

THE ROLE OF MODERN RESEARCH IN IMPROVING THE RESULTS OF CAROTID ENDARTERECTOMY IN PATIENTS WITH HIGH SURGICAL RISK

Ochilov M.E., Khamdamov B.Z., Hikmatov J.S., Sharipov I.I., Rajabov D.O'.

^{1,4} Bukhara Regional Multidisciplinary Medical Center, Bukhara

^{2,3,5} Bukhara State Medical Institute, Bukhara

Annotation. Prevention and treatment of acute cerebrovascular accidents is a major medical and social problem and is of great socio-economic importance. Among all types of cerebrovascular accidents, ischemic brain lesions predominate. It should be emphasized the catastrophic consequences of ischemic stroke, i.e., 80% of patients remain disabled, mortality in the acute period is 29%, and by the end of the first year it reaches 59%. Among surviving patients, recurrent stroke develops in 5-25% during the first year, within 3 years - in 18%, and after 5 years - in 20-40% of patients. From 2018 to 2023, 14 patients (9 men - 64.3%) with atherosclerotic stenosis of the carotid arteries were operated on at the Bukhara Regional Multidisciplinary Medical Center. Thus, contrast MSCT examination of the brachiocephalic arteries helps determine treatment tactics during the period of preoperative preparation and will prevent intraoperative and postoperative complications in case of stenosing and occlusive atherosclerosis of the carotid arteries.

Key words: atherosclerosis, carotid artery, carotid endarterectomy, Doppler ultrasound, MSCT with contrast

INTRODUCTION

Recently, the diagnosis and treatment of diseases of the vascular system has become increasingly important. According to the World Health Organization, among the causes of death in developed countries, acute cerebrovascular accident is in third place after coronary heart disease and cancer.

The incidence of ischemic stroke in Russia is 3.48 per 1000 population per year, in Europe - 0.38 per 1000 population per year, in the USA - 1.38 per 1000 people per year (Lloyd-Jones D, 2010; Kim AS et al., 2013); in 2016, 22,000 cases were identified in Russia (Antsupov K.A. et al., 2011). In Uzbekistan, the incidence of cerebral stroke ranges from 0.9 to 1.4 per 1000 population, and in Tashkent it is 1.5 per 1000 population (Rakhimdzhonov A.R., 1999; Asadullaev M.M., 2002). It should be especially emphasized that this structure is dominated by a disorder of an ischemic nature. According to Parfenov V.A. (2002) 70-85% of cerebral strokes are ischemic in nature. It is assumed that in the coming years the significance of stroke as a medical and social problem will increase even more, which is associated with the aging of the population and the increase in the number of people with risk factors in the population.

According to the "Voluntary National Review of Uzbekistan 2020" in Uzbekistan, in the overall structure of causes of mortality among the population aged 30 to 69 years, the first place is occupied by diseases of the circulatory system - 68.9%, the main causes of which are coronary heart disease, arterial hypertension and their

complications (myocardial infarction, cerebral stroke, etc.). It is followed by malignant neoplasms (8.7%), respiratory diseases (3.6%) and diabetes mellitus (3.6%).

Prevention and treatment of acute cerebrovascular accidents is a major medical and social problem and is of great socio-economic importance. Among all types of cerebrovascular accidents, ischemic brain lesions predominate. Data from international multicenter studies, as well as data presented by the chief neurologist of Uzbekistan Gafurov B.G., confirm that the ratio of hemorrhagic and ischemic stroke averages 4.8:1.2. It should be emphasized the catastrophic consequences of ischemic stroke, i.e., 80% of patients remain disabled, mortality in the acute period is 29%, and by the end of the first year it reaches 59%. Among surviving patients, recurrent stroke develops in 5-25% during the first year, within 3 years - in 18%, and after 5 years - in 20-40% of patients. The likelihood of death and disability with a second stroke is higher than with the first.

Modern methods of preoperative examination, intraoperative monitoring of basic brain functions, a differentiated approach to the choice of endarterectomy method, choice of anesthesia method, as well as dynamic observation in the immediate postoperative period make it possible to more safely use surgical techniques for correcting stenotic lesions of the carotid arteries in patients with high surgical risk.

From 2018 to 2023, 14 patients (9 men - 64.3%) with atherosclerotic stenosis of the carotid arteries were operated on at the Bukhara Regional Multidisciplinary Medical Center. The average age of the patients was 63.5 years (55–67 years). Of these patients, 10 underwent “Classical carotid endarterectomy on the left,” and 4 underwent “Classical carotid endarterectomy on the right.” All patients underwent a course of conservative treatment in the preoperative period. All operations went smoothly and without complications.

Case study: patient is 65 years old. Gender male. In December 2020, the patient was admitted to the Department of Surgery II of the Bukhara Regional Multidisciplinary Medical Center with headaches, dizziness, tinnitus, and memory loss with a diagnosis of “Atherosclerosis.” Stenosis of the CCA and ICA on the left.” In the anamnesis of the disease, he considers himself sick for 3-4 years. He doesn’t connect his illness with anything. The patient was treated on an outpatient and inpatient basis by a neurologist and a therapist. The patient underwent a complete standard examination. On examination, the neck area was unchanged. The skin is clean. On palpation, pulsation in all arteries was preserved. On auscultation, a systolic murmur of the left common carotid artery is heard. No systolic murmur is heard over other arteries. Laboratory tests without change.

During instrumental studies: ultrasound examination shows echo signs of atherosclerotic changes in the blood vessels of the BCA with the presence of hyperechoic, heterogeneous ASP. Stenosis on the right in the bifurcation is 5-10%, on the left in the bifurcation 40-45%, ICA 65-70%. Multislice computed tomography (MSCT) with contrast in the neck: A. Carotis basin communis sinistra. Bifurcatio carotidis : narrowed, in the medial wall of the bifurcation of the common carotid artery and at the base of the internal carotid artery, an irregularly shaped area of “filling defect” (atherosclerotic plaque ASB) is determined, with dimensions of thickness - 5 mm, duration - 1.3 cm, with clear, even contours. Echoencephalography: Echographically significant mixing of the M-echo was not detected. The ventricles are dilated. Signs of moderate intracranial hypertension.

As a result of laboratory and instrumental studies, the following clinical diagnosis was made: Atherosclerosis. Stenosis of the CCA, ECA and ICA on the left. Complication: Cerebrovascular disease. Chronic cerebrovascular accident. Discirculatory encephalopathy of the second degree. The patient was examined by a neurologist, cardiologist and anesthesiologist.

The patient underwent the operation “Classical carotid endarterectomy of the CCA, ICA and ECA on the left” under endobronchial anesthesia. B after three times treatment of the surgical field with iodine + alcohol. A skin incision of up to 5 cm is made in the left neck area parallel to the sternocleidomastoid muscle. The CCA was isolated by sharp and blunt means, the ICA and the ECA, the latter pulsating at the mouth of the ICA, there is stenosis characteristic of atherosclerosis, an acute angle and there is a plaque at the level of the bifurcation of the CCA which stenoses the lumen of up to 70-80% of the ICA mouth. Next, heparinization, blood pressure rise to 170/100 mmHg. The ICA, ECA and CCA are clamped; longitudinal arteriotomy over the CCA with the transition of the ICA; classic endarterectomy is performed the arteriotomy hole was repaired with Prolene 5/0 thread. Prevention of air embolism and gradual removal of clamps. Hemostasis - dry. Layer-by-layer sutures on the wound leaving a rubber graduate. Aseptic dressing. Macroscopic specimen: Intravascular atheromatous plaque of gray-yellowish color with a dense consistency. The postoperative period went smoothly. The patient's condition has relatively improved.

Thus, contrast MSCT examination of the brachiocephalic arteries helps determine treatment tactics during the period of preoperative preparation and will prevent intraoperative and postoperative complications in case of stenosing and occlusive atherosclerosis of the carotid arteries.

Reference:

1. Akhmedov RM, Khamdamov BZ, Khamdamov IB Assessment of methods of amputation at the level of the lower leg in severe forms of diabetic foot syndrome //Problems of biology and medicine. - Samarkand, 2019. No. 4 (113). –Pp. 29-32
2. Davlatov S.S., Khamdamov B.Z., Teshayev Sh.J. Neuropathic form of diabetic foot syndrome: etiology, pathogenesis, classifications and treatment (literature review). Journal of Natural Remedies Vol. 22, No. 1(2), (2021) P.-117-123. JNR Online Journal ISSN: 2320-3358 (e) ISSN: 0972-5547(p)
3. Gaziev, K. U. (2022). Adaptive Approach In The Treatment Of Elderly And Senile Patients With Postoperative Ventral Hernias. Journal of Pharmaceutical Negative Results, 4613-4616.
4. Hikmatov J.S. (2023). Use of the mos sf-36 questionnaire in the assessment of quality of life in surgery. Journal of applied medical sciences, 6(4), 49-55.
5. Hikmatov J.S. (2023). Use of the mos sf-36 questionnaire in the assessment of quality of life in surgery. Journal of applied medical sciences, 6(4), 49-55.
6. Ikhtiyarova G. A. et al. Pathomorphological changes of the placenta in pregnant women infected with Coronavirus COVID-19 //International Journal of Pharmaceutical Research (09752366). – 2020. – T. 12. – №. 3.
7. Khamdamov B.Z. A method for correcting critical ischemia of the lower extremities in the treatment of purulent-necrotic complications of diabetic foot syndrome. Journal of Biomedicine and Practice. Tashkent 2020, Special issue 2. Part 8. - WITH. 968-977.
8. Khamdamov B.Z. Comparative analysis of the effectiveness of the results of complex treatment of diabetic foot syndrome with critical ischemia of the lower extremities using perftoran perfusion. Electronic periodical scientific journal “Sci-article.ru”, No. 14 (October) 2014. P. 80-84.
9. Khamdamov B.Z. Method of laser photodynamic therapy in the treatment of wound infection in diabetic foot syndrome. Biology va tibbiyot muammolari No. 1 (116) 2020. – P. 142-148

10. Khamdamov B.Z. Morphological changes when using photodynamic therapy in the treatment of wound infection in an experiment. *Journal of Morphology*. Saint Petersburg, 2020. Volume 157 (2-3). - WITH. 223-224.
11. Khamdamov B.Z. Optimization of methods for local treatment of purulent-necrotic lesions of the foot in diabetes mellitus. *Magazine. Tibbiyotda yangi kun*. 2018, No. 4 (24) - S. 112-115.
12. Khamdamov B.Z., et al. "Method of prevention of postoperative complications of surgical treatment of diabetic foot syndrome." *European science review* 9-10-2 (2018): 194-196.
13. Khamdamov B.Z., Khamdamov I.B., Gaziev K.U., Dekhkonov A.T. Immunocytokine profile of patients with diabetic foot syndrome with critical ischemia of the lower extremities. *Biology va tibbiyot muammolari*. 2021. No. 2 (127). – P.149-156.
14. Khamdamov B.Z., Nuraliev N.A., Khamdamov I.B. Experimental development of methods for treating wound infections. *Biology va tibbiyot muammolari*. Samarkand, 2020. -№1 (116). –P.194-199.
15. Khamdamov BZ, Nuraliev NA Pathogenetic approach in complex treatment of diabetic foot syndrome with critical lower limb ischemia. *American Journal of Medicine and Medical Sciences*, 2020 10 (1) 17-24 DOI: 10.5923/j.20201001.05.
16. Khamdamov, B., & Dekhkonov, A. (2022). Clinical and laboratory parameters of the wound process complicated by the systemic inflammatory response syndrome in patients with diabetes mellitus. *Journal of education and scientific medicine*, 2(3), 25-29. Retrieved from <https://journals.tma.uz/index.php/jesm/article/view/349>
17. Khamidova N. K. et al. Morphometric characteristics of parameters of physical development of children with various heart diseases // *湖南大学学报 (自然科学版)*. – 2021. – T. 48. – №. 7. – C. 137-142.
18. Nuraliev N.A., Khamdamov B.Z. Comparative assessment of the immune status of patients with diabetic foot syndrome with critical ischemia of the lower extremities. *Bulletin of the Tashkent Medical Academy*. Tashkent, No. 1. - 2020. – P. 132-138.
19. Sabirov D.M., Oltiev U.B., Khamdamov B.Z., Dekhkonov A.T. The choice of anesthesia method in the surgical treatment of purulent-necrotic complications of the lower extremities in patients with diabetes mellitus. *Biology va tibbiyot muammolari*. 2021. No. 2 (127). - WITH. 118-121.
20. Sodikova S. A., Zoyirov T. E., Davlatov S. S. Dental Awareness and Oral Health of Pregnant Women (Literature Review) // *International Journal of Pharmaceutical Research* (09752366). – 2020. – T. 12. – №. 3.
21. Sulaymonovich D. S., Zarifivich K. B. The state of regional blood flow in diabetic foot syndrome // *Проблемы биологии и медицины*. – 2022. – №. 4. – C. 137.
22. Teshaev O.R., Murodov A.Kh., Sadykov R.R., Khamdamov B.Z. Improved results of treatment of purulent wounds with complex use photodynamic therapy and CO2 laser in the experiment. *European Science Review*. Austria, Vienna 2016 March-April No. 3-4. - R. 185-189.
23. Teshayev S. J., Khudoyberdiyev D. K., Davlatov S. S. The impact of exogenous and endogenous factors on the stomach wall, macro-, microscopic anatomy of newborn white rats // *International Journal of Pharmaceutical Research* (09752366). – 2021. – T. 13. – №. 1.