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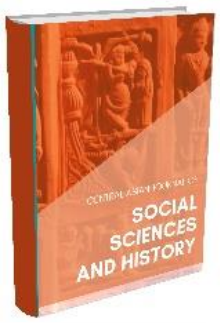

Research of the Main Risk Factors of Joint Development of Myocardial Infarction and Ischemic Diseases

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ABSTRACT
The article discusses issues related to the study of the main risk factors for the joint development of myocardial infarction and ischemic diseases.

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Introduction

Modern therapeutic and diagnostic achievements of modern medicine, the introduction of highly effective pharmacological agents into practice and the development of cardiovascular surgery still do not solve the problem of high mortality and disability in the development of myocardial infarction and acute cerebrovascular crisis. Every year, more than 450,000 people in the country suffer from cerebrovascular accidents, and up to 80 percent of survivors are disabled of varying severity. Stroke mortality in Uzbekistan remains one of the highest in the world (374 per 100,000 population). It is known that in the early stages of cerebrovascular injury (30 days) mortality is 32-42%, and during the

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year it rises to 48-63% [9].

Multifocal atherosclerosis is a common pathogenetic factor in the development of myocardial infarction and ischemic stroke, accompanied by simultaneous injury of the coronary and carotid arteries. Recent studies in this area show that carotid artery injury in patients with hemodynamically significant atherosclerosis of the coronary arteries reaches 30%, which significantly worsens the prognosis in patients with coronary artery disease (survival rate does not exceed 50% within 5 years) [6]. Coronary atherosclerosis is detected in 30–60% of patients with acute ischemic cerebral vascular disease [1]. Commonly recognized factors in the development of atherosclerosis include hyperlipidemia, arterial hypertension, smoking, impaired carbohydrate metabolism, overweight, and other factors. [9] As noted, many molecular genetic studies have proven that patients have a genetic predisposition to the onset and more severe stage of myocardial infarction. It is known that myocardial infarction and ischemic stroke are multifactorial polygenic diseases, the predisposition of which is determined by allelic variants of genes that determine the risk of developing the disease when interacting with certain external factors. In particular, genetic associations related to renin-angiotensin system genes, NO-synthetases, genes encoding lipid metabolism, thrombus formation, and programmed cell death genes were analyzed in a group of patients with myocardial infarction and ischemic stroke. carried out; completed. The results obtained on the contribution of different allelic variants of these genes to the development of vascular catastrophes remain controversial [3]. Researchers have shown that immune mechanisms play an important role in the pathogenesis of myocardial infarction and acute cerebrovascular crisis, but there is no consensus among scientists on their effect on disease duration and outcome [2]. In the early stages of myocardial infarction, before the development of complications of cardiac arrhythmias, a decrease in immunity is observed in the form of a significant decrease in the level of α-interferon antibodies. heart rate [5]. However, data on hemodynamic diseases that cause circulatory events in the brain, neuroreflex effects from the myocardium, changes in the physicochemical properties of blood, neurohumoral processes, metabolic and immune status do not solve the laws of etiopathogenesis and development of two vascular catastrophes. . The combination of the two pathologies leads to the development of a painless form of myocardial infarction, without its characteristic symptoms (pain, shortness of breath, fear of death, drop in blood pressure). The basis of painless myocardial infarction is an increase in the threshold of pain sensitivity, impaired conduction of pain impulses and individual characteristics of pain perception [4].

The aim of the study was to study the leading risk factors for the co-development of myocardial infarction and acute cerebrovascular crisis.

Materials and research methods.

The study material was clinical data from 738 patients with acute myocardial infarction (m-373; w-365), obtained in 2020 at the Bukhara Regional Multidisciplinary Regional Medical Center and the Bukhara branch of the Republican Research Center for Emergency Care. Average age of patients 65.3 ± 1.36 g. Recurrent myocardial infarction was detected in 170 (23.0%) patients. The study did not cover patients with cancer, anemia, thyroid dysfunction, severe kidney, liver failure, or alcohol abuse.

The following methods were used in the article: general clinical, instrumental (ECG, Holter ECG monitoring, EXOKS), biochemical, immunological. Statistical processing of the data was performed using Microsoft Excel spreadsheet editor and Windows 8.0 Statistics program.

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Results and discussion.

In the acute period of myocardial infarction, 185 (25%) patients were diagnosed with various degrees of cerebrovascular crisis. It was found that brain injury in myocardial infarction occurs in 67 (36.2%) patients with common brain symptoms (headache, dizziness, impaired consciousness, motor aphasia, restlessness, convulsions, visual disturbances) and in 28 (15.1%) patients with focal symptoms. . In most cases, these symptoms were temporary. However, we found that myocardial infarction was complicated by ischemic stroke in 9.2% of cases (68 patients), often with a high mortality rate (72.2%) in the first week of the disease ($p < 0.05$). Ischemic stroke (IS) was detected in 38 patients (55.9%) admitted simultaneously with the diagnosis of myocardial infarction, in 16 patients in the first 3 days of myocardial infarction (23.5%), and in 10 cases on days 3-14. coronary events (14.7%); 4 patients were diagnosed with stroke at autopsy (5.9%). The combination of myocardial infarction and IS is more common in men (57.4%) than in women (42.6%) ($p < 0.05$). The mean age of the patients was 69.7 ± 1.92 g.

According to the localization of cerebral infarction, injuries in the carotid system predominated (left middle cerebral artery (MCA) - 25 people, right MCA - 28 people), rarely in vertebrobasilar basins - 12 patients. The subtype of cardioembolic IS was detected in 76% of patients studied, lacunar stroke in 10.3%, atherothrombotic subtype in 7.3% of patients, stroke of unknown etiology in 6.4% of patients. In 31 patients (m-18; g-13), stroke was recurrent (45.6%). With a combination of myocardial infarction and ischemic stroke, scar-forming myocardial infarction predominated (67.6%); Q-toothless myocardial infarction was detected in 22 (32.4%) patients. Recurrent myocardial infarction accounts for 41.2% of cases. Myocardial infarction mainly corresponds to anterior and anterior septal localization (60.3%), with lower myocardial infarction detected in 26.5% of cases. Statistically significant differences in the development of complications of myocardial infarction, accompanied by a sharp disruption of cerebral blood supply, were identified. Lung tumors are more common in patients with a combination of myocardial infarction and ischemic stroke, but only in patients with myocardial infarction (44.1% and 25.4%, respectively; $p < 0.05$). Acute myocardial infarction leads to the development of electrical instability of the myocardium, against which there is a violation of rhythm and conduction, which contributes to the development of ischemic stroke. According to the literature, cardiac arrhythmias occur in 70–75% of patients with stroke [7]. In myocardial infarction, pupillary fibrillation occurs against the background of increased hemodynamic load in the pupil with the development of left ventricular failure, with excessive tension and elongation of the pupillary myocardium [15]. The absence of a pupillary systole increases the risk of developing a cardioembolic subtype of ischemic stroke, creating the conditions for thrombus formation in the left pupillary appendage or in pupil a itself. With paroxysms of pupillary fibrillation, the minute volume of blood flow is reduced by 20-25%, which can lead to hemodynamic stroke in patients with hypokinetic type of blood circulation and severe atherosclerosis of the brain.

Our study also confirmed that the cause of cerebral ischemia is usually paroxysmal disorders of central hemodynamics against the background of cardiac arrhythmias. In the group of patients with a cardioembolic subtype of ischemic stroke, the maximum number of arrhythmias was determined: paroxysmal and persistent pupillary fibrillation - 67.3%, high ventricular extrasystole according to Laun classification - 53.8%, as well as episodes. Ventricular tachycardia in 13.5% of patients ... The first line of antianginal drugs used in the treatment of myocardial infarction is nitrates. They are endothelial-independent vasodilators, whose antianginal effect is achieved by reducing myocardial

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oxygen demand and improving myocardial perfusion. It is known that it is not advisable to prescribe this group of drugs in the acute period of ischemic stroke due to increased cerebral ischemia.

The drugs of choice for the treatment of myocardial infarction in combination with ischemic stroke are beta-blockers. The anti-ischemic effect of this group of drugs is associated with decreased myocardial oxygen demand, decreased heart rate, and decreased heart rate. Beta-blockers simultaneously improve myocardial perfusion by lowering the left ventricular diastolic pressure and increasing the pressure gradient that determines coronary perfusion during diastole, increasing its duration as a result of a decrease in heart rate.

Changes in the clinical manifestations of the disease are associated with the possibility of developing an arrhythmic form of myocardial infarction in the form of supraventricular, ventricular or nodal tachycardia, atrial fibrillation and frequent extrasystole attacks. Thus, this category of patients requires mandatory appointment of beta-blockers in the absence of contraindications. Patients with myocardial infarction should be prescribed antiplatelet agents and anticoagulants in the early stages. However, anticoagulant therapy for ischemic stroke remains a topic of discussion because of the risk of hemorrhagic complications and the development of hemorrhagic stroke. According to a number of studies, 1.5% of patients with early onset of anticoagulation with heparin developed a cerebral hematoma, and 3.7% developed extrahepatic hemorrhage [6]. Therefore, in each individual case, when prescribing anticoagulants to patients with myocardial infarction in combination with ischemic stroke, it is necessary to individually select the dose of the drug, assess the risk and potential risk of hemorrhagic complications. Thus, the presence of a complex set of symptoms in the examination of patients requires the vigilance of the physician and a targeted search for a combination of myocardial infarction and acute cerebrovascular injury. The low efficacy of treatment when using standard drug therapy helps to seek new alternative approaches in the treatment of combined pathology. Timely recognition of cases of myocardial infarction and acute cerebrovascular crisis is very important, as late diagnosis leads to errors in hospitalization tactics and prolongs the duration of specialized medical care.

Conclusion

1. The leading risk factors for the co-development of myocardial infarction and ischemic stroke are men, over 70 years of age, anterior acute cerebrovascular injury, post-infarction cardiosclerosis, Q-shaped myocardial infarction of the left ventricular anterior wall on the first day.

2. Given the high mortality rate (72.2%) of patients with a combination of two vascular events, it is necessary to further study the etiology and pathogenesis of myocardial infarction and acute cerebrovascular injury with the development of predictive algorithms for the individual clinic.

3. Myocardial infarction and ischemic stroke is a clinical manifestation of a single pathophysiological process, including a cascade of hemodynamic and hemostatic changes, which require the appointment of modern complex pharmacotherapy in the conditions of regional vascular centers and primary vascular departments.

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