

METHODS OF TREATMENT OF PRESSURE INJURES IN PATIENTS WITH SPINAL CORD-INJURED

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ABSTRACT

Spinal cord-injured (SCI) patients are at a high risk of developing pressure injuries (PI), with a reported prevalence of 34% for persons with quadriplegia and 47% for persons with paraplegia [1]. The management of pressure injuries in this vulnerable population is critical, as these wounds can significantly impact their quality of life. Surgical treatment is always considered in Grade II-IV PI, according to the American National Pressure Ulcer Advisory Panel (NPUAP) [2]. However, before surgery, we must consider that SCI patients present specific features that may have a high impact on our results.

Spinal cord-injured (SCI) patients are at a high risk of developing pressure injuries (PI), with a reported prevalence of 34% for persons with quadriplegia and 47% for persons with paraplegia [1]. The management of pressure injuries in this vulnerable population is critical, as these wounds can significantly impact their quality of life. Surgical treatment is always considered in Grade II-IV PI, according to the American National Pressure Ulcer Advisory Panel (NPUAP) [2]. However, before surgery, we must consider that SCI patients present specific features that may have a high impact on our results.

In addition, pressure injuries represent a major global health issue, posing challenges not only to the affected individuals but also to healthcare systems. The annual cost associated with treating pressure injuries can be staggering for their management and complications. Therefore, understanding the underlying mechanisms, risk factors, and effective management strategies for pressure injuries in SCI patients is essential [4,5].

Pressure ulcers and their treatment represent one of the most challenging clinical problems faced by patients who are elderly, neurologically impaired, chronically hospitalized, or have chronic spinal cord injury (SCI). Pressure ulcers often represent a costly cycle of recurrent hospitalizations, surgeries, clinic visits, and home healthcare needs. Pressure ulcers can be life-threatening in end-stage cases as a potential source of overwhelming sepsis. Complications from osteomyelitis, destruction of joints, necrosis of muscle and soft tissue, or erosion into neighboring vital structures can devastate patients' health and quality of life. Patients with SCI, its chronic comorbidities and lack of protective sensory perception, are a particularly vulnerable population for developing ulcers and are at high risk for recurrent ulcers. There are significant ramifications of pressure ulcers in SCI; therefore, professionals caring for such highrisk patients should

periodically review pressure ulcer physiology and clinical management. This review covers pressure ulcer epidemiology, cost, research history, etiology, staging, factors influencing wound healing, local wound care, surgical treatments, and future trends in wound healing research and medical technology [3].

Materials and Methods. This study analyzed the results of inpatient treatment of 10 patients with sacral pressure ulcers secondary to spinal cord injury. All patients had previously undergone multiple unsuccessful courses of conservative therapy. The treatment was carried out in the Department of Purulent Surgery and Surgical Complications of Diabetes Mellitus at the Multidisciplinary Clinic of Tashkent State Medical University between 2021 and 2024. Upon admission, all patients underwent general clinical and instrumental examinations, including radiological studies to exclude osteomyelitis. Along with antibacterial therapy, all patients received comprehensive infusion therapy. The neurotrophic ulcers, ranging in diameter from a few centimeters to 25 cm, appeared as chronic skin ulcers with thickened, calloused edges, covered by granulation tissue, and often involved the underlying sacral bone. None of the patients had osteomyelitic lesions of the affected bone. Nearly all patients presented with lower paraplegia and a complete loss of all types of sensation of the conduction type.

Results. The patients underwent various types of reconstructive and plastic surgeries, each selected individually based on the specific clinical presentation. In determining the surgical approach, all factors influencing the final outcome were carefully considered, including comorbid conditions, the patient's constitution, and the size and depth of the wound defect. In most cases, due to the extensive size of the wound defect, patients underwent —hammer-shaped flap plasty. In one patient with a deeply located fistulous tract, fistulectomy was performed down to the base of the tract, followed by reconstruction using local tissues. For defects located in the lower quadrant of the sacral region, closer to the gluteofemoral fold, myoplasty using the gluteus maximus muscle was carried out because of a deficiency of local tissue and to prevent recurrence of the trophic ulcer.

Conclusions: An individualized and optimal choice of surgical strategy for wound closure in spinal patients with neurotrophic ulcers of the gluteal and sacral regions is the key to achieving a favorable surgical outcome in the early postoperative period. To prevent purulent complications, enlargement of wound defects, and repeated surgical interventions in patients with neurotrophic ulcers associated with post-traumatic spinal cord injury, it is recommended to perform secondary reconstructive and plastic surgeries, taking into account the condition of the bone tissue. The development of new predictive criteria for the occurrence of neurotrophic ulcers in the sacral and gluteal regions requires further modern research aimed at improving the quality of life of patients with post- traumatic spinal cord injuries.

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