Management of a Chronic Tunneling Wound in a Quadriplegic Patient Using the Novel Thermo-Reversible Antimicrobial Wound Gel

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Introduction:

Chronic tunneling wounds are a major therapeutic challenge, particularly in quadriplegic patients at high risk of advanced pressure injury. As cavities and tunnels deepen, they become difficult to irrigate, visualize, and fill, sustaining bacterial burden, chronic inflammation, delayed healing, and risk of osteomyelitis when bone is exposed.[1-3] Patients with spinal cord injury are especially vulnerable because of impaired sensation, dependence on caregivers, and limited capacity to offload affected areas. Traditional approaches such as wet-to-dry packing, antiseptic solutions, and barrier products may reduce surface debris but often fail when the full tunnel cannot be accessed. **This case study describes treatment of a long-standing tunneling perineal wound in a quadriplegic patient using a revyve, a material that liquefies at low temperature and resolidifies *in situ* to fill the tunnel, aiming to enhance antimicrobial coverage, reduce discomfort, and support progression toward closure.**

Palayer, M., Bourbonnais, D., Nadeau, S., & Richard-Denis, A. (2014). Pressure ulcer risk in individuals with spinal cord injury: The role of mobility and sensation. Journal of Wound Care, 23(5), 240–248.
Kruger, E. A., Pires, M., Ngann, Y., Sterling, M., & Rubayi, S. (2013). Comprehensive management of pressure ulcers in individuals with spinal cord injury. Advances in Skin & Wound Care, 26(7), 315–324.
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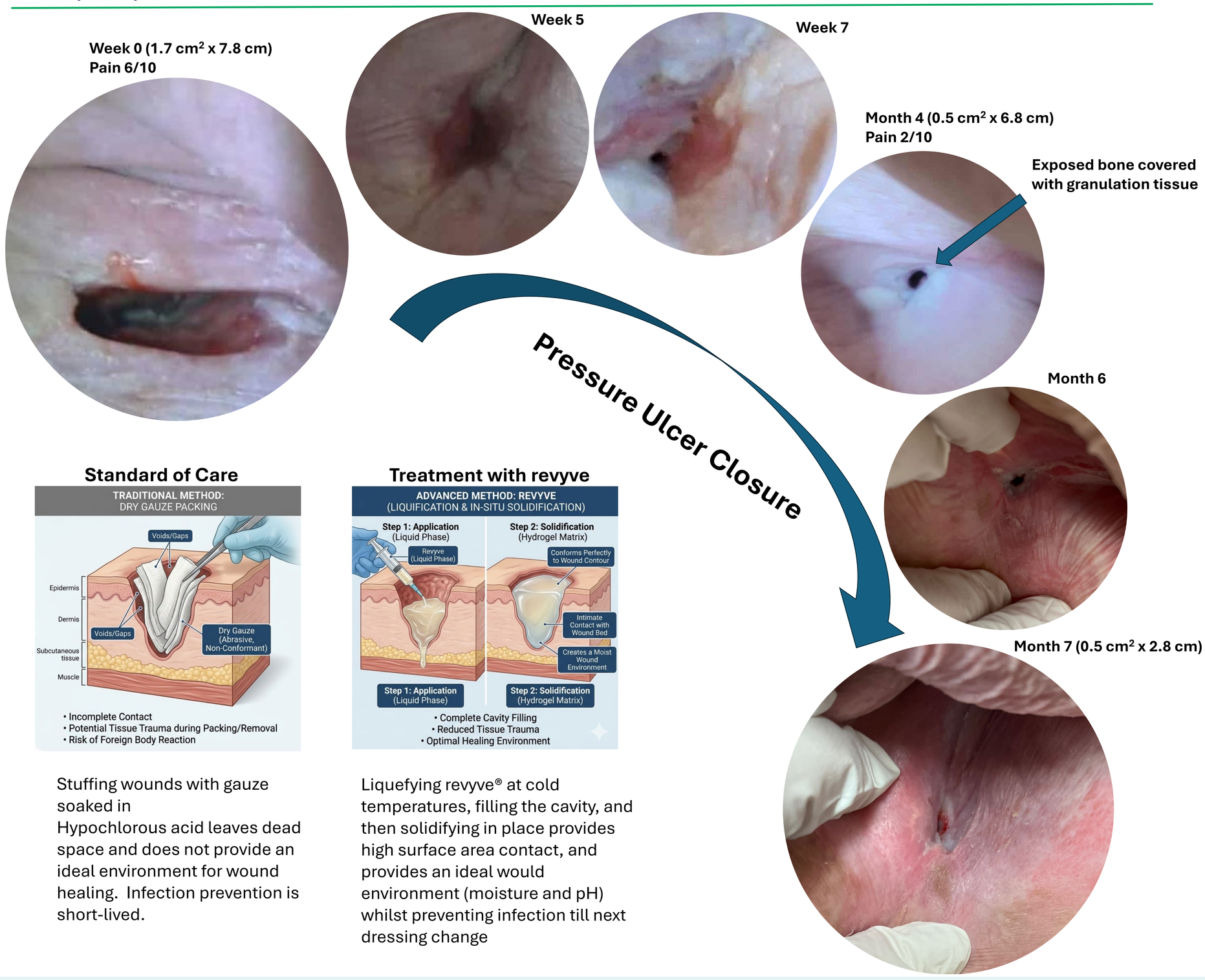
Case Description:

Patient: 53-year-old male with a quadriplegia
Ulcer history: Chronic perineal tunneling wound for 1.5 years and history of osteomyelitis and deep perirectal infections
Initial presentation: Tunneling wound measuring approximately 7.8 cm in depth and 1.7 cm^2 in surface area, with exposed bone
Pain and exudate: Severe pain (6/10) with serosanguineous drainage
Contributing factors:
- Quadriplegia, limiting mobility
- Neurogenic bladder
- Multiple prior pelvic and perineal surgeries
- Inability to fully offload the wound area

Previous management: Hypochlorus acid or saline for cleansing. Hypochlorous acid wet-to-dry dressing regimen, including packing the tunnel to full depth using moistened packing strips. Calazime/zinc barrier paste applied to surrounding skin. Pain control with hydrocodone–acetaminophen, ibuprofen, and muscle relaxants (baclofen, cyclobenzaprine), targeting both chronic pain and spasticity.
Clinical rationale: High-risk, deep tunneling wound prone to infection in a patient with limited mobility.



Standard of Care

Stuffing wounds with gauze soaked in Hypochlorous acid leaves dead space and does not provide an ideal environment for wound healing. Infection prevention is short-lived.

Treatment with revyve

Liquefying revyve® at cold temperatures, filling the cavity, and then solidifying in place provides high surface area contact, and provides an ideal would environment (moisture and pH) whilst preventing infection till next dressing change

Conclusions:

The use of revyve in this quadriplegic patient with a longstanding deep tunneling perineal wound resulted in meaningful clinical improvement where conventional therapy had previously achieved limited progress. Over the course of treatment, the wound demonstrated consistent reductions in depth and surface area, coverage of previously exposed bone with healthy granulation tissue, and improved patient comfort. The gel's ability to liquefy for deep tunnel access and re-solidify *in situ* enabled more complete filling of the cavity compared to traditional packing techniques