

Introduction.

Diabetes mellitus today is threatening disease with the constant increase in the number of patients. According to statistics of the Ministry of Health in Ukraine at the end of 2014, there are 1,197,317 patients and diabetes prevalence of 2790.7 per 100 thousand. Population, of which 93.1% are patients with type 2 diabetes. Diabetic foot syndrome (DFS) is one of the leading disabling chronic complications of diabetes. From 40 to 60% (and in some regions up to 90%) of all non-traumatic amputations performed in patients with diabetes. According to epidemiological studies, the incidence of amputations reaches 206 cases per 100 thousand. People a year, and high amputation cause disability of patients. During 2014 in Ukraine there were 2656 lower limb amputations in patients with diabetes, which is 0.62 persons per 10 thousand of population, 198 patients died after surgery. That postoperative mortality is 6.33%. The introduction of new treatments for patients with DFS, aimed at preserving the limb bearing capacity, reduce inpatient treatment is urgent medical and social problem. After lower limb amputations in patients with diabetic foot syndrome personally have problems for the patient, as well as medical and social problems for society as a whole. It is important to note that if active treatment of ulcers in patients with DFS to 85% of amputations can be prevented. These results can be achieved by implementing effective therapeutic and diagnostic applications. Extremely urgent issue arises amputations small search techniques to preserve the ability of the supporting limb and socialization patients. A significant problem facing purulent necrotic process on foot. In addition to adequate surgery with removal of necrotic soft tissue and bone unviable, for preventing the spread of the necrotic process, it is necessary to achieve a successful drainage of the wound. Adequate drainage to quickly clean the wound from bacterial contamination and create favorable conditions for it to regenerate. Existing methods of wound treatment using gauze bandages, disinfectant solutions, hypertonic solutions of low concentration of proteolytic enzymes do not solve the problem of drainage of the wound in full. Today recognized by draining wounds is a method of vacuum therapy with the creation of negative pressure wound.

Aim of the study.

The work was aimed at improving the surgical technique of the operation, the development of measures to improve and accelerate wound healing, prevent progression of inflammatory processes supporting foot preserving the ability of the foot.

Materials and methods.

The research was conducted at the Department of Purulent Surgery of Kyiv City Clinical Hospital №4, a clinical base of Department of Surgery №2 of Bogomolets National Medical University in the period from 2011 to 2015. Implemented surgery in 31 patients with diabetes mellitus complicated with diabetic foot syndrome and neuropathic neuroischemic forms.

Observation Group consisted of 11 men, aged 60.50 ± 1.50 years and 20 women, aged 70.95 ± 1.45 years on average. The control group was composed of 30 patients. By age, sex and comorbidities were representative group.

All patients observed sores on the surface of the sole classification Wagner 2b i3b degree ulcers were infected and spread to the bone. Patients performed diagnostic program that included general clinical examination and additional methods. Additional methods of examination attributed mandatory neurological examination of the patient - a study on the feet sensitivity (tactile, vibration, temperature and pain), the definition of stone-brachial index and X-rays of the foot in two projections. All patients noted a significant reduction or lack of sensitivity on the feet to the level of "socks". Indicators stone-brachial index patients were at 0.5-0.91, indicating the presence of neuro-ischemic form of DFS.

Radiologically proven bone osteomyelitis of the foot in 20 patients in the main group and 19 patients in the control. In 5 patients of the group bone destruction detected intraoperation when viewed from the bone.

Technically surgery patients of the group runs as follows. Surgery was performed under spinal anesthesia. Has access to the affected area phalanx. When affected first or fifth phalanx access conducted by metatarsus-phalangeal joints on the lateral or medial surface of the foot parallel to the axis of the metatarsal bone of the affected phalanx. When affected phalanges II-V performed "Y" - shaped phalanx access and metatarsus-phalangeal joint. Please note that for maximum efficiency you need surgery, if possible, keep the foot arteries. The skin on the foot excised within necrotic tissue, must excised ulcer. A revision of the excision wound necrosis and damaged tendons. If found leaking septic conducted access incisions for drainage. Bone resection is performed using translational saw, or saw Dzhylhi. Hemostasis is held in the wound bipolar electrocoagulation. In the wound should not be necrotic or nonviable tissue. In wound impose aplikation particulate sorbent based on silicon oxide (containing antibiotic nanokompozition sorbentni - silica nanoparticle 6.3 g, polymethylsiloxan – 2.8 g and antibacterial components: decamethoxin or etoniy – 0.15 g, metronidazole – 0.75 g). The wound is covered with sterile material. The next day, when the wound dressing is removed the remains of the sorbent system using ultrasonic cavitation Soring Sonoca 190 and conducted audit wound. In wound impose a sterile bandage polyurethane is 2 cm beyond the edge of the wound. Polyurethane adhesive bandage closes with a hole for the tube. The tube connecting apparatus with vacuum therapy (VAC-T). The latter created a constant negative pressure of 125 mm Hg. Subsequently dressing made with an interval of 4 days. At each dressing wounds treated Ultrasonic cavitation On average stay apparatus in wound ranged from 8 to 16 days.

Patients in the control group transaction carried out by a similar algorithm. But patients after surgery the wound impose aseptic bandage with antiseptic solution, 25 patients. 5 patients in whom bone degradation phenomena were without abscesses or abscesses, wound sewn seams and overlapping primary staging latex graduate of the wound. All the patients were held daily dressing with antiseptic solution (dioksydinu, bihlyukonatu chlorhexidine, povidon-iodine), also applied ointment on hydrophilic basis (Levomekol, Levosin, Myramistin).

Antibiotic therapy for all patient groups conducted depending on the type of bacteria that is defined in the wound. The duration of antibiotic therapy was defined by a decrease in symptoms of SIRS (systemic inflammatory response).

To compensate glycemia all patients in both groups treated with insulin, regardless of previous therapy, the principle basis-bolus insulin therapy method.

Results.

Patients of the main group on the second day after the operative period pain disappears in the wound; swelling of the foot also significantly reduced on the second day after the imposition of bandages hardware (VAC-T) signs of swelling in the foot and leg disappeared on the third day. In the 8-16 day cleaning is complete epithelialization of the wound active in it. After removing the device in all patients showed no complications, wound clean, active granulation and epithelization. Active in the wound granulation microscopy confirmed the drug from the tissues wounds. In preparation of the granulation tissue marked by strong growth of blood vessels in the tissue. With the growth of microorganisms bacteriological study of wound seeding were found. None of the patient had no need for repeated surgery. The next step was plastic closure of the wound defect.

Patients in the control group wound pain disappeared at 4-6 days after surgery. Swelling of the foot decreased by foot for 5-7 days, signs of swelling in the foot and leg disappeared 10-12 days of treatment. Full cleaning the wound occurred at 14-18 days of treatment. In preparation of the granulation tissue wounds not selected active sprouting of blood vessels in the tissue. 9 patients in this group there was a need repeated surgical interventions necroectomy -in 7 patients, 2 patients – removal of the primary joints and keeping the wound open. The next step was plastic closure of the wound defect.

Implementation of the proposed method of surgery and subsequent treatment of surgical wounds primarily accelerates wound healing and reduced the duration of inpatient treatment.

Length of stay of patients of the hospital to the plastic closure of the wound defect on average 15.50 ± 1.12 days. The duration of the control group patients in hospital to plastic closure of the wound defect on average was 24.42 ± 0.13 days.

Conclusions.

1. Implementation of the surgery proposed method eliminates the need for high amputations in patients with diabetic foot syndrome.

2. In the treatment of septic complications in patients with foot diabetic foot syndrome using vacuum therapy eliminates the need for landmark transactions in the foot.

3. Complex surgical treatment of purulent complications of the foot using vacuum therapy helps to speed up cleaning the wound, on average 2 times and reduce surgical treatment duration 1.6 times.

4. Improved surgical technique of the operation on the foot preserving its bearing capacity for the implementation of recommended treatment with diabetic foot syndrome purulent necrotic complications.