IJACT, Volume 2, Issue 5, 2024 ISSN: 2995-5378
http://medicaljournals.eu/index.php/IJACT

INTERNATIONAL JOURNAL OF ALTERNATIVE AND CONTEMPORARY THERAPY

EVALUATION OF THE EFFECTIVENESS OF QUERCETIN IN THE COMPLEX TREATMENT OF ACUTE MYOCARDIAL INFARCTION WITH ST SEGMENT ELEVATION

Khasanjanova F.O.
Samarkand State Medical University

Rofeev M.S.
Samarkand branch of the Republican Scientific and Practical Center for Emergency Medical Care, Samarkand, Uzbekistan

Rofeev J.M.
Samarkand State Medical University
Samarkand branch of the Republican Scientific and Practical Center for Emergency Medical Care, Samarkand, Uzbekistan

Annotation. The study examined the effect of cardioprotector, antioxidant, flavonoid quercetin on the clinical course and dynamics of the ST segment in patients with myocardial infarction with ST segment elevation. The study included 268 patients with acute myocardial infarction with ST segment elevation aged 20 to 69 years who were hospitalized in emergency departments No. 1 in the period from 2022 to 2023 on the basis of the Samarkand branch of the Republican scientific and Practical center for Emergency Medical Care. The patients were divided into 2 groups: group 1 – 132 patients with STEMI, to whom reperfusion was performed against the background of intravenous administration of quercetin; group 2 – 136 patients with STEMI, reperfusion was performed against the background of basic therapy. All patients underwent a general clinical examination (anamnesis collection, anthropometric and physical examination of the patient, measurement of blood pressure, heart rate). Laboratory and instrumental examination included clinical blood tests, biochemical blood analysis, examination of hemostasis indicators, upon admission and in dynamics on the 2nd and 7th day of admission, ECG, echocardiography, lung radiography, ultrasound according to indications. The addition of an intravenous form of quercetin in the complex therapy of STEMI improves the clinical course of the disease, accelerates the onset of reperfusion at the tissue level due to the cardioprotective properties of the drug, as evidenced by a rapid decrease in the ST segment.

Keywords: coronary heart disease, AMI, unstable angina, etc.

Introduction

Cardiovascular diseases continue to occupy a leading position among the causes of death in most economically developed countries of the world. At the same time, the development of myocardial infarction is often the cause of disability and mortality of the able-bodied population, which causes the most significant damage to the economy [1, 6, 11, 16]. Coronary artery thrombosis plays a leading role in the development of myocardial infarction. Most often, the development of coronary thrombosis occurs due to rupture or erosion of the atherosclerotic plaque, in some cases it is provoked by erosion of pathologically altered intima, or protrusion into the lumen of the coronary artery of a calcified node [2, 7,

12, 17]. Subsequent pathological changes of the myocardium in the blood supply area of the affected coronary artery are the cause of the development of life-threatening conditions.

In the treatment of acute ST-segment elevation myocardial infarction (STEMI), a pathophysiological approach is used aimed at early myocardial reperfusion by revascularization of the infarct-associated coronary artery [3, 8, 13, 18]. Today, an invasive reperfusion strategy is a priority, when coronary blood flow is restored during percutaneous coronary intervention (PCI). In some cases, when timely PCI is impossible (more than 120 minutes from primary medical contact), a pharmacoinvasive strategy is used. At the same time, at the prehospital stage, a thrombolytic drug is administered that destroys the fibrin base of the thrombus, which in most cases leads to the restoration of normal blood flow through the coronary artery. After prehospital thrombolysis in the range from 2 to 24 hours, PCI is performed, if thrombolytic therapy is ineffective, emergency life-saving PCI is performed [4, 9, 14, 19].

Diagnosis and treatment of AMI ST, as one of the most severe complications of coronary heart disease, is an urgent problem of modern cardiology. A decrease in mortality and a decrease in disability in AMI was noted after the introduction of a clear algorithm for managing patients based on risk assessment, shortening the start of treatment, the widest possible use of methods of myocardial revascularization and modern antithrombotic therapy. Despite the active development of pharmacology and the use of combination therapy (thrombolytics, anticoagulants, disaggregants, adrenoblockers, nitrates, ACE inhibitors, ARBs, etc.) for the treatment of myocardial infarction, the incidence of complications during all clinical stages of its development remains at a high level [5, 10, 15, 20].

The purpose of the study. To study the effect of cardioprotector, antioxidant, flavonoid quercetin on the clinical course and dynamics of the ST segment in patients with myocardial infarction with ST segment elevation.

Material and methods. The study included 268 patients with acute myocardial infarction with ST segment elevation aged 20 to 69 years who were hospitalized in emergency departments No. 1 in the period from 2022 to 2023 on the basis of the Samarkand branch of the Republican scientific and Practical center for Emergency Medical Care. The patients were admitted within 3 hours of the onset of the pain syndrome. All patients underwent a general clinical examination (anamnesis collection, anthropometric and physical examination of the patient, measurement of blood pressure, heart rate). Laboratory and instrumental examination included clinical blood tests, biochemical blood analysis, examination of hemostasis indicators, upon admission and in dynamics on the 2nd and 7th day of admission, ECG, echocardiography, lung radiography, ultrasound according to indications. All patients underwent primary PCI. The patients were divided into 2 groups: group 1 – 132 patients with STEMI, to whom reperfusion was performed against the background of intravenous administration of quercetin; group 2 – 136 patients with STEMI, reperfusion was performed against the background of basic therapy. According to the age of onset of the disease, age, the main risk factors and the basic therapy carried out, both groups were randomized. The dynamics of the ST segment of daily ECG monitoring was analyzed and the time of reperfusion symptoms was estimated.

Results. The time elapsed from the onset of pain syndrome to the appearance of signs of reperfusion in the form of ST segment displacement by 50% or more from the baseline level in the examined groups differed with a high degree of reliability: in the quercetin group, the indicator was 1.64 times less than in the control group ($p<0.01$). In the quercetin group, an acceleration of the "symptom-reperfusion" time and an improvement in tissue perfusion in the area of the affected coronary artery were observed. When comparing the results of treatment of patients with STEMI, it was revealed that in both groups, the "symptom-reperfusion" time averaged 286.2±18.8 and 331±20.0 minutes. The "symptom-reperfusion" time in the quercetin group was 44.8±19.0 minutes less than in the control group. The early use of TLT or PCI with the simultaneous use of a water-soluble intravenous form of quercetin during reperfusion of the CLAIM led to the development of abortive forms of MI. The use of quercetin also significantly reduced

the development of severe classes of LVH and ventricular arrhythmias.

Conclusion. Thus, the addition of an intravenous form of quercetin in the complex therapy of STEMI improves the clinical course of the disease, accelerates the onset of reperfusion at the tissue level due to the cardioprotective properties of the drug, as evidenced by a rapid decrease in the ST segment.

References:

1. Абдельлатиф, А. М., et al. "Влияние метаболического синдрома на отдаленный прогноз пациентов с острым инфарктом миокарда с подъемом сегмента ST." *Атеросклероз и дислипидемии* 1 (2016): 68-75.
2. Аверков, О. В., et al. "Острый инфаркт миокарда с подъемом сегмента ST электрокардиограммы. Клинические рекомендации 2020." *Российский кардиологический журнал* 11 (2020): 251-310.
3. Аронов, Д. М., et al. "Острый инфаркт миокарда с подъемом сегмента ST: современные подходы к ведению больных." *Фарматека* 10 (2018): 71-87.
4. Аронов, Д. М., М. Г. Бубнова, and В. Б. Красницкий. "Новые подходы к реабилитации и вторичной профилактике у больных, перенесших острый инфаркт миокарда с подъемом сегмента ST электрокардиограммы." *Кардиология* 55.12 (2015): 125-132.
5. Бессонов, Иван Сергеевич, et al. "Результаты чрескожных коронарных вмешательств у пациентов с острым инфарктом миокарда с подъемом сегмента ST в различных возрастных группах." *Сибирский научный медицинский журнал* 41.2 (2021): 56-65.
6. Бубнова, М. Г., et al. "Острый инфаркт миокарда с подъемом сегмента ST электрокардиограммы: реабилитация и вторичная профилактика." *Российский кардиологический журнал* 1 (2015): 6-52.
7. Калинская, А. И., et al. "Спонтанный тромболизис у больных с острым инфарктом миокарда с подъемом сегмента ST." *Креативная кардиология* 1 (2012): 19-25.
8. Посненкова, О. М., А. Р. Киселев, and В. А. Шварц. "Влияние терапии препаратом Кардионат на качество жизни у больных острым инфарктом миокарда с подъемом сегмента ST в раннем постинфарктном периоде." *Consilium medicum* 12.5 (2010): 94-98.
9. Рецензенты, Комитета ЕОК, and Национальных кардиологических обществ перечислены в Приложении. "Рекомендации ЕОК по ведению пациентов с острым инфарктом миокарда с подъемом сегмента ST 2017." *Российский кардиологический журнал* 23.5 (2018): 103-158.
10. Руда, М. Я., et al. "Диагностика и лечение больных острым инфарктом миокарда с подъемом сегмента ST электрокардиограммы." *Кардиологический вестник* 9.4 (2014): 3-60.
11. Саидов, М. А., et al. "ОЦЕНКА ВЛИЯНИЙ ПЕРВИЧНОГО ЧРЕСКОЖНОГО КОРОНАРНОГО ВМЕШАТЕЛЬСТВА И ТРОМБОЛИТИЧЕСКОЙ ТЕРАПИИ НА СОСТОЯНИЕ ГЕМОДИНАМИКИ У ПАЦИЕНТОВ, ПЕРЕНЕСШИХ ОСТРЫЙ ИНФАРКТ МИОКАРДА С ПОДЪЁМОМ СЕГМЕНТА ST." *Central Asian Journal of Medical and Natural Science* 4.5 (2023): 574-578.
12. Ташкенбаева, Э. Н., et al. "Предикторы развития сердечно-сосудистых осложнений у больных с острым инфарктом миокарда с подъемом сегмента ST." *Наука и общество в эпоху перемен* 1 (2018): 12-15.
13. Ташкенбаева, Элеонора, Фарида Хасанжанова, and Тохиржон Юсупов. "ПОКАЗАТЕЛИ

СИСТОЛИЧЕСКОЙ ФУНКЦИИ ЛЕВОГО ЖЕЛУДОЧКА ПОД ВЛИЯНИЕМ ТРОМБОЛИТИЧЕСКОЙ ТЕРАПИИ У БОЛЬНЫХ С ОСТРЫМ КОРОНАРНЫМ СИНДРОМОМ С ПОДЪЕМОМ СЕГМЕНТА ST В МОЛОДОМ ВОЗРАСТЕ." *ТЕНДЕНЦІЇ ТА ПЕРСПЕКТИВИ РОЗВИТКУ НАУКИ І ОСВІТИ В УМОВАХ ГЛОБАЛІЗАЦІЇ*: 399.

14. Хасанжанова, Ф. О., et al. "Оценка влияний рамиприла и пириндоприла на систолическую функцию левого желудочка у больных с острым инфарктом миокарда без элевации сегмента ST." *Central Asian Journal of Medical and Natural Science* 4.3 (2023): 461-465.
15. Хасанжанова, Ф. О., et al. "Эффективность Тромболитической Терапии У Больных С Острым Коронарным Синдромом С Подъемом Сегмента St У Лиц В Молодом Возрасте." *Central Asian Journal of Medical and Natural Science* 4.2 (2023): 632-636.
16. Хасанжанова, Фарида Одыловна, and Мафтуна Дилшодовна Абдуллоева. "ФАКТОРЫ, НЕБЛАГОПРИЯТНО ВЛИЯЮЩИЕ НА КАРДИОВАСКУЛЯРНЫЕ ОСЛОЖНЕНИЯ У БОЛЬНЫХ В МОЛОДОМ ВОЗРАСТЕ С ОКС С ПОДЪЕМОМ СЕГМЕНТА ST НА ФОНЕ ТРОМБОЛИТИЧЕСКОЙ ТЕРАПИИ." *Research Focus International Scientific Journal* 2.6 (2023): 326-330.
17. Хасанжанова, Фарида Одыловна, and Х. А. Авазова. "Особенности Клинического Течения Инфаркта Миокарда С Хронической Сердечной Недостаточностью У Больных В Молодом Возрасте." *Central Asian Journal of Medical and Natural Science* 4.2 (2023): 637-640.
18. Хасанжанова, Фарида Одыловна, and Элеонора Негматовна Ташкенбаева. "Различия в частоте развития основных осложнений у больных с острым инфарктом миокарда." *Актуальные научные исследования в современном мире* 10-6 (2018): 39-41.
19. Хасанжанова, Фарида Одыловна, Улугбек Азимжон Угли Мардонов, and Тохиржон Шомирза Угли Юсупов. "Факторы, неблагоприятно влияющие на исход лечения больных с острым коронарным синдромом в молодом и пожилом возрасте." *Проблемы современной науки и образования* 11-1 (144) (2019): 94-97.
20. Хасанжанова, Фарида Одыловна. "ВЛИЯНИЕ ТРОМБОЛИТИЧЕСКОЙ ТЕРАПИИ НА СИСТОЛИЧЕСКУЮ ФУНКЦИЮ ЛЕВОГО ЖЕЛУДОЧКА ПРИ ОСТРОМ КОРОНАРНОМ СИНДРОМЕ С ПОДЪМОМ СЕГМЕНТА ST В МОЛОДОМ ВОЗРАСТЕ." *Актуальные научные исследования в современном мире* 10-7 (2019): 91-95.