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ТРИМЕТАЗИДИН В КОМБИНИРОВАННОЙ ТЕРАПИИ ИШЕМИЧЕСКОЙ БОЛЕЗНИ СЕРДЦА, ПЕРЕНЕСШИХ ИНФАРКТ МИОКАРДА

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АННОТАЦИЯ

Несмотря на постоянное совершенствование методов обследования и лечения, уровень смертности от ИБС сохраняется высоким, в связи с чем ведутся поиски и разработки новых подходов к ведению больных ИБС. Эпидемиологические исследования, проведенные среди населения Узбекистана, показали, что более 26% лиц в возрасте старше 40 лет страдают артериальной гипертензией (АГ), которая является причиной мозгового инсульта, острого инфаркта миокарда, сердечной недостаточности; около 11% страдают различными формами ИБС. В Узбекистане ежегодно регистрируется 8000 случаев острого инфаркта миокарда, около 60% пациентов умирают на догоспитальном этапе. Поэтому, это является актуальной проблемой не только клинической, но и научной медицины. Появление в клинической практике препаратов метаболического действия стало выдающимся событием в кардиологии.

Ключевые слова: сердечно-сосудистая система, ишемическая болезнь сердца, инфаркт миокарда.

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TRIMETAZIDINE IN COMBINED THERAPY OF ISCHEMIC HEART DISEASE WITH MYOCARDIAL INFARCTION

ANNOTATION

Despite the constant improvement of methods of examination and treatment, the mortality rate from coronary artery disease remains high, and therefore the search and development of new approaches to the management of patients with coronary artery disease are underway. Epidemiological studies carried out among the population of Uzbekistan have shown that more than 26% of people over the age of 40 suffer from arterial hypertension (AH), which is the cause of cerebral stroke, acute myocardial infarction, heart failure; about 11% suffer from various forms of ischemic heart disease. In Uzbekistan, 8000 cases of acute myocardial infarction are registered annually, about 60% of patients die at the pre-hospital stage [3]. Therefore, this is an urgent problem not only in clinical, but also in scientific medicine. The appearance of metabolic drugs in clinical practice has become an outstanding event in cardiology.

Key words: CVS (cardiovascular system), ischemic heart disease, myocardial infarction.

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МИОКАРД ИНФАРКТИ О՛ТКАЗГАН YURAK ISHEMIK KASLLIGI BOR BEMORLARDA TRIMETAZIDINNING KOMBINIRLANGAN TERAPIYASI

ANNOTATSIIYA

Tekshiruv va davolash usullarining doimiy takomillashtirilishiga qaramay, yurak-qon tomir kasalliklaridan o'lim darajasi yuqoriligicha qolmoqda va shuning uchun yurak ishemik kasalligi bilan og'rigan bemorlarni davolashning yangi yondashuvlarini izlash va ishlab chiqish davom etmoqda. O'zbekiston aholisi o'rtasida olib borilgan epidemiologik tadqiqotlar shuni ko'rsatdiki, 40 yoshdan oshgan aholining 26% dan ortig'i miya insultlari, o'tkir miokard infarkti, yurak yetishmovchiligining sababi bo'lgan arterial gipertenziya (AG); taxminan 11% yurak ishemik kasalligining turli shakllaridan aziyat chekadi. O'zbekistonda har yili 8000 ga yaqin o'tkir miokard infarkti qayd etiladi, bemorlarning 60 foizga

yaqini kasalxonaga yotqizishdan oldingi bosqichda vafot etadi. Shuning uchun bu nafaqat klinik, balki ilmiy tibbiyotda ham dolzarb muammodir. Metabolik dorilarning klinik amaliyotda paydo bo'lishi kardiologiyada ajoyib voqea bo'ldi.

Kalit so'zi: Yurak qon-tomir tizimi, yurak ishemik kasalligi, miokard infarkti.

Cardiovascular diseases (CVD) are the leading cause of nonviolent death in the world. Among them, ischemic heart disease is in the lead - in 2020 it affects 126 million people worldwide, this is 16% of all deaths [4]. Men are susceptible to coronary artery disease more often than women [4]. Clinical manifestations of coronary artery disease include asymptomatic myocardial ischemia, angina pectoris, acute coronary syndromes (unstable angina pectoris, myocardial infarction) and sudden cardiac death [5]. Despite the constant improvement of examination and treatment methods, the mortality rate from coronary artery disease remains high, and therefore the search and development of new approaches to the management of patients with coronary artery disease are underway. Currently, coronary heart disease is one of the major causes of death in the world. Very often leads to myocardial infarction, remodeling of the heart, and ultimately to chronic heart failure. Chronic heart failure ends in the death of the patient. In recent years, more antianginal drugs have appeared for the treatment of stable and unstable forms of coronary artery disease, these are nitrates, β -blockers, calcium antagonists, ranolazine, nicorandil, allopurinol. Trimetazidine is also now included in the treatment of acute pain - acute coronary syndrome and unstable angina due to its action on cardiomyocytes. This once again indicates the need for the use of trimetazidine in patients with past covid-19 who are currently at the Long-covid stage and need long-term rehabilitation. [2,8] In recent decades, the incidence of ischemic heart disease has become significantly younger. Already at the age of 30, ischemic heart disease is the main cause of morbidity and disability, and from 40 years of age, premature death [6]. Therefore, this is an urgent problem not only in clinical, but also in scientific medicine. The appearance of metabolic drugs in clinical practice has become an outstanding event in cardiology. Microcirculatory dysfunction and metabolic disorders emerge as important concomitant pathogenetic mechanisms in CAD. In addition, the limited impact of revascularization procedures on the patient's prognosis, as well as persistent angina pectoris in many patients after the elimination of stenosing atherosclerotic plaques in the coronary arteries, support this hypothesis [4, 5]. Therefore, in patients with CAD and stable angina, a combined therapeutic approach is required, including metabolic agents (such as trimetazidine, TMZ) in addition to standard therapy [7]. One of the highly effective metabolic drugs is the myocardial cytoprotector trimetazidine, an inhibitor of mitochondrial long-chain 3-ketoacyl-CoA thiolase. Cytoprotection is achieved by providing enough energy, which allows maintaining the normal contractile function of cardiomyocytes and the myocardium as a whole. [9] Metabolic agents improve energy production efficiency, reduce oxygen debt, and protect myocardial cells from the effects of ischemia [11, 14,15]. Metabolic processes in the heart are supported by energy, which is formed during the breakdown of two main substrates: free fatty acids (70%) and glucose (15%). With a deficiency of oxygen, the breakdown of fatty acids is disrupted, and this leads to a number of biochemical changes: to inhibition of aerobic glycolysis, to a decrease in the rate of ATP synthesis, to an increase in the rate of formation of free radicals, to damage to cell membranes, to the accumulation of Ca^{2+} and cations and to the development of intracellular acidosis, the consequence of which is a decrease in the contractile function of the heart [1,12, 13]. Trimetazidine contributes to the conservation of energy potential by optimizing the use of oxygen by the myocardium under ischemic conditions by increasing aerobic glycolysis and reducing the rate of fatty acid oxidation [10].

Target: To evaluate the clinical efficacy of trimetazidine and its effect on the functional state of the CVS in patients with coronary artery disease who have had myocardial infarction.

Materials and methods: The study was conducted in the therapeutic departments of the Samarkand Regional Multidisciplinary Medical Center. A total of 52 patients with coronary artery disease who had undergone myocardial infarction (men - 36 (69%), women - 16 (31%)) were examined. All patients underwent examination: interview and examination; general clinical and biochemical studies, ECG, echocardiography (EchoCG). The study included patients with an LV

ejection fraction of less than 50%... The patients were divided into 2 groups. The first group (comparison group) included 19 (36%) patients (men - 14 (74%), women - 5 (26%)) who received only basic therapy (beta-blockers, ACE inhibitors, anticoagulants, antianginal drugs) ... The second group included 33 (63%) patients (men - 22 (67%), women - 11 (33%)) who, along with basic therapy, received trimetazidine (predizin, Gedeon Richter, Hungary) at a dose of 35 mg 2 times day for 3 months. In the first group patients with bad habits accounted for 9 (47.3%), obese patients - 6 (31.6%). Of the concomitant pathology, most patients with AH - 9 (47.4%), with diseases of the gastrointestinal tract - 2 (10.5%), with heart failure FC IV - 5 (26.5%), with a disease of the nervous system - 5 (26.5%), with atrial fibrillation were 5 (26.3%). In the second group (control group), patients with bad habits - 8 (24.2%), obese patients - 16 (48.5%). Of the concomitant pathologies, most patients with AH are 10 (30.3%), with diseases of the gastrointestinal tract - 3 (9.1%), with heart failure FC IV - 6 (18.2%), with diseases of the nervous system - 11 (33.3%), atrial fibrillation were 6 (18.2%). These main clinical indicators were not significantly different in both groups. The effectiveness of the therapy was assessed by LV remodeling in patients with coronary artery disease after myocardial infarction. The structural and functional state of the left ventricle was studied using a MindrayDC-7 echocardiograph according to the standard technique. Echocardiography was performed before and after treatment. Evaluated the following indicators: end systolic size (ESV), end diastolic size (EDV), end diastolic volume (EDV), end systolic volume (ESV), stroke volume (SV), left ventricular ejection fraction (LVEF).

Results.

When analyzing the dynamics of symptoms of heart failure against the background of the therapy, it was revealed that in both groups there was a significant decrease in the functional class (FC) in the studied patients. Thus, in patients of group 1, FC decreased from 2.52 ± 0.08 to 1.85 ± 0.09 ($p < 0.001$), and in patients of group 2, FC decreased from 2.40 ± 0.09 to 1.47 ± 0.12 ($p < 0.001$). However, in patients of the 2nd group, the decrease in FC was more pronounced than in the 1st group (38.8% and 26.6%, respectively). When comparing the mean FC values of patients between the 1st and 2nd groups after three months of therapy, it was revealed that in the 2nd group of patients the average FC was less by 25.8% ($p = 0.008$). None of the 52 patients included in the study experienced a worsening of their condition during the three-month therapy, and all patients successfully completed the study program.

When analyzing biochemical parameters in group 1 before treatment, cholesterol was 6.8 ± 0.5 mmol / L, and after treatment 6.3 ± 0.5 mmol / L. In the second group (who received additionally predizin), cholesterol was 6.6 ± 0.7 mmol / L, and after treatment 6.0 ± 0.2 mmol / L. When analyzing the echocardiography parameters in group 1 before treatment, the end diastolic volume (EDV) was 159 ± 1.84 mm / m², and after treatment - 154.4 ± 1.58 mm / m² L; the final systolic volume (CSV) before treatment - 86.84 ± 5.11 mm / m², after - 78.67 ± 2.28 mm / m²; left ventricular ejection fraction (LVEF) before treatment - $45 \pm 0.62\%$, after - $50.2 \pm 1.26\%$. Left ventricular stroke volume (LVOL) - before treatment was 63.57 ± 4.33 , after treatment - 72.72 ± 2.48 . In group 2, before treatment, the end diastolic volume (EDV) was 146 ± 2.35 mm / m², and after treatment - 114.03 ± 5.32 mm / m²; the final systolic volume (CSV) before treatment - 84.65 ± 1.64 mm / m², after - 42.82 ± 2.18 mm / m²; left ventricular ejection fraction (LVEF) - before treatment - $43.6 \pm 1.45\%$, after - $56 \pm 2.25\%$. Stroke volume of the left ventricle (LVOL) - before treatment - 58.74 ± 1.43 after - 71.88 ± 3.18 . From the analyzes carried out after the treatment of patients showed a tendency towards the normalization of cholesterol and echocardiography. These indicators were most pronounced in the second group ($p \leq 0.05$).

Output. There was a significant difference and a better treatment effect in the control group. Thus, the addition of predizin to the complex therapy leads to a more pronounced improvement in the general condition of patients and the normalization of echocardiography.

References / Список литературы / Iqtiboslar

1. Agababayan I. R., AA R. The diagnostic value of routine research methods electrocardiography and echocardiography in patients with chronic heart failure elderly //International Conference «Process Management and Scientific Developments. – 2019. – С. 168-171.
2. Agababayan I., Soliyeva S., Ismoilova Y. Condition of Coronary Arteries and Change of Lipid Profile in Coronary Heart Disease //Annals of the Romanian Society for Cell Biology. – 2021. – С. 207-213.
3. Курбанов. Р. Д. Руководство по клинической кардиологии. Ташкент «Тиб-китоб» 2018 г.
4. Булич Э. Г., Муравов И. В. Здоровье человека.- Олимпийская литература, 2016г.
5. Гасилин В. С., Куликова Н. М. Поликлинический этап реабилитации больных инфарктом миокарда. — М.: Медицина, 2017.
6. Мартынов А.И., Остроумова О. Д., Шариф С.Ф. Ишемическая болезнь сердца у лиц пожилого и старческого возраста: клиника, диагностика, лечение, профилактика «Клиническая медицина» 2015 г.
7. Лупанов В. П. Метаболический миокардиальный цитопротектор триметазидин в лечении больных ишемической болезнью сердца и сопутствующих заболеваний (обзор). Consilium medicum 2016; 16, 5: 37-43).
8. Мареев В.Ю., Орлова Я.А., Павликова Е.П., Мацкеплишвили С.Т., Краснова Т.Н., Малахов П.С., Самоходская Л.М., Мершина Е.А.Синицин В.Е., Мареев Ю.В., Калинин А.Л., Беграмбекова Ю.Л., Камалов А.А. Пульс-терапия стероидными гормонами больных с Коронавирусной пневмонией (COVID-19), системным воспалением и риском венозных тромбозов и тромбоэмболий (исследование ПУТНИК). Кардиология. 2020;60(6). DOI: 10.18087/cardio.2020.6.n1226. p.15-29.
9. Ташкенбаева Э. Н., Насырова З. А., Мирзаев Р. З. СТРАТИФИКАЦИЯ ХРОНИЧЕСКОЙ ИШЕМИЧЕСКОЙ БОЛЕЗНИ СЕРДЦА В ЗАВИСИМОСТИ ОТ МЕТОДОВ ДИАГНОСТИКИ И ПУТИ ИХ ЛЕЧЕНИЯ //cardio. – 2020. – Т. 1. – №. 3.
10. Ташкенбаева Э. Н. и др. DESTABILIZATION OF ISCHEMIC HEART DISEASE IN PATIENTS WITH ANXIETY-DEPRESSIVE SYNDROME //Вестник экстренной медицины. – 2021. – Т. 14. – №. 1. – С. 11-18.
11. Ташкенбаева Э. Н., Насырова З. А., Тоиров А. Э. ТЕЧЕНИЕ НЕСТАБИЛЬНЫХ ВАРИАНТОВ СТЕНОКАРДИИ ПРИ ПОЛИМОРБИДНЫХ СОСТОЯНИЯХ //Colloquium-journal. – Голопристанський міськрайонний центр зайнятості= Голопристанский районный центр занятости, 2019. – №. 27-3. – С. 45-49.
12. Dezsı CA. Trimetazidine in practice review of the clinical and experimental evidence. Am J Ther 2016; 23(3): e871-e9.
13. Fabiani J.N., Ponzio O., Emerit I. et al. Cardioprotective effect of trimetazidine during coronary artery graft surgery //J. Cardiovasc. Surg. 2017г.
14. Guarini G, Huqi A, Morrone D, et al. Pharmacological agents targeting myocardial metabolism for the management of chronic stable angina: an update. Cardiovasc Drugs Ther 2016; 30(4): 379-1.
15. Renauld J.F. Internal pH, Na⁺ and Ca²⁺ regulation by trimetazidine during cardiac cell acidosis. Cardiovasc // Drugs Ther. 2016 г.