Application of Improved Packing Method in the Repair of Infectious Wounds in Special Body Parts

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Abstract: Objective: To investigate the effect of improved packing method in the repair of infectious wounds in special parts. Methods: From December 2017 to December 2020, 68cases of infectious wounds in special body parts were treated with improved packing and dressing method (including 28 cases of hip abscess, 16 cases of sacrococcygeal pressure ulcer, 12 cases of buttock pressure ulcer, 8 cases of perineal necrotizing fasciitis and 4 cases of hip pressure ulcer). After active anti infection, abscess incision and drainage, and debridement of necrotic tissue, the wound inflammation subsided, necrotic tissue was removed, and granulation tissue grew. The wound edge was fully dissociated, and the wound was directly closed and sutured or transferred to the adjacent skin flap to repair the wound. The drainage tube was prevented according to the condition of the wound. Meilan marked the area of the basal cavity of the wound, and the packing suture was placed outside the edge of the cavity to fix the wound. Result: Of the 68 patients, 58 had primary wound healing; 8 cases of partial wound dehiscence after removal of packing and bandage were treated with secondary suture combined with improved packing and bandage method; Two patient's wound was uncooperative due to the poor consciousness of the patient. The bandage was completely loose and the wound split again. Conclusion It has the advantages of simple operation, easy nursing and less hospitalization cost.

Keywords: Improved Packing Method; Special Body Parts; Wound Healing

Introduction

Perineal abscess, hip pressure sore and other wounds which are difficult to heal as special parts often have the characteristics of large subcutaneous soft tissue necrosis area, heavy wound pollution, and difficulty in fixing the wound due to body position change. At present, the application of negative pressure sealing drainage technology for this kind of wounds can often play an ideal therapeutic effect [1]. However, negative pressure depends on the coverage of medical film. Because of hair growth and being too close to urethra or anus, and the influence of humid environment, negative pressure film is difficult to be firmly fixed. From December, 2017 to December, 2020, 34 cases of infectious wounds in special parts were treated by improved packing and bandaging, and the effect was good, which is now introduced as follows.

1. Materials and methods

1.1 Clinical data

There are 68 patients in this group, including 38 males and 30 females. The age is 23-81 years old, and the average age is 57 years old. Among them, there were 28 cases of buttock abscess, 16 cases of sacrococcygeal pressure sore, 1 case of buttock pressure sore, 8 cases of perineal necrotizing fasciitis and 4 cases of hip pressure sore.

1.2 The operation method

Active anti-inflammatory and blood sugar control before operation, active nutritional support to correct anemia, hypoproteinemia and maintain internal environment stability, etc., and bacterial culture on wound surface.

1.2.1 Wound debridement treatment

Incision of abscess as soon as possible, thorough removal of necrotic tissue and unobstructed drainage; Stage III-IV pressure ulcers were cleared of necrotic skin, muscle and fascia once or in several stages.

Patients with perineal necrotizing fasciitis should be debrided as soon as possible, and suspicious necrotic tissues should be removed together to reduce the possibility of infection spreading to abdominal wall and other parts of the body. Some patients need multiple operations to control infection.

1.2.2 Wound repair

After the infection is controlled and the necrotic tissue is completely removed, the wound can be repaired only when the granulation tissue grows in the wound cavity.

After satisfactory anesthesia, the skin around the wound was routinely disinfected, the wound was repeatedly washed with hydrogen peroxide and normal saline for 3 times, and the edema granulation of the wound was scraped off. After trimming the wound margin, stop bleeding completely. Meilan marks the necrotic cavity on the body surface, leaving the packing line with 3-0 mousse suture 2cm outside the marking line and around the wound edge, and the packing line interval is about 3cm. Evaluate the size of skin defect. For patients with abscess and partial necrotizing fasciitis, there are not many skin defects. Give sufficient free skin silk thread intermittent suture and place drainage tube. For some patients with pressure ulcers or wounds with large skin defects after debridement, which are difficult to be sutured directly, skin grafting or adjacent skin flap transfer should be given to cover the wounds, and drainage tubes should be placed if necessary. Mesh gauze covers the wound surface. After the iodophor gauze is shaken off, evenly fill the wound surface, especially in the scrotum, pay attention to fill the space around the scrotum and pack it appropriately.

2. Result

All 68 patients were unpacked and bandaged 5-7 days after operation. There were 58 cases of primary wound healing; In 8 cases, after the wound was removed and bandaged, part of the wound was split, and the wound was sutured twice and the improved wrapping method was used again for secondary healing. Two cases of wounds did not cooperate due to the poor consciousness of patients, and the wound was completely loose and peeled off, and the wound split again. No skin flap or skin margin necrosis was found in 68 cases of wounds.

3. Typical case

The first case, a 22-year-old female, suffered from hip pressure sores after carbon monoxide poisoning for more than 2 months. After the treatment of wound debridement and dressing change, the granulation tissue at the base of the wound grew. There was a subcutaneous cavity of about 5cm in the upper part of the wound towards the midline of the buttocks, and the subcutaneous cavity of about 4cm in the lateral direction towards the anterior superior iliac spine. Therefore, the wound debridement and flushing were arranged under general anesthesia, and the relaxation of skin tissue around the wound was evaluated during operation, and after trimming the skin margin, direct suture could be given. Mark the range of necrotic

cavity on the body surface with methylene blue, give 3-0 mousse thread at an interval of 3cm, and give indwelling packing thread; 3-0 absorbable sutures were given to the wound edge after trimming, and subcutaneous tension-reducing suture was given. After the iodophor gauze is shaken off, evenly fill the wound surface, properly pack and bandage the wound, and leave the catheter after operation, and instruct the patient to limit hip flexion. Seven days after operation, when the wound was opened, most of the wounds were well anastomosed, and the wound about 2-3cm inside was split. Two weeks after the operation, the wound was sutured at the wound dehiscence under local anesthesia, and the wound was treated with improved packing method again. After one week, the wound basically healed. See figure;

Figure (1) Preoperative

Figure (2) 7 days after operation

Figure(3) 14 days after operation

Figure(4) 2 months after operation

The second case, a 72-year-old male, have diabetes for more than 30 years and perineal necrotizing fasciitis for more than one month. After active anti-inflammatory, hypoglycemic and repeated debridement of necrotic tissue, the infection was

gradually controlled, and the necrotic area from the pubic mound to the perineum, testis and epididymis were preserved, and the surface granulation tissue grew. Therefore, wound debridement and irrigation were arranged under moderate and low epidural anesthesia, skin and soft tissue defects were evaluated during operation, and the skin margin could be directly sutured after trimming. Meilan marks the range of necrotic cavity on the body surface, which is consistent with the range of necrosis. The 3-0 mousse thread is given the indwelling packing line at an interval of 3cm; After trimming the wound margin, 3-0 absorbable sutures were given to subcutaneous tension suture, and 8# drainage tube was placed in the lower part of scrotum near perineum. After the iodophor gauze is shaken off, it is evenly packed around the scrotum, properly packed and bandaged, indwelling catheter after operation, and cleaning and disinfecting the perineum around the wound every day. No obvious drainage fluid was given to remove the drainage tube 3 days after operation, and the wound was closed well 5 days after opening the wound, and there was no obvious purulent effusion after extrusion, etc., and the suture was removed 10 days after operation. See figure;

Figure (1) Preoperative

Figure (2)10 days after operation

4. Discussion

Skin and soft tissue infections in perineum, buttocks and other special parts are often extensive. After incision and drainage or debridement, the wound is not easy to bind and fix, and the wound oozes more. The wound in this area is difficult to heal, and the reasons are as follows: 1. Hip movement will lead to delayed healing; 2. The wound is close to urethra and anus, which easily leads to contact pollution; 3. The untimely care leads to skin and urine impregnation [2]. In recent years, the application of negative pressure sealing drainage technology in infected wounds at special sites has gradually increased. Continuous negative pressure suction can timely drain exudate and promote the growth of granulation tissue [3]. In clinical application, we found that after VSD was used, the adhesive film was easy to fall off and excrement polluted the wound. Some wounds with many subcutaneous necrotic cavities are difficult to achieve thorough unobstructed drainage. In addition, Czymek et al [4] found that the hospital stay and clinical prognosis of patients with perineal necrotizing fasciitis using negative pressure were not better than those of traditional antibacterial dressings.

In free skin grafting, we often use the method of pressure dressing in order to make the skin get the support of the root and establish the blood supply. In the flat parts such as trunk and limbs, we can use ordinary bandages or elastic bandages to

compress moderately, while the parts such as head, face, neck and buttocks perineum often adopt the traditional packing method. This fixation method is generally firm, and it is not easy to loosen during proper physical activity, which avoids the skin flap shifting, is beneficial to the establishment of blood supply and reduces the generation of effusion [5]. Based on the same principle, in order to establish a reliable blood supply between the skin flap and the wound base and avoid the generation of effusion, we use the improved packing method when repairing infectious wounds such as perineum and buttocks, that is, the scope of packing is slightly larger than the size of the wound, and at the same time, we can also use the zoning packing method for larger wounds. Advantages of the improved packing method: 1. It doesn't rely on any instruments, reducing the burden of patients' expenses; 2. For wounds with high tension, the purpose of external tension reduction is achieved, and the probability of early wound dehiscence caused by joint activity is reduced; 3. It is convenient for turning over and nursing.

Matters needing attention: 1. The scope of the retained packing line is larger than that of the necrotic cavity, and it is best to mark it with methylene blue before suturing; 2. Avoid the pain and discomfort caused by the packing line pulling the skin, the pressure necrosis of the transfer flap or the packing line pulling. 3. In the groin area or the subcutaneous tissue of scrotum where it is not easy to fit, gauze should be evenly packed; 4. It is best to pack and bandage for 5-7 days, and premature removal may lead to insecure subcutaneous adhesion and wound dehiscence at the active site; 5. Disinfect the skin every day and try to keep the dressing clean and dry.

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