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Flap Surgery for Advanced Pressure Ulcers: A Case Report

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Introduction

Pressure ulcers are a major complication in spinal cord injury (SCI) patients, affecting quality of life and rehabilitation. These ulcers result from prolonged pressure, leading to ischemia and necrosis. Conservative treatments like repositioning, cushions, and dressings often fail. This report presents a tetraplegic patient with a coccyx ulcer, emphasizing the limitations of dressing-based management and the necessity of flap surgery.

History and examination

A 38-year-old male attempted suicide by jumping from the 7th floor, sustaining a C4-C5 compression fracture. He underwent anterior cervical discectomy and fusion (ACDF) at another hospital. One month later, he was transferred to our rehabilitation unit and diagnosed with tetraplegia (C4 ASIA A). Upon admission, he had no pressure ulcers and engaged in therapy.
To address depression, neuropsychiatric (NP) collaboration was initiated, improving motivation. However, after a month, his eagerness to improve sitting balance led to prolonged wheelchair use.
The next day, a caregiver noticed a coccyx wound, diagnosed as a Stage II pressure ulcer (6.5 × 9 cm) with progression risk.
Despite dressings and pressure relief, the wound worsened, reaching Stage IV, highlighting the limitations of conservative treatment.
[Fig.1] [Fig.2]

Fig 1. Photo at the time of admission

Fig 2. Photo of pressure ulcer onset and pre-surgery status

Discussion

Pressure ulcers in SCI patients result from immobility, shear forces, and reduced circulation. Conservative management includes repositioning, specialized cushions, nutrition, and dressings. However, advanced ulcers rarely heal without surgery.
This case highlights the failure of non-surgical approaches. Despite early intervention, the ulcer progressed from Stage II to Stage IV. Literature suggests that advanced ulcers, particularly in high-risk areas like the sacrum and coccyx, require surgery.
Flap surgery remains the gold standard, providing durable coverage and restoring tissue integrity. Various techniques, such as gluteal and fasciocutaneous flaps, are effective. Given the failure of conservative measures, our patient was referred for surgery.
The patient underwent successful flap surgery, which provided ulcer coverage and promoted healing. Postoperatively, wound management continued, and total suture removal was completed after three weeks. By discharge, the wound had healed fully with no recurrence.

Fig 3. Photo after flap operation and total stitch out

Conclusion

This case underscores the necessity of early surgical intervention for advanced pressure ulcers in SCI patients. While conservative methods provide temporary management, they do not ensure healing. Flap surgery remains the definitive treatment, optimizing recovery and preventing complications. Early surgical consultation should be prioritized to improve outcomes and reduce morbidity.
Integrating surgery with rehabilitation and psychological support enhances recovery in SCI patients with pressure ulcers. As this case shows, timely surgical referral prevents prolonged suffering and improves prognosis.