

Vacuum Drainage Damp Phlegmon of the Foot in Diabetes

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Abstract

After opening with a damp Phlegmon moans in diabetes, the author suggests during 40-60 minutes to produce its vacuum drainage-by putting in a sealed container from which pumped out the air and creates a vacuum $-0.4-0.2$ kgs/cm². This is accompanied by active podsasyvaniem pie-necrotic detritus from the depths of the inflamed tissue. Then in this capacity up to 2 liters pour in antiseptics (0.02% chlorhexidine solution) and leave it at 3-4 hours. Then antiseptic sucked off and dispose of it (if it contains pus) and repeat the second cycle of vacuuming necrotic wounds. Then pour in antiseptics, and so continued 3-5 days. After completing the treatment, manipulation described the load wound a few days impose-drying wet bandage the same antiseptic. Active treatment duration ranged from 7 to 10 days. In an isolated form of vacuum drainage is not used, and only in conjunction with other methods of combating ihoroznoj infection. A total of 56 patients were treated, 81.2% of oporosposobnost have managed to preserve the limb, which is almost 2 times higher than with other methods of surgical treatment.

Keywords: Diabetic phlegmon; Vacuum drainage; Antiseptic

Introduction

Diabetes affects both large and small vessels [1-3]. Because insulin deficiency there is a violation of cellular and humoral immunity, which is accompanied by a blockade of food and reparativnyh protective reactions [4-6]. Productive-obliterirujushie Vasculitis are universal [7-10]. This pathology is constantly detected in patients with diabetes over the age of 40 years. Progressive increase of the process leads to the development of a situation where drug treatment of diabetes is already becoming ineffective [10-13]. In tissue necrosis occurs that require surgical treatment already. It should be pointed out that approximately 40-50% of all lower limb

amputations have on diabetes [8,14]. Statistics show that in this disease amputations are performed in 11 times more likely than all other pathological processes, and they are conducted at a younger age. Most often the amputation is carried out at the level of the hips (31.5-43,5%) than tibia (6.2-8.3%). Oporosposobnost foot to save only 35-47% of the patients. Indications for the amputation of limbs at the level of the upper third of the tibia is the spread of Phlegmon on fabric ankle joint, but without the presence of sores in the lower third of her damage, but should be maintained permeability popliteal artery and well developed collateral circulation. . If purulent traces already formed, the amputation of limbs of produce at the level of the hips. This is because wet

Phlegmon in this disease is putrid nature and spread of infection going far beyond the visible boundaries of the defeat. This spread occurs when the tendon vlagalishham and fascia, causing them to collapse. The skin over the area of necrosis has a healthy appearance, which can lead to an error in choosing the level of amputation of a limb [6,13,10]. Stop the same progression of necrosis on the foot, surgeons try to only operational through-through and the excision of the affected tissues, damaging healthy nerves and blood vessels, which can lead to the spread of Phlegmon. Given these data, we have perfected a method of treatment of damp Phlegmon diabetic foot by vacuuming necrotic cavities, which allows slow rot decay of its tissue due to suction putrid detritus and inflow blood from top to bottom. This method of treatment before in medical practice is not applied.

The Purpose of the Study

Determine the therapeutic value of vacuum drainage diabetic Phlegmon of the foot. (patent RF № 2253427 from 10.06.2005).

Material and Methods

In patients with a damp flegmonoj foot made her showdown-by dissection of the skin and subcutaneous tissue. Making sure that the inflammatory process has not spread to the tibia, then search and excision of necrotic tissue on the foot is not produced (it accompanied by damage to the blood vessels and nerves that violate troika tissue of the foot). If the same putrid process spread to Shin, then applied the usual treatment algorithm and this group of patients in the development were not included. Without the spread of Phlegmon on fabric tibia, foot was placed in a sterile plastic bag (to comply with antiseptics) and the patient was sent to the intensive care unit. There it is already placed in prepared container, which was it 10 liter sterile plastic container, from which Eve was neck vykroen jazykoobraznyj flap (this enhances the entrance to the container). This flap zagibalsja and stop easily dropped to the bottom of the container. The flap is then slipped to neck and pressed down with the lower leg. This was followed, in the neck about 1 diameter hole did see through which conducted the hose from the vacuum system with control and adjustment device and container for the collection of exudates. In an opinion made sealing the container by placing adhesive plaster tapes from around the neck of the container with the capture of the skin of the lower leg. Following this, immediately started suctioning fluid from ihoroznoj Phlegmon of the foot. Dilution level was 0.2 -0.4 kgs/cm². At increasing pressure

suctioning pause, but immediately resumed at lower settings. Evacuation lasted 40-60 minutes (this was accompanied by active podsasyvaniem purulent detritus from the depths of inflamed tissue of the foot). Then suction stopped and in this capacity have been pouring in to 2 liters of disinfectant (0.02% chlorhexidine solution) and left it at 3-4 hours. After this otsasyvali and antiseptic destroyed and immediately started a second cycle of vacuuming necrotic wounds. Then pour in antiseptics, and so continued 3-5 days. If the wound is clean from necrosis, in her 2-4 days left-drying wet bandage the same antiseptic. If the same foci of necrosis have persisted, vacuuming is no longer produced, and the foot was placed in another tight capacity, which was created from the usual thin plastic bag. In this package have been pouring up to 0.5 litre 2% boric acids. For durability, these packages were put in another. The edges of the packages using adhesive plaster tape fixed to the skin the middle third of the tibia. The patient was allowed to walk using crutches, while periodically based on the injured limb is done with the purpose of compression squeezing pus of mezhfascialnyh spaces, and then sucking them antiseptics (with decompression of tissues). Solution change the next day and so during 3-5 days to cleanse the wound of necrotic tissue and the appearance of granulation in it. In further local treatment conducted under the bandages, first with ointment "Levomekol", and in the stage of epithelialization-metil. On the first day of hospitalization in patients were determined values of the skin and deep blood and pus were taken during surgery to explore her sensitivity and microflora to antibiotics. If found, then sinegnanuu wand as antiseptics used 2% boric acid, which has the property as melt necrotic tissue and destroy all microorganisms that cause infection surgery. Especially this antiseptic is effective against Pseudomonas aeruginosa. In addition, it cheap, and this is of particular importance in this group of patients. This method of treatment used in conjunction with angioprotektivnymi drugs. The effectiveness of the method was evaluated by clinical data and instrumental examination results, which included a definition of chrezkozhnogo oxygen tension (TspPO²), index, minute blood flow (IMK), the level of microbial obsemenjonnosti wounds and the morphology of the tissue of the stroke. UZDG sosudov was performed in all patients of lower limbs. In a survey of Plasmids in the grade III ischemia Fonteinu -Pokrovsky, 11.6% have patients, and (IV)-do 88.4%. The average level of TsPO² on the foot amounted to 24.1 ± 1.3 mm Hg. in the lower third tibia 29.5 ± 1.6 mm. Hg. IMK totaled 1.61 ± 0, 8 mL/min/100 cm³. Cytology smear woven reflect necrotic or degenerative inflammatory type of pathological process. The average level of microbial contamination

amounted to $3,3 \times 10^6$ KOE /g of tissue. Surgical treatment combined with insulinoterapiej and medication correction of homeostasis. As endogenous adaptogen, improves oxidative and energy processes in the tissues, with membrane stabilizing and antigipoksicheski properties, used a derivative of succinct acid called "sodium succinate. Active treatment duration ranged from 7 to 10 days. In an isolated form of vacuum drainage is not used, and only in conjunction with other methods of combating ihoroznoj infection. The described method of treatment applied at 56 patients aged 46 to 74 years, of which 35 were women. .

Results

Carried out complex treatment allowed at 45 (81.2%) patients keep oporosposobnost limbs, almost 2 times higher than with other methods of surgical treatment. Already at 3-5 days from start of treatment was able to achieve significant improvement in the course of the wound process. If the first day of treatment in 1 g of tissue was a critical level of microbial contamination (10^5), by this time he declined to 10^3 and even lower. This was accompanied by a change of the type of wound smear on inflammatory-regenerative. With this noted increase in TsPO² to 27.2 ± 0.9 mm Hg at the level of the foot and up to 32.8 ± 1.2 mm Hg -on the lower third of the tibia. In the days following the circulation continued to improve and exceed the critical level was 33 mm Hg. Church. After complex treatment took normalization of carbohydrate metabolism-the level of glycemia was within 4.4-6.1 mmol/l, improved blood flow to the limbs, TsPO² Shin reached 46 mm Hg. Church and in foot-38 mm Hg, while IMC respectively amounted to 3.2 and 6.2 mL/min/100 cm². The wound closed secondary tension on the 27-32 day.

U 11 (18.8%) the same patients through 2-3 days from the beginning of treatment, Shin unexpectedly increased in volume until the knee appeared hyperemia and skin hyperthermia. Due to the risk of sepsis, all these patients was performed amputation-9 at the level of the upper third of the tibia, and 2-the middle third of the thigh. When the pathology study remote fragments of limbs in all cases except damp Phlegmon of the foot, discovered eight phlebitis of the deep veins of the lower leg. With this accompanying disease can cause failures and tie the previous method of treatment. Save knee greatly improved process for prosthetic limbs. Within 2 years after discharge from the hospital repeatedly asked the patient 2. This was due to the development of wet

gangrene on the other foot. The has held similar treatment.

Discussion

When carrying out the method of vacuum drainage diabetic Phlegmon stops are clearly identified, that he has not only expressed sanation effect due to prisasyvajushhego actions and regenerative-due to blood flow to the tissues of the foot with restoration of patency of blood vessels. At the same time there is a reduction of interstitial tissue edema locally. This is followed by the re-establishment of lymph circulation in the foot. These positive changes in the foot can be observed through the transparent wall of the container. Clearly shows how dramatically reduce hyperemia skin and swelling of all tissues of the foot, is already on the second day from the start of the procedure for vacuuming. With the improvement of the nutrition of tissues quickly increasing volume of granulation and wound narrow in size. Stops separate Pyo-necrotic detritus. This allows you to finish the active treatment and go to the povjazochnyj method through the 2-3 days. But most importantly eliminates the threat of amputation of a limb. However, if for some reason, the patient later sought medical help and Phlegmon Shin has already spread, then to save the patient's life requires a mutilation. Method makes the treatment of the controlled and predictable. When launched on time use, this method can take a lead role in the integrated method of treatment of the diabetic foot.

Conclusion

Diabetic foot is one of the social problems of global health. If in matters of medical treatment made progress, with the development of damp Phlegmon foot situation suddenly worsens. Surgical treatment of this pathology is usually reduced to the amputation of a limb. Man turns into a disabled, despite modern methods of prosthetics. For this reason, weight saving limbs is of paramount importance in the rehabilitation of a patient suffering from diabetes. In this important social issue some assistance has developed a method for vacuum drainage of diabetic foot Phlegmon, which in combination with other treatments, allows you to reduce the number of amputations of a limb more than in 2 times. You should stay and on the economic effect of this method, as it reduces consumption of antiseptics, dressings, ointments and other drugs. However, these successes reflect and the importance of prevention the diabetic foot in diabetes, in order to correct this process, if it evolved, not to wait for distribution of Phlegmon Shin and stabilize her foot level,

with application of vacuum drainage. Then you shouldn't be issekat necrotic tissue, because this leads damage nerves and blood vessels that drastically impair trofiku tissue of the foot.

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