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PREDICTION OF POSTOPERATIVE WOUND HEALING IN PATIENTS WITH DIABETIC FOOT SYNDROME

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Abstract:

Diabetes mellitus (DM) takes the 3rd place in the structure of causes of death, affects 4-5% of the world's population. Diabetic foot syndrome is a pathological change in the nervous system, arterial and capillary bed, which can lead to the formation of ulcerative necrotic processes, as well as gangrene. Approximately about 85% -90% of such cases are trophic foot ulcers, abscesses, cellulitis, osteomyelitis and purulent arthritis. Diabetic foot is manifested in patients suffering from diabetes mellitus, mainly type 2, suffering from an average of 15–20 years of diabetes mellitus. Due to the fact that the sensitivity of the tissues of the lower extremities is impaired in diabetes mellitus, any wounds go unnoticed and can soon become infected with damage to more and more skin, muscle and bone tissue, resulting in the development of a diabetic foot. Pathogenesis is due to three main causes: damage to the blood vessels of the lower extremities, diabetic neuropathy - this is the most common complication of diabetes mellitus, and infection, which usually always accompanies the first two factors. Of all the late complications of diabetes mellitus, leg lesions seem to be the most preventable. Comprehensive strategies can reduce the need for diabetic amputations by 49–85%. The World Health Organization (WHO) and the International Diabetes Federation (IDF) have set an immediate goal of reducing amputations by up to 50%.[4] Any trophic ulcer is characterized by a chronic wound process. With a history of diabetes mellitus of more than 20 years, the probability of damage to the lower extremities exceeds 80%, while 40-70% of all non-traumatic amputations are performed in patients with diabetes mellitus, and the immediate postoperative mortality can reach 20% or more [5, 6]. A long-term ulcer defect in the absence of proper care and treatment is a potential cause of not only abscesses, phlegmon, but also sometimes fatal complications such as wet gangrene and sepsis [7]. The key step in the treatment of trophic ulcers is surgical treatment and its main component is primary necrectomy. It is with it that the improvement of the results of surgical treatment of wound and ulcerative foot defects in patients with diabetic foot syndrome is currently associated. With its help, timely sanitation of the purulent-necrotic focus, removal of the wound biofilm and stimulation of the process of formation of granulation tissue in the ulcer are achieved [8].

Keywords: diabetes mellitus, diabetic foot syndrome, necrectomy, ulcer, amputation.

MATERIALS AND METHODS: The object of the study is the database of the RSNPMCESF of Samarkand. Data on the prevalence of DFS were analyzed, taking into account the age and sex of patients, depending on the type of DM. 40 patients with type 2 diabetes mellitus (type 2 diabetes) with wounds after various surgical interventions at the foot level for purulent-necrotic complications of diabetic foot syndrome (DFS) were examined and treated.

Amputations within the foot were performed in history in 21 patients (52%). The study did not include ball patients with clinically significant ischemia of the lower extremities. The average age of patients is 58.6*1.06 years (36 - 77 years), the ratio of men and women is 17/13. The duration of DM was on average 11.5±1.02 years. A comprehensive clinical examination was carried out with an assessment of the severity of DM, late complications and the severity of the wound process, standard treatment according to international recommendations.

RESULTS: the terms of wound healing ranged from 1.5 to 54 weeks and averaged 12.7±1.55 weeks. The duration of healing was primarily determined by the

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presence of osteomyelitis and infection (18.1 ± 2.51 and 7.4 ± 1.41 weeks, respectively; p = 0.002). The size of the wound was directly related to the risk of wound infection. Localization of wounds in the area of the forefoot and sole also made a significant contribution to the prognosis of healing. An important prognostic factor was the duration of the existence of the wound from the moment of discharge from the hospital to seeking specialized help. There are three levels for the healing period of postoperative wounds: up to 12 weeks inclusive - a good result, more than 12 but not more than 24 weeks - satisfactory and more than 24 weeks - a poor result. The factors influencing this result are determined. They were, first of all, the presence of osteomyelitis, and then infections. Significant factors were also the localization of the wound (on the back or plantar surface, forefoot), the area of more than 10 cm and the duration of existence of more than 9 weeks from the moment of discharge from the hospital to the request for specialized assistance. Less significant were sensorimotor neuropathy and autonomic neuropathy. Neither the compensation and duration of DM itself nor the presence and severity of its complications such as coronary artery disease and hypertension made a significant contribution to the prognosis of postoperative wound healing, however, as did the gender and age of patients.

CONCLUSIONS: Diabetic foot syndrome (DFS) is one of the most severe complications of diabetes mellitus. Preservation of a functionally active limb is the main task in the treatment of diabetic foot syndrome, the successful implementation of which requires multidisciplinary rehabilitation of patients with long-term follow-up, the search for preventive tactics and optimal methods of surgical treatment [12, 27].
The leading factors in predicting the timing of postoperative wound healing in patients with neuropathic DFS are local parameters, such as the presence of osteomyelitis, infection, wound surface area and its localization. An important factor is the duration of the existence of the wound after discharge from the hospital until the provision of specialized care, which affects both the risk of infection and the risk of osteomyelitis.

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