



ASSESSMENT OF THE STRUCTURES AND INTERRELATION OF RISK FACTORS PREDISPOSING TO MYOCARDIAL INFARCTION IN YOUNG PEOPLE

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Abstract:

In this paper, we studied the structure and relationship of risk factors predisposing to myocardial infarction in young people and assess their significance. This study was conducted on the basis of the Samarkand regional branch of the Republican Specialized Scientific and Practical Medical Center of Cardiology (SRF RSNPMC). The study included a retrospective analysis of 108 medical records of patients under the age of 45 years hospitalized in the departments of acute coronary syndrome (ACS) and coronary artery disease (CHD). All patients, depending on the clinical diagnosis, were divided into 2 groups. 72% of patients had a large-focal infarction, 28% had a small-focal one.

The main group 1 included 72% of patients with large-focal myocardial infarction, 55 patients with AF of various etiologies (25 with "idiopathic" AF and 30 with AF on the background of hypertension), the average age was 53.5 ± 6.6 years. The comparative group 2 included 42 patients (30 with hypertension without cardiac arrhythmia (LDC) and 12 with practically healthy individuals), with an average age of 52.2 ± 6.7 years. When assessing the size of LP, signs of its dilation were revealed in all groups with the studied pathology in comparison with practically healthy ones. LP dilation was observed to a lesser extent in patients with "idiopathic" AF. All examined patients with hypertension have signs of LP dilation, but significantly more pronounced when combined with AF.

Keywords: Atrial fibrillation, arterial hypertension, left atrium, right atrium, ECG, echocardiogram, etc.

RELEVANCE.

Heart attack at a young age is an urgent and complex problem in modern healthcare. The rejuvenation of coronary heart disease and the mortality caused by myocardial infarction at a young age is an alarming signal for humanity.

It is known that in people under 40 years of age, the incidence of this disease is 0.1–0.6 per 1,000 men and 0.03–0.4 per 1,000 women; this is approximately 2–7% of all myocardial infarctions registered under the age of 65. For 1 thousand men and women, the incidence of diseases will be approximately 7% of all recorded cases in the age group under 60 years. Speaking about the peculiarities of the course of myocardial infarction at a young age, it must be remembered that in most cases it develops against the background of relative health, with more or less normal blood circulation in the coronary vessels and coronary arteries.

Changes and disorders of blood flow in the coronary arteries, coronary vessels, and the

development of coronary artery obstruction occur in the absence of a large number of collaterals, intra- and intercoronary arcades and anastomoses at this age, which could somehow compensate for impaired blood circulation. There is not much data in the literature on the development of myocardial infarction (MI) at a young age. Possible causes of MI in young people are considered: 1) atherosclerotic lesion of the coronary arteries; 2) violation of the blood coagulation system with subsequent thrombosis and thromboembolism of the coronary vessels of the heart; 3) vasoregulatory disorders of the coronary blood flow, leading to spasm of the coronary arteries; 4) infectious-allergic or toxic damage to the coronary arteries with their secondary fibrosis; 5) arteriopathy of a non-inflammatory nature; 6) abnormalities of the development of large coronary arteries; 7) idiopathic dissection of the coronary arteries.

THE PURPOSE OF THE STUDY. To determine the structure of risk factors predisposing to myocardial



infarction in young people with an assessment of their significance.

MATERIAL AND METHODS: a retrospective analysis of 28 medical records of patients under the age of 45 years who were in the departments of cardiac intensive care and coronary heart disease of the Samarkand regional branch of the Republican Specialized Scientific and Practical Medical Center of Cardiology in the period 2020-2023 with a diagnosis of myocardial infarction was carried out. 72% of patients developed a large-focal infarction, 30 (28%) - a small-focal one.

Among the examined patients, patients with primary MI prevailed (94.4%), repeated MI was observed only in men (5.6%). The most common were the lower (38.3%) and anterior (30.8%) localization of the lesion, with MI spreading to the side wall (26.2%). During the analyzed period, the hospital mortality rate was 3% (1 patient).

All patients underwent a generally accepted clinical examination: anamnesis collection; examination; laboratory tests: UAC, OAM, blood glucose, biochemical blood analysis (CFK- MV, CFK, troponins, creatinine, urea, total bilirubin, lipid spectrum, total protein + fractions, AST, ALT); instrumental methods of ECG examination upon admission and repeatedly in accordance with the recommendations and the clinical situation; echo cardiography (echocardiography); chest X-ray (according to indications). 48.6% of patients underwent coronary angiographic examination.

All patients received standard MI therapy during hospitalization, which included nitropreparations, beta-adreno blockers, angiotensin converting enzyme inhibitors, direct anticoagulants, antiplatelet agents and cardioprotectors. In the presence of indications and the absence of contraindications, systemic thrombolysis was performed. In cases of complications, they were treated.

RESULTS: when analyzing the surveyed respondents, the average age was 42.15 ± 1.72 years, 95% of men and 5% of women. Among them, 38% worked under conditions of increased emotional stress, 14% were unemployed. In 14 cases (66%) there was no previous history of coronary heart disease, in 4 (19%) it was repeated, in three patients (11%) there was a history of angina pectoris. Among the risk factors, arterial hypertension (AH) was of leading importance (in 86%), including uncontrolled hypertension in 76%. Overweight was detected in 71%, smoking was detected in 54%, and only 18% indicated a burdened heredity. Concomitant pathology was represented by

pathology of the gastrointestinal tract (19%), osteochondrosis (14%), COPD (14%). Their development was preceded by a hypertensive crisis in 38%, alcohol consumption in 11%, and intense physical activity in 10%. All patients had a typical coronary pain syndrome, and 74% had signs of resorption-necrotic syndrome. In 62%, extensive MI with a Q wave was diagnosed. Complications of MI are represented by rhythm disturbances in the form of supraventricular and ventricular extrasystoles in 29%, the development of an aneurysm in 19%. In 62% of cases, the presence of chronic heart failure FC II was established. A significant violation of lipid metabolism was revealed in 18 patients, this was 76%, atherosclerotic lesion of the aorta (60%), carotid arteries with stenosis (50%), retinal vascular angiopathy (83%). Diastolic dysfunction of the left ventricle was detected in 80%, hypo- and akinesia of one or another area of the LV myocardium in 62%, and a decrease in the ejection fraction in 50%.

When managing patients who have had MI at a young age, the following should be taken into account – modification of risk factors, mandatory non-drug and drug correction of hypertension, active detection of vascular disorders, prevention of atherosclerosis.

CONCLUSIONS: as a result of the study, it was revealed that the most common risk factors were: male sex – 95%, impaired lipid metabolism – 67.3%, smoking – 66.4%, obesity – 43.9%; also 46.7% of young patients had a burdened heredity. When managing patients who have had MI at a young age, the following should be taken into account – timely elimination of modifiable risk factors, mandatory non-drug and drug correction of hypertension, active detection of vascular disorders, prevention of atherosclerosis.

LIST OF LITERATURE:

1. Khasanjanova, F. O., et al. "PREVALENCE OF HEART RHYTHM DISORDERS IN THE ACUTE PERIOD OF MYOCARDIAL INFARCTION ACCORDING TO ECHOCARDIOGRAPHIC DATA." *World Bulletin of Public Health* 23 (2023): 32-35.
2. Saidov, M. A., et al. "FEATURES OF THE CLINICAL COURSE OF MYOCARDIAL INFARCTION WITH CHRONIC HEART FAILURE IN PATIENTS AT YOUNG AGE." *World Bulletin of Public Health* 23 (2023): 36-38.
3. Saidov, M. A., et al. "The Frequency of Cardiovascular Events in Patients of Working Age with Unfavorable Remodeling of the Left Ventricle after Myocardial



- Infarction." *International Journal of Alternative and Contemporary Therapy* 2.1 (2024): 1-4.
4. Авазова, Х. А., and Ф. О. Хасанжанова. "Изучить Гендерные Особенности Течения Инфаркте Миокарда В Условиях Экстренной Медицинской Помощи." *Central Asian Journal of Medical and Natural Science* 4.6 (2023): 447-449.
 5. Аскарлов, Иномжон Куддусович, et al. "Предикторы Кардиопротекции Пациентов Хронической Сердечной Недостаточности, Как Последствие Инфаркта Миокарда." *Periodica Journal of Modern Philosophy, Social Sciences and Humanities* 17 (2023): 137-140.
 6. Кодирова, Г. И., et al. "Нарушения процессов пероксидации и иммунной системы у больных инфарктом миокарда." *Евразийский кардиологический журнал S1* (2019): 212.
 7. Мадалиев, А. У., У. К. Байкузиев, and Н. И. Махмудов. "Наблюдение идентичной локализации случаев инфаркта миокарда в определенный промежуток." *Евразийский кардиологический журнал S1* (2019): 215.
 8. Низамов, Х. Ш., et al. "ОЦЕНКА РЕМОДЕЛИРОВАНИЯ МИОКАРДА ЛЕВОГО ЖЕЛУДОЧКА У ПАЦИЕНТОВ С ИНФАРКТОМ МИОКАРДА В ЗАВИСИМОСТИ ОТ НАЛИЧИЯ ОЖИРЕНИЯ." *International Bulletin of Medical Sciences and Clinical Research*: 22.
 9. Саидов, М. А., et al. "КЛИНИЧЕСКИЕ ОСОБЕННОСТИ ТЕЧЕНИЯ ИНФАРКТА МИОКАРДА У КОМОРБИДНЫХ МУЖЧИН И ЖЕНЩИН МОЛОЖЕ 60 ЛЕТ НА ГОСПИТАЛЬНОМ ЭТАПЕ ЛЕЧЕНИЯ." *International Bulletin of Medical Sciences and Clinical Research* 3.10 (2023): 18-21.
 10. Хасанжанова, Ф. О., et al. "ОСОБЕННОСТИ КЛИНИЧЕСКОГО ТЕЧЕНИЯ И ИШЕМИЧЕСКОГО ПОРАЖЕНИЕ СТенок МИОКАРДА У БОЛЬНЫХ ИШЕМИЧЕСКОЙ БОЛЕЗНИ СЕРДЦА В МОЛОДОМ ВОЗРАСТЕ." *Research Focus International Scientific Journal* 2.6 (2023): 322-325.
 11. Хасанжанова, Ф. О., et al. "Экспериментально-Клинические Исследования Хронической Сердечной Недостаточности С Острым Инфарктом Миокарда У Мужчин Молодого Возраста." *Central Asian Journal of Medical and Natural Science* 4.3 (2023): 1021-1024.
 12. 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.
 13. Хасанжанова, Фарида Одыловна, and Мумин Шамсиевич Рофеев. "Часто встречаемые факторы риска при инфаркте миокарда у мужчин молодого возраста при разных исходах заболевания." *Актуальные научные исследования в современном мире* 10-7 (2019): 87-90.
 14. 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.
 15. 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.
 16. Хасанжанова, Фарида Одыловна, and Элеонора Негматовна Ташкенбаева. "Роль изменения маркеров некроза кардиомиоцитов у больных инфарктом миокарда в зависимости от возраста." *Актуальные научные исследования в современном мире* 10-6 (2018): 42-45.
 17. Хасанжанова, Фарида Одыловна, Элеонора Негматовна Ташкенбаева, and Дилрабо Давроновна Хайдарова. "Особенности клиники и частота встречаемости инфаркта миокарда у женщин молодого и среднего возраста в условиях экстренной медицинской помощи." *Актуальные научные исследования в современном мире* 10-7 (2019): 83-86.
 18. Хасанжанова, Фарида, and Элеонора Ташкенбаева. "Роль факторов риска при развитие нестабильных вариантах стенокардии у мужчин в молодом и пожилом возрасте с дислипидемией." *Журнал*



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биомедицины и практики 1.4 (2021): 107-113.

19. Чаулин, Алексей Михайлович, and Дмитрий Викторович Дупляков. "Биомаркеры острого инфаркта миокарда: диагностическая и прогностическая ценность. Часть 2 (обзор литературы)." Клиническая практика 11.4 (2020): 70-82.
20. Якушин, Сергей Степанович, Наталья Николаевна Никулина, and Сергей Владимирович Селезнев. "Инфаркт миокарда." (2018): 240-240.