

## OPTIMIZATION OF DIAGNOSTICS AND TREATMENT OF DIABETIC FOOT

Narzullaev Sh.Sh., Saydullaev Z.Ya.

Samarkand State Medical University. Samarkand city.

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**Abstract:** This article is devoted to one of the main problems not only of surgery and endocrinology, but also of modern medicine - “diabetic foot” syndrome. Despite the development of medicine and diagnostic methods, timely diagnosis and complex treatment of various complications of diabetes mellitus remains a big problem.

**Keywords:** diabetes mellitus, diabetic foot, abscess, anaerobic phlegmon.

### ОПТИМИЗАЦИЯ ДИАГНОСТИКИ И ТАКТИКИ ЛЕЧЕНИЯ ДИАБЕТИЧЕСКОЙ СТОПЫ

**Аннотация:** Данная статья посвящена одним из основных проблем не только хирургии и эндокринологии, но и современной медицины, осложнению сахарного диабета – синдрома диабетической стопы. Несмотря на развитие медицины и методов диагностики своевременной диагностики и комплексное лечение разных осложнений сахарного диабета остаётся большой проблемой.

**Ключевые слова:** сахарный диабет, диабетическая стопа, абсцесс, анаэробная флегмона.

### INTRODUCTION

The incidence of diabetes mellitus is still high among developed countries and is about 25-30% of the population [2, 7, 11]. The main problem is associated with various complications of the disease. 65-70% of all surgical purulent complications develop against the background of diabetes mellitus and it has a significant impact on the diagnosis and treatment of patients [1, 3, 6, 8].

Macroangiopathy with atherosclerotic complications of the great vessels in diabetes exacerbates its complications. Which, even small cracks, turn into abscesses, felons and phlegmons, and they, in turn, lead to the development of the “diabetic foot” syndrome (DFS) [5, 7, 10].

In recent years, various methods of diagnosis and treatment have been improved in order to reduce high rates and improve the condition of patients. They include Doppler ultrasound and angiography. These diagnostic methods, especially angiography, have led to the development of various surgical treatments, as well as the introduction of revascularization operations. However, despite the development of medicine, the rates of various complications of diabetes remain high, which remains one of the most urgent problems not only in medical but also in social terms in society [1, 4, 7, 11].

**Purpose of the study.** Optimize the diagnosis and complex treatment of DFS.

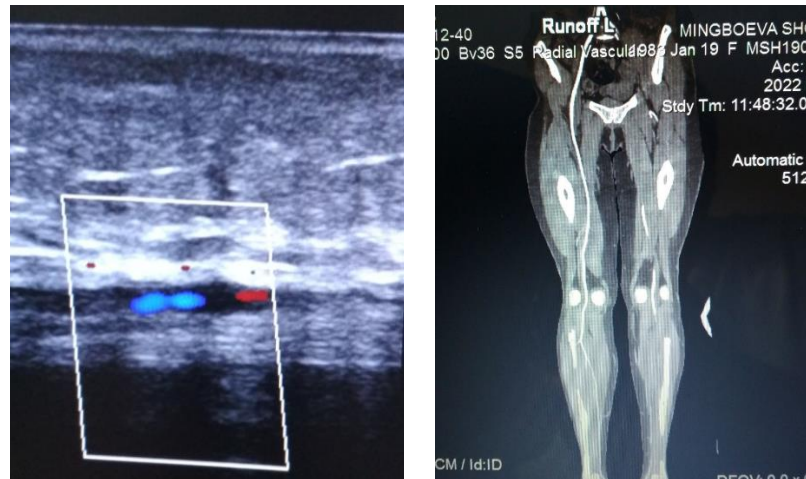
### MATERIALS AND METHODS OF RESEARCH

The materials of our study were the surgical treatment of 83 patients with DFS treated in the Department of Surgery of the Multidisciplinary Clinic of the Samarkand State Medical University in the period 2022-2023. Most of the patients were male (n=51). The age of the patients ranged from 33 to 78 years. Average 46.5 years.

Diabetes mellitus occurred mainly in the form of type II. In 14 patients in mild form, in 29 patients in moderate form and in the rest in severe form of diabetes mellitus. Comorbidities occurred in 56 (67.5%) patients. Of these, pathologies of the cardiovascular and pulmonary

systems, obesity and pathologies of other organs were mainly encountered. Some of these pathologies were combined.

All patients underwent standard research methods. General and biochemical laboratory blood tests (including serological blood tests, blood tests for sterility, etc.) and various instrumental diagnostic methods (ECG, ultrasound, EchoCG, X-ray studies, etc.), as well as mandatory Doppler ultrasound and indications MSCT angiography of arteries (Fig. 1 a, b).



**Fig. 1. Doppler ultrasound (a) and MSCT angiography (b) of lower limb arteries.**

## RESULTS AND DISCUSSIONS

First of all, in discussing these pathologies, we must say that, unfortunately, mostly patients come to us late and incorrectly treated: some use self-treatment methods or go to other specialists (for example, to therapists, urologists, skin venereologists, etc.) . Since, with diabetes, the sensitivity of the limbs decreases, an ordinary abrasion, if not paid special attention and undertreatment, can turn into formidable complications.

All patients underwent a laboratory study in dynamics. At admission, 9 patients had diabetes mellitus, mild, and they took treatment in tablet form. After examination by an endocrinologist, they were prescribed insulin therapy in the schemes.

All patients underwent several instrumental examinations before and after the operation. Particular attention is given to Doppler ultrasound: the condition, diameter, and intensity of blood flow in the main arteries on both sides (a. iliaca interne et externa, a. femoralis, a. poplitea, a. tibialis posterior, a. plantaris dorsalis) were studied. And also, 14 (16.9%) patients underwent contrast angiography (MSCT angiography). These studies have given us valuable information for the diagnosis and determination of further treatment tactics.

All patients were operated on. Anesthesia was mainly spinal or general intubation. In staged minor operations and with contraindications to anesthesia, the operation was performed under local anesthesia. All 83 patients underwent 128 operations. Of these, 75 times (39 patients) staged necrectomy, 16 times - amputation according to Sharpe, 9 patients - amputation of the lower third of the lower leg, amputation in the thigh area was performed in 4 patients. 13 patients complicated with necrotizing fasciitis were dilated and drained several times.

Due to the severe and non-standard course of purulent diseases, an increase in the resistance of microorganisms, antibiotic therapy was carried out individually according to indications with several groups of antibiotics. Particular attention was paid to the correction of accompanying pathologies, enteral and parenteral (nutritional) nutrition.

According to the results of treatment, 16 patients achieved an improvement in their condition from severe to mild and moderate conditions. 25 patients recovered and were discharged for outpatient treatment. In 2 patients with severe diabetes mellitus complicated by sepsis and septic shock, despite complex treatment, a fatal outcome was observed as a result of multiple organ failure..

### CONCLUSIONS

Timely diagnosis (especially Doppler ultrasound and MSCT angiography) plays an important role in the treatment of patients with DFS and various complications of diabetes mellitus. Staged necrectomy, individual antibiotic therapy and correction of concomitant pathologies increase the effectiveness of complex treatment of purulent complications of diabetes mellitus.

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