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Wound Care and Epidemiology 2019: Clinical application of double imbrication film in closed negative pressure drainage of sacrococcygeal pressure ulcer - Tian Gengjia, Wang Shujuan and Xu Xiaoqin - Hangzhou Geriatric Hospital, China

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The clinical results of 15 cases of closed negative pressure drainage (ENPD) for sacrococcygeal pressure sores with the modified laminating method were summarized. Methods ENPD of sacrococcygeal pressure sores was laminated with modified double lamination method. 13 patients achieved good clinical results, and achieved the expected goal. Conclusion: when treating sacral caudal pressure ulcers with ENPD, by modified film sticking method, It can significantly reduce the frequency of lamination shedding, ensure the airtight of lamination, reduce the rate of air leakage, improve the treatment effect of ENPD, shorten the curing time of pressure sore, reduce the workload of medical staff, reduce the pain and economic burden of patients, and promote the early recovery of patients with pressure sore.

Dead space and poor drainage are the main reasons for intractable sacral decubitus ulcers. The objective of this study was to investigate the effects of treatment for sacral decubitus ulcer using space filling through muscle flap and closed irrigation. A total of 22 patients with serious sacral decubitus ulcer were treated with space filling through muscle flap and closed irrigation. After debridement of the decubitus ulcer, the infected areas over the bony prominence and osseous prominences were debrided. We elevated biceps femoris long head or semitendinosus and semimembranosus muscle. Pedicled by proximal part of muscle, the muscle flap was elevated to cover the ischial tuberosity. Transfusion systems of inflow and outflow drainage were placed between the muscle flap and ischial tuberosity. Wound healing and complications were observed. One wound dehiscence healed after secondary suturing. One wound gradually healed by dressing change after 3 weeks. The other cases had good results. Space filling and closed irrigation were complementary. The use of these two methods simultaneously is useful for the management of sacral decubitus ulcers. Sacral pressure ulcers, especially grades III and IV, rarely respond to conservative treatment. The thorough surgical debridement needed to remove necrotic tissues often leaves a large cavity, in addition to the already existing soft-tissue defect. A large cavity will lead to poor drainage, which will increase infection and lead to operation failure. Closed irrigation combined with space filling can effectively obliterate the dead space and produce full drainage. However, there have been no reports concerning the use of these two methods simultaneously for 24 hours. This is a report of the clinical results of the combined method. Clinically, it is exceptionally effective, in a comparatively short time, in wounds that are considered impossible to heal and wounds that are thought to require an extremely long time to heal.

From January 2010 to January 2013, 22 patients with sacral pressure ulcers, 18 of them paraplegic, 4 of them with congenital lower limb hypoplasia, were treated with this technique. Twelve patients were men and 10 were women, and their ages ranged from 14 to 70 years (mean, 42 years).

All patients had stage III or IV pressure ulcers extending to the bone. The diameter of the skin defect ranged from 4 cm to 7 cm, and the cavity ranged from 9 cm to 13 cm. The size of the defect ranged 2 to 6 cm long, 4 to 7 cm wide, deep 9 to 13 cm.The course of disease was 2 to 15 years. At the time of admission, patients had much exudation on the wound bed and dirty gray granulation. The cavity was deep down to the ischial tuberosity. Inflammation in 4 cases spread to the ipsilateral hip joint. Eight patients with chronic osteomyelitis of the ischial tuberosity had dead bone. Bacterial cultures of wound showed Pseudomonas aeruginosa in 8 cases and Staphylococcus aureus in 6 cases. Patients received the wound dressing and

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nutritional support after admission. Dressing with ethacridine lactate gauze packing into each part of the cavity could ensure full drainage. Patients with urinary incontinence should have indwelling catheterization in case of urine contamination. Nutritional treatment included oral nutrition, iron supplements, if necessary, intravenous infusion of amino acids, and milk fat. Patients with fecal incontinence should fast for 3 days before surgery and receive intravenous hyperalimentation. For severe decubitus ulcer patients with severe anemia and chronic disease, preoperative short-term anemia was very difficult to correct. Wound exudation and recurrent fever could also increase the difficulty of treatment. We usually close the wound through surgery as soon as possible, as long as there is no wound inflammation, no significant purulent secretions, fresh granulation, or fever. Preparation of blood, about 800 to 1200 mL, preoperatively was necessary according to the condition of patients. The vital signs of paraplegia patients were monitored. General anesthesia or epidural anesthesia was used with other patients according to their condition. Skin incision was marked 0.5 to 1.0 cm away from the wound edges. An adrenalin solution (1:200,000) was infiltrated to the incision lines and intradermal tissues. Scar tissue in the cavity was completely removed by electric knife, until the ischial tuberosity surface was exposed. Bony prominences and dead bone were resected after removing soft tissue at the ischial tuberosity surface. The hemostasia with electric coagulation under vision and wound immersion with iodine were important for primary healing. Biceps femoris long head was exposed and elevated through additional incision in the back of the thigh. Semimembranosus and semitendinosus muscles were also exposed when the biceps femoris was obviously atrophied. We also protected the sciatic nerve. The muscle flap approximately 8 to 10 cm long was elevated, respectively pedicled by the proximal part of the muscle through an incision at the muscle belly. The muscle flap was completely elevated toward the muscle attachment points at the deep muscle gap. After hemostasis, the muscle flap was turned over to cover the ischial tuberosity surface. A drainage tube and a rinsing pipe were placed between the ischial tuberosity surface and muscle flap. They went percutaneously out of the skin and were fixed to the skin by suture. The skin flap was rotated upward and advanced to cover the wound. Another negative pressure drainage (connected with the negative pressure drainage device) was placed into the wound cavity at the thigh.