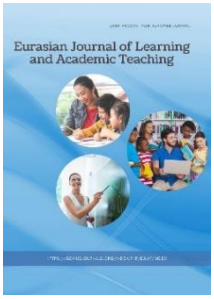

Aspects of Cardio protection of Patients with Chronic Heart Failure, as a Consequence of Myocardial Infarction.

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ABSTRACT

The purpose to study the effect of the myocardoprotector trimetazidine in patients with myocardial infarction complicated by chronic heart failure.

Keywords: myocardial infarction, coronary heart disease, chronic heart failure, type 2 sodium-dependent glucose transporter inhibitor, trimetazidine.

Introduction. The high pedestal of the cause of chronic heart failure (CHF) belongs to coronary heart disease (CHD), especially acute myocardial infarction (AMI). The most important and key stage in the development of CHF, which occurs as a complication of myocardial infarction, are structural and functional changes leading to remodeling of the left ventricle, involving both systolic and diastolic dysfunction, i.e. impaired contractile function myocardium [2,4]. A special role in the occurrence of the latter belongs to cardiomyocytes, the contractile activity of which decreases sharply, but the need for oxygen and the necessary components of metabolism remains: tissue and cellular. As a result, myocardial ischemia is caused, the next stage is a sharp deficiency of ATP, leading to damage to intracellular structures, then the contractile function of cardiomyocytes is disturbed. This whole vicious circle is aggravated, with undertreatment or with insufficiently effective therapy, ends with ischemic cardiomyopathy (ICM). According to the latest standard of management of patients with CHF, it is necessary to use b-blockers, ACE inhibitors, mineralocorticoid receptor antagonists (AMR). The latter are represented by aldosterone receptor antagonists, including; potassium-sparing diuretics: spironolactone and eplerenone. Possessing a weak diuretic property, AMP inhibitors are used not only and not so much as diuretics, in combination with B-blockers and ACE inhibitors affect the functioning of the heart: reduce the need for oxygen, reduce

post/preload, increase coronary blood flow [1]. A fairly successful effect on hemodynamic parameters does not effectively promote the use of oxygen by the myocardium. In addition, the above groups of drugs have a number of side effects, the use of which limits the scope of their use in most patients. As a drug with a metabolic effect, acting as a myocardial cytoprotector is trimetazidine. Cardioprotection is achieved , at the cellular level, after providing enough energy, and ATP names; Which, in turn, builds the prerequisites for maintaining the normal contractile function of cardiomyocytes and the myocardium as a whole. The metabolic metabolism of the heart is supported by the use of energy generated by the breakdown of the two main substrates. Which are represented by free fatty acids (75%) and glucose (25%). Trimetazidine, enhancing aerobic glycolysis and at the same time reducing the intensity of oxidation of fatty acids, leads to energy potential. Which optimizes the myocardial oxygen demand under conditions of developed ischemia [4,5]. It has been established that the use of trimetazidine as an adjunctive therapy; to standard therapy of CHF in patients with coronary artery disease with MI; It reduces both systalic and diastalic myocardial dysfunction. Subsequently, this significantly reduces the functional class of CHF.

Purpose. To study the effect of the myocardoprotector trimetazidine in patients with myocardial infarction complicated by chronic heart failure.

Materials and methods: 203 patients with coronary artery disease who underwent MI were examined, of which 157 were men and 46 were women, with a percentage of 77.34% and 22.66%, respectively. The average age of the subjects was 56.4±1.7 years. Each patient underwent the following examinations: anamnesis and examination; general clinical and biochemical studies, electrocardiography (ECG). The manifestations of CHF of both groups according to the New York classification, obtained by the results of the 6-minute walk test, were evaluated. The patients were divided into 2 groups. The first group included 140 (69%) patients [men – 112 (80%), women – 28 (20%)], who, along with basic therapy, received Trimetazidine (Preductal OD-160 mg) 1 tablet 1 time per day for 30 days. The second group (control group) included 63 (31%) patients [men – 45 (71.4%), women – 18 (28.6%)] who received standard therapy (beta-blockers, ACE inhibitors, AMP inhibitors). At the time of inclusion of patients in the study, 59 (29%) patients were included in the 1st group: I FC in 11 (18.6%), II FC -29 (49.2%), III FC - 14 (23.73%) and IV FC - 5 (8.47%). In the 2nd group in 36 (17.7%) patients: I FC in 14 (38.9%), II FC -3 (8.3%), IIIFC - 12 (33.3%) and IVFC - 7 (19.4%) patients. According to the Minnesota questionnaire in the 1st group of patients, the quality of life indicators (average value in points) were 61.4±0.8 points ($p<0.052$).

Results and discussions. There was an improvement in the quality of life of patients against the background of the treatment. This seemed to be evident in the positive hemodynamics and assessment of the manifestations of CHF phenotypes according to FC. In the group taking trimetazidine, the number of patients with II FC CHF increased from 29 (49.2%) to 41 (69.5%), I FC CHF from 11 (18.6%) to 18 (30.5%) patients compared with the baseline data due to patients from III FC and IV FC. The number of patients with III FC CHF decreased to 6 (10.2%) and IV FC CHF up to 3 (5.1%) patients; and in the control group, there is a slight negative trend (III and IVFC up to 3 (8.3%) and 5 (13.9%), respectively). In the course of the study, a positive trend in indicators reflecting the quality of life according to the Minnesota questionnaire was noted. In the 1st group of patients, quality of life indicators (average value in points) improved from 61.4±0.8 points ($p<0.052$) to 34.2±0.28 points ($p<0.013$). In the 2nd group, from 58.7±0.94 to 53.3±1.2 points ($p<0.051$).

Conclusion. Atotal of 203 patients with coronary artery disease who underwent MI were followed, including 157 men and 46

women. The mean age of all subjects was 56.4±1.7 years. Each patient underwent the following examinations: anamnesis and examination; general clinical and biochemical studies, electrocardiography (ECG). The manifestations of CHF of both groups according to the New York classification, obtained by the results of the 6-minute walk test, were evaluated. In patients undergoing myocardial infarction with or without a tooth Q, the complication of which was CHF; Against the background of basic therapy, the use of trimetazidine significantly effectively affected the quality of life.

Affirmation. Trimetazidine is a cardioprotector, in particular, it is possible to give the vocation of a high-class myocardial protector. This drug against the background of application (from 14 to 1 month) causes an improvement in the metabolism of myocardial muscle and is indicated for all patients with coronary artery disease who have undergone myocardial infarction in the early stages of chronic heart failure.

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