Reconstruction of Stage IV Pressure Ulcers Using Delayed Flaps in a Pediatric Patient with Spinal Cord Injury: A Case Report

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Introduction: Pressure ulcers are common complications in spinal cord injury (SCI) patients, significantly increasing morbidity and healthcare costs. Traditional muscle flaps are the gold standard for severe cases but can compromise muscle function. Delayed flaps enhance vascularity and minimize functional loss. This case report presents the successful use of a delayed flap in a pediatric patient with unusual stage IV pressure ulcers.

Case Presentation: A seven-year-old female sustained multiple gunshot wounds, resulting in a complete T3 Spinal cord injury and paraplegia. She developed large stage IV pressure ulcers over the bilateral anterolateral hip, which failed to improve after a year of treatment at an outside hospital. Transferred to our institution, a delayed flap technique was employed on the right hip, while the left hip was eventually healed leading to a skin graft. The right hip flap healed excellently, with Doppler studies confirming strong vascular signals. The left hip demonstrated near-complete graft integration.

Discussion: Delayed fasciocutaneous flap reconstruction was chosen to minimize muscle function loss while promoting vascularity and tissue resilience. The delay phenomenon, enhancing angiogenesis, contributed to the success of the flap and skin graft. Despite postoperative challenges, proactive management led to favorable outcomes. This case highlights the value of delayed flaps in pediatric SCI patients with complex pressure ulcers.

Conclusion: The successful application of delayed flaps in this pediatric SCI patient underscores the potential of this technique for reconstructing severe pressure ulcers. Future research should explore long-term outcomes in pediatric populations, optimizing wound management strategies.