenic preparation in this category of patients should be studied in detail (5).

Despite the improvement in the diagnosis and treatment of cardiac patients, research at home and abroad shows that cardiovascular disease remains a pressing problem of the XXI century in many countries around the world [9]. Recent studies confirm that 7–21% of cases in patients with acute myocardial infarction are complicated by ventricular fibrillation [3]. The main reason for the complication of acute myocardial infarction with ventricular fibrillation is the increase in hemodynamic load on the left ventricle resulting from acute left ventricular failure [7]

Complications of ventricular arrhythmias have been reported in 4.5–7% of patients with acute myocardial infarction

[8]. This leads to an increase in nosocomial mortality [4,5].

Transient dysfunction of the left ventricle to varying degrees occurs in approximately 50% of patients with myocardial infarction [6]. Acute heart failure is primarily associated with impaired systolic function of the myocardium and decreased heart rate. The first sign of pumping dysfunction with a relatively small myocardial infarction (less than 10% of left ventricular mass) is a decrease in compliance (compliance) found experimentally and in myocardial ischemia without necrosis [5]. This disruption of relaxation is explained by a slowing of the release of calcium ions from the myofibrils to the sarcoplasmic reticulum, which is explained by a sharp decrease in the reserve of energy substrates in cardiomyocytes. As a result of these disturbances, systole is prolonged and left ventricular diastole is defective; lack of proper relief contributes to an increase in diastolic pressure in it, which eventually leads to the appearance of symptoms of acute heart failure.

**The purpose of the study.** To determine the degree of myocardial infarction complication with arrhythmia and the main factor leading to arrhythmia and to develop measures to reduce this factor.

**Research materials and methods.** Eighty patients treated with a diagnosis of acute myocardial infarction will be studied. The subject of the study is based on the results of clinical examination, ECG findings, laboratory parameters (general analysis of blood, biochemical analysis of blood) ExoKG data. For the first time, rhythm changes are described from the time of development of myocardial infarction. Rhythm disorders are studied in relation to necrotic foci and clinical course. The data

obtained, as well as the proposed early diagnostics and preventive measures will help to prevent complications of various arrhythmias in patients with acute myocardial infarction.

**Conclusion.** The results obtained and the conclusions presented provide an opportunity to reduce the complication rate of myocardial infarction with arrhythmias, which are listed among the current problems of the health system.

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