

*Toshpulotov Sherzod Gaybullo ugli**Akhmedova Madina Fatkhullayevna**Abdinabiyev Temur Amir ugli***ANALYSIS OF THE RESULTS OF SURGICAL TREATMENT OF COMBINED
ATHEROSCLEROTIC LESIONS OF THE CAROTID AND CORONARY ARTERIES**

Annotation:Based on the results obtained, it is shown that the functional assessment of the myocardial and brain perfusion reserve makes it possible to differentiate high-risk patients with combined atherosclerotic lesions of the coronary and carotid basins, which contributes to the choice of optimal surgical treatment tactics. Simultaneous operations are advisable in patients with reduced reserve of both coronary and cerebral circulation. At the same time, the risk of cerebral and cardiac postoperative complications in such patients is not higher than in case of stage-by-stage treatment.

Keywords:carotid endarterectomy, coronary artery bypass grafting, combined lesion.

Introduction

The high prevalence and socio-economic significance of atherosclerosis of the coronary arteries (CA) and vessels feeding the brain (GM) determine the urgency of the problem. Patients with combined hemodynamically significant atherosclerotic lesions of the coronary and carotid arteries (CA) are a high-risk group for both ischemic stroke (IS) and myocardial infarction (MI). Together, they account for a large proportion of the causes of death in the population. Currently, the question of the expediency of surgical treatment of stenosing atherosclerosis- There is no debate about both CA and CA, however, in the case of combined damage to these arterial basins, surgical tactics have not yet been definitively determined.

The disadvantages and advantages of different priority options for stage-by-stage operations are discussed, as well as the goals of consistency and validity of simultaneous revascularization of the myocardium and brain. In most studies, the criteria for choosing an operative tactic are mainly limited by the degree of stenosis of the target arteries and the severity of clinical manifestations of chronic myocardial and cerebral circulatory disorders.

At the same time, it is obvious that the risks and indications for surgical treatment of atherosclerotic vascular lesions should be determined not only by the degree of stenosis, but also by the significance of a violation of the compensatory reserve capabilities of blood circulation in the organ. It is important to note that these factors, which determine the reversibility of ischemia in an organ, are not always reflected in the clinical manifestation.

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To date, a number of techniques have been developed and are being used to study the reserve of coronary perfusion (stress echocardiography, ergometry, transesophageal

electrocardiography emulation, myocardial scintigraphy with stress tests), which are sufficiently objective, safe and available to varying degrees. At the same time, methods for determining the reserve capacity of cerebral blood flow are not always safe (Matas, Giller test), insufficiently objective, cumbersome (hypercapnic test) or excessively expensive (brain scintigraphy brain with stress tests). The aim of the work was to conduct a comparative analysis of the results of surgical treatment of patients with combined atherosclerotic lesions of the carotid and coronary arteries.

The study included 143 male patients aged 45 to 74 years. Women were excluded from the study due to the apparent predominance of men. The average age was 53.2 ± 7.2 years. Angina pectoris of tension III–IV FC according to the Canadian classification was detected in 131 (91.6%) patients. Progressive angina pectoris was noted in 12 (8.4%) cases. 120 (83.9%) patients had previously had MI.

When analyzing the hemodynamic significance of atherosclerotic CA lesion, attention was drawn to the fact that the most common variant was a three-vessel lesion - 116 (81.1%) cases. According to the classification of A.V. Pokrovsky [2], depending on the degree of chronic cerebrovascular accident (CSC), patients were distributed as follows: asymptomatic atherosclerotic lesion of the carotid arteries was in 56 (39.2%) patients; transient ischemic attacks and clinical manifestations of encephalopathy were detected in 76 (53.2%); 11 (7.6%) had a history of AI. Hemodynamically significant- Significant stenoses of internal CA ($\geq 75\%$) in all the studied cases were localized in the zone of bifurcation of general CA. According to magnetic resonance imaging, no intracranial atherosclerotic lesions were detected in all patients included in the study. In most of the analyzed cases, unilateral CA lesion prevailed in terms of the degree of stenosis ($\geq 75\%$ in area). Bilateral hemodynamically significant carotid artery lesion was detected in only 48 (33.5%) patients.

Surgical treatment was performed according to the following technical techniques. Operation CEE was performed with autovenous plastic surgery of the mouth of the inner CA. Artificial arterial hypertension was used as one of the measures to protect the brain for the period of compression of the carotid artery. In addition, it was considered possible to use a temporary intraarterial shunt according to generally accepted criteria, the absence of pulsating retrograde blood flow at its value less than 40 mmHg, and based on data from regional cardiac oxygenation, a decrease in regional cerebral oxygenation increased by more than 25% of the initial value ($\Delta r_{so} 2 > 25\%$) [3]. Surgical revascularization of the myocardium was performed under conditions of artificial blood circulation against the background of administration of a cardioplegic solution "Coustodiol". In all cases, the left internal thoracic artery was used to bypass the anterior descending artery, while the remaining dilated arteries were shunted with linear autovenous grafts.

All patients included in the study were divided into three groups, the 1st group consisted of 54 (37.7%) patients. Surgical tactics for the treatment of combined atherosclerotic lesions of CA and CA in this group were determined on the basis of the algorithm most commonly used in practice, proposed by H. A. Bercoff, R. L. Levine (1987) and supplemented by L. A. Bokeria (1999) [2], in which the main criteria for choosing the stages of surgical treatment are the degree of anatomical damage by atherosclerosis of the coronary and carotid basins and the severity of the clinical manifestations of coronary heart disease and chronic heart disease.

Currently, there is no consensus on the choice of surgical treatment tactics for patients with combined pathology of the carotid and coronary vessels. There are both supporters and opponents of simultaneous surgical revascularization of the carotid and coronary arteries among researchers. Step-by-step surgical treatment of patients with combined lesions of the carotid and coronary arteries has a number of disadvantages - prolonged hospital stay and high cost of surgical treatment. As a rule, with a step-by-step approach, when the CEE is performed in the first- First of all, the main complication is myocardial infarction, and when performing CABG, there is a violation of cerebral circulation. The mortality rate is 0-7%, and acute cerebral circulatory disorders are 0-6%.

The arguments for and against carrying out military covert operations are debatable. In some cases, the complication rate is very low, in others it is very high, and in others it is mortality, the number of perioperative cancer and myocardial infarctions is comparable. The obvious advantage of combined surgical interventions is that the patient undergoes only one operation, and therefore one anesthetic effect. The disadvantage is the risk of complications and death, which is associated with the greater traumatic nature of the operation itself and the duration of the anesthetic- medical and perfusion support.

Special attention is drawn to the issue of the need for simultaneous interventions in patients with an IHD clinic with asymptomatic CA lesion. There is a point of view that in asymptomatic carotid stenosis, CEE surgery is not indicated, since there is no proven reduction in the risk of stroke. However, it is known that more than half of the patients who underwent AI did not have a history of chronic cerebrovascular disease in the postoperative period of CABG. This statement confirms the results we have obtained. Almost all patients are asymptomatic neurologically, with- after the introduction of a stress test with simulated hypoxia, they had a low reserve of cerebral perfusion.

An analysis of the results of this work showed that simultaneous and step-by-step surgical treatment in the discussed category of patients does not significantly differ in the level of complications. We believe that patients with combined atherosclerotic lesions of the carotid and coronary arteries require a differentiated approach to surgical treatment. It is necessary to take into account not only the nature and degree of vascular stenosis, clinical manifestations of coronary and cerebrovascular insufficiency, but also the functional reserve of perfusion of the heart and spinal cord.

In terms of improving the results of operations and reducing the number of complications, FRP analysis The degree of stenosis of the target arteries and the severity of clinical manifestations are no less significant in the algorithm of choosing surgical tactics.

Clinically asymptomatic atherosclerotic lesion of the carotid arteries is not a low risk factor for neurological complications in the early postoperative period of coronary artery bypass grafting and cannot significantly influence the choice of surgical treatment tactics for combined coronary and carotid artery lesions.

The functional assessment of the myocardial and brain perfusion reserve allows for the differentiation of high- risk patients with combined atherosclerotic lesions of the coronary and carotid basins to choose the optimal surgical treatment tactics. Simultaneous operations are advisable in patients with reduced reserve of both coronary and cerebral circulation. At the same

time, the risk of cerebral and cardiac postoperative complications is not higher than when performing staged operations.

References:

1. Балахонова Т. В. Атеросклеротические изменения сонных артерий у больных ишемической болезнью сердца. Визуализация в клинике. 2002; 12: 8–12. Balahonova T. V. Ateroskleroticheskie izmeneniya sonnyh arterij u bol'nyh ishemicheskoy bolezni'serдца. Vizualizacija v klinike. 2002; 12: 8–12.
2. Бокерия Л. А., Бухарин В. А., Работников В. С. и др. Хирургическое лечение больных ишемической болезнью сердца с поражением брахиоцефальных артерий. М.; 2006. Bokerija L. A., Buharin V. A., Rabotnikov V. S. i dr. Hirurgicheskoe lechenie bol'nyh ishemicheskoy bolezni'serдца s porazheniem brahiocefal'nyh arterij. Moscow, 2006.
3. Горохов А. С., Козлов Б. Н., Кузнецов М. С. и др. Сочетанное атеросклеротическое поражение сонных и коронарных артерий: Выбор хирургической тактики с учетом оценки функциональных резервов головного мозга. Комплексные проблемы сердечно-сосудистых заболеваний. 2013; 3: 50–56. Gorohov A. S., Kozlov B. N., Kuznecov M. S. i dr. Sochetannoe ateroskleroticheskoe porazhenie sonnyh i koronarnykh arterij: Vybor hirurgicheskoy taktiki s uchetom ocenki funkcional'nyh rezervov golovnogo mozga. Kompleksnye problemy serdech- no-sosudistyh zabolevanij. 2013; 3: 50–56.
4. Лоечко В. Б. и др. Принципы защиты пациентов от внекардиальных осложнений при операциях на сердце и сосудах. Бюллетень сибирской медицины. 2010; 1: 103–112.