World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-18, January 2023
ISSN: 2749-3644

ANGIOSOMAL APPROACH IN THE TREATMENT OF PURULENT-NECROTIC COMPLICATIONS OF DIABETIC FOOT

Abdullayev Sayfulla Abdullayevich
Prof., Department of General Surgery, Samarkand State Medical University, Samarkand, Uzbekistan
Xujabaev Safarboy Tuxtabayevich
DSc., Department of General Surgery, Samarkand State Medical University, Samarkand, Uzbekistan
Makhmudov Timur Bahadirovich
PhD., Department of General Surgery, Samarkand State Medical University, Samarkand, Uzbekistan
Khudainazarov Utkir Rabbimovich
PhD., Department of General Surgery, Samarkand State Medical University, Samarkand, Uzbekistan
Larin Igor Vladimirovich
Ass., Department of General Surgery, Saratov Government University.

Article history:

Received: November 20th 2022
Accepted: December 20th 2022
Published: January 30th 2023

Abstract:

In the developed countries of the world, up to 5-6% of the population suffers from a complication of diabetes mellitus. Complications associated with surgical infection in diabetic patients account for up to 30-40% of the total number of surgical patients.

Gangrene of the toes and feet in general is 17 times more likely to develop in diabetic patients than in people who do not have diabetes.

In recent years, when choosing a method of surgical treatment of patients with purulent-necrotic complications of diabetic foot syndrome (DFS), preference is given to the use of angiosomal approaches.

Keywords:

PURPOSE OF THE STUDY: To evaluate the effectiveness of angiosomal approaches in the treatment of purulent-necrotic complications in diabetic foot syndrome.

MATERIALS AND METHODS OF RESEARCH:

According to the two-year joint scientific project of the Saratov State Medical University and Samarkand State Medical University on the topic "Angiosomal approach in the complex surgical treatment of patients with diabetic foot syndrome", 56 patients with neuroischemic and ischemic forms of diabetic foot syndrome were treated for 2021-2022. Of the 54 operated patients, 34 patients underwent surgical interventions at the clinical base of the State Clinical Hospital of the city of Saratov and 26 at the Zarmed clinic, which is the clinical base of the Samarkand State Medical University.

In the clinical bases of Samara State Medical University in recent years, a total of 84 patients with purulent-necrotic complications of diabetic foot syndrome (DFS) have been examined. There were 53 (63%) men and 31 (34%) women. The age of the patients varied from 27 to 82 years, averaging 57.2 + 4.5 years. Patients had diabetes experience from 8 to 22 years. Type I diabetes mellitus was diagnosed in 6 (7%) patients, type II - in 78 (93%) patients. Severe diabetes mellitus was detected in 43 (52%), moderate in 33 (40%) and mild in8 (8%) patients.

At admission, the patients had concomitant diseases: cardiovascular (77.2%), renal (54%), liver and biliary tract (52%).

Out of 84 patients, 26 patients, according to a scientific project, underwent surgical treatment with an angiosomal approach at the Zarmed clinic. Of the 26 patients, there were 17 men and 9 women. The age composition was from 28 to 50 years - 2, from 51 to 70 - 16 and from 71 to 82 years in 8 patients.

In both groups, both in Saratov and in Samarkand, standard laboratory and instrumental diagnostic methods were carried out: complete blood count, urine, biochemical blood test, blood sugar, coagulogram, ECG, echocardiography of the heart, duplex examination of the artery of the lower extremities with the measurement of the ankle-brachial index (ABI) before and after recanalization, radiography of the foot in 2 projections, MSCT angiography of the vessels of the lower extremities.

The treatment in the groups also did not differ and consisted in the surgical treatment of ulcerative-necrotic defects and the performance of endovascularization of the arterial bed, and the stages depended on the degree of involvement of local

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-18, January 2023
ISSN: 2749-3644

tissues in the wound process and the presence of signs of inflammation.

All examined patients underwent endovascular revascularization of the arteries of the lower extremities. Of the 26 patients, 25 had access through the femoral artery and 1 patient had a posterior tibial arterial approach, due to the presence of high occlusion of the proximal superficial femoral artery. 24 patients underwent recanalization and balloon angioplasty and 2 patients underwent thrombectomy followed by balloon angioplasty.

For recanalization of the femoropopliteal segment and arteries of the lower leg, a 0.14 Commad wire (Abbot) and NanoCrossElit and Admiral Xtreme(Medtronic) balloons of various sizes were used. Stenting of the femoral-popliteal segment was carried out with Cordis stents.

To select the optimal surgical treatment of patients, we used the Bagner F.M. (1981) classification. II degree - (12%), III degree - (70%), IV degree - (18%).

RESULTS AND DISCUSSION:

Our observations have shown that the development of purulent-necrotic complications of DFS, depending on the form, reveals several clinical complications: the neuropathic process leads to atrophy of the foot muscles and the development of toe deformity. Due to excessive deformation of the toes, " callus" are formed and subsequently a trophic ulcer develops.

First of all, we must say that, unfortunately, most patients come to the clinic in the late stages of the disease with developing complications.

The main task in the treatment of purulent-necrotic complications of SDS is to avoid high amputation of the affected limb. Given these data, in recent years, an angiosomal approach to revascularization of the artery of the lower extremities has been widely discussed, which restores arterial blood flow in the area of trophic disorders on the foot.

In the preoperative period, attention was paid to the nature and extent of the atherosclerotic lesion. Depending on the localization of trophic ulcers, the methods of revascularization of the artery of the leg were chosen. If before the introduction of the angiosomal approach, the volume of surgical interventions was determined almost blindly, then after the introduction of this method and applying it at the first stage of surgical treatment,the surgeon got the opportunity to determine the affected area and choose the method of surgical solution of this problem. In determining the optimal method of surgical treatment, we based on clinical data, the amount of anesthesia, radiological, Doppler and angiographic data. Of the 84 patients, 49 patients underwent surgical treatment. Amputation of the metatarsal bones according to Sharp was carried out in 14 patients, amputation of one finger in 9 patients, amputation of 2 fingers in 6 patients, and amputation of 3 fingers in 4 patients. Amputation of the lower extremities at the level of the lower leg was performed in 4 patients and at the level of the thigh in 12 patients.

According to angiography and CT angiography in the group of patients (n-26), 62% had isolated lesions of the tibial artery or in combination with the popliteal artery. Of the 26 patients, 9 had Menckeberg'smediacalcinosis, which was 35%.

According to the meta-analysis, the angiosomal approach improves wound healing due to the direct restoration of arterial blood flow, allows the formation of a demarcation zone and adequately assesses the extent of surgical intervention. As a result, the use of the angiosomal approach reduced the level of proximal amputation to 9-10%.

CONCLUSION. Timely diagnosis of complications of DFS and the introduction of an angisome approach at the first stage of surgical treatment of complications of DFS significantly reduces the number of high amputations of the lower extremities.

REFERENCES

1. Абдуллаев С. А., Курбанов Э.Ю. Новые технологии в лечении гнойно-некротических осложнений синдрома диабетической стопы. 4-й междунродный научно-практический конгресс «Сахарный диабет, его осложнения и хирургические инфекции». Сборник научных трудов. 19-21 ноября 2019. Москва. Стр 3.
2. Абдуллаев С. А., Мусаев С.Т. Хирургическое лечение некротических фасциитов у больных сахарным диабетом. 4-й междунродный научно-практический конгресс «Сахарный диабет, его осложнения и хирургические инфекции». Сборник научных трудов. 19-21ноября 2019. Москва. Стр 4.
3. Mary A., Hartemann A., Liabeuf S., et el. Association between metformin use and below -the –knee arterial calcification score in type 2 diabetic patients , Cardiovs Diabetol . 2017;16;24.

World Bulletin of Public Health (WBPH)
Available Online at: https://www.scholarexpress.net
Volume-18, January 2023
ISSN: 2749-3644

4. 4.Gremmels H., M. Teraa R.W . Sperengers , J.M.Martens , M.Verhaar , J.J.wever , G.J. de Borst , J.A Vos , W.Mali, H.v Overhagen , Padi, J,t groups , High and immeasurable ankle-brachial index as predictor of poor amputation-free survival in critical limb ishchemia, J.Vas Surg.2018; 67;6 1864-1871.
5. 5.Wagner W.A classification and program for diabetic , neuropatic and dysvascular foot problems . In the American can Academy of orthopedic surgeon instructional course lectures. St.Louis ; Mos by Vear Book . 1997; 143-165.
6. 6.Abdullayev S.A , Babajanov A.S , Kurbonov E.Y , Toirov A.S., Abdullayeva L.S, Djalolov D.A. Problems of Sepsis Diagnostic and Treatment in Diabetes Mellitus // American Journal of Medicine and Medical Sciencess. P-ISSN; 2165-901X e-ISSN; 2165-9036. 2020; 103; 175-178.
7. Абдуллаев С. А., Дусияров М.М., Атоев Т. Т., Хужабоев С. Т. Диабетик панжа ва юмшоқ тўқималардаги йирингли-некротик яраларни маҳаллий даволаш технологиялари. Доктор ахборотномаси №4 (108)—2022. Самарканд. DOI:10.38095/2181-466X-20221084-6-8. 6-8 бетлар.