

Ovine Forestomach Matrix Graft as Part of Aggressive Surgical Management in Pressure Ulcers in a Young Trauma Cohort: A Pilot Retrospective Case Series

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BACKGROUND

- Pressure ulcers present a difficult clinical dilemma
- Healing trajectory can be prolonged and options for effective treatment limited
- Younger patients can be overlooked when developing treatment strategies for pressure ulcers
- These patients are generally healthier but develop pressure injuries from trauma-induced paraplegia
- Ovine forestomach matrix (OFM) is a commercially available extracellular matrix graft
- OFM facilitates soft tissue regeneration and has been studied in various complicated wound types

OBJECTIVE

We aim to evaluate the safety and clinical effectiveness of OFM as part of the surgical algorithm to improve outcomes in pressure injuries sustained by a younger trauma population.

METHODS

- Retrospective case series including patients with a history of trauma resulting in immobility and pressure ulcers
- Wounds surgically debrided and OFM particulate and/or OFM sheets placed in the wound, secured, and covered with a secondary dressing
- Wound re-evaluated at a minimum of seven days and reassessed periodically
- Primary endpoints: surgical complications, device-related adverse events
- Secondary endpoints: development of granulation tissue, time to cover exposed muscle/bone, percent area reduction, and number of OFM applications.

CONCLUSIONS

- Pressure ulcers in young trauma patients present a challenge for healthcare providers
- Results of this case series demonstrate the effectiveness of OFM for the treatment of these wounds in this vulnerable patient population leading to improved quality of life and fewer complications

RESULTS

Case 1

22-year-old male with history of anoxic brain injury and subsequent development of chronic sacral decubitus ulcer with osteomyelitis (Figure 1). OFM sheet placement with additional OFM particulate placement 1 month after. At 4 months following initial OFM placement, the wound had a healthy base of granulation tissue as well as decrease wound size from 35.4 cm² to 31.2 cm².

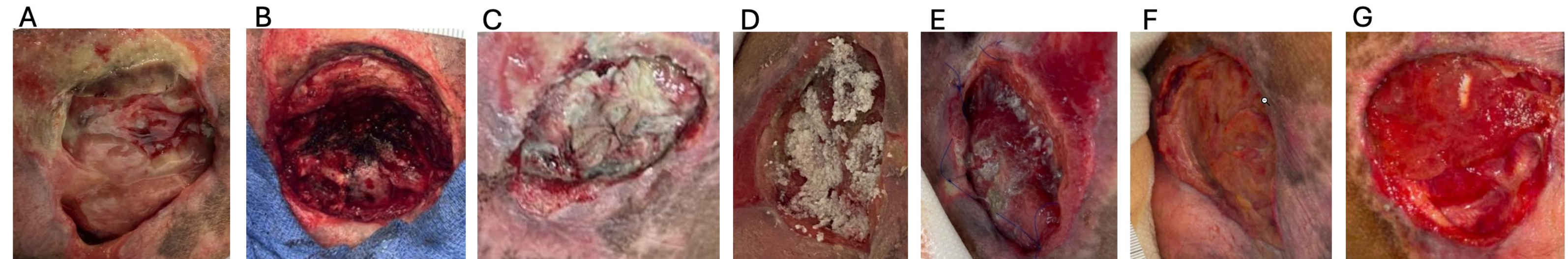


Figure 1. (A) Initial sacral wound prior to debridement. (B) Wound after debridement, 6.5x7 cm. (C) 10 days after OFM sheet placement, 7.4x6.9 cm. (D) OFM particulate placement 1 month after initial sheet placement. (E) 5 days after OFM particulate placement. (F) 7 weeks after OFM particulate placement, 6.8x4.5 cm. (G) 4 months after initial OFM placement, 6.2x6.4 cm.

Case 2

34-year-old male with history of paraplegia secondary to motor vehicle accident and development chronic ischial decubitus ulcer (Figure 2). Patient underwent OFM sheet placement. At 5 weeks after sheet placement, the wound had healthy granulation tissue and wound size was decreased from 31.6 cm² to 2.5 cm².

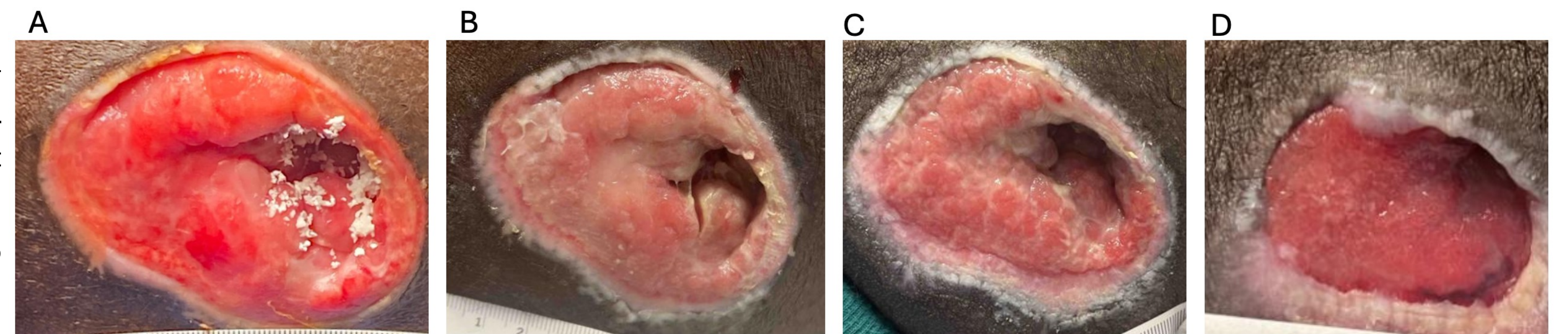


Figure 2. (A) Initial ischial wound with OFM particulate, 4.9x7 cm. (B) 7 days after OFM placement, 4.7x6.7 cm. (C) 2 weeks after OFM sheet placement, 2.2x5.4 cm. (D) 5 weeks after OFM placement, 1.6x2.1 cm.

Case 3

54-year-old male with history of paraplegia secondary to gunshot wound and development of chronic ischial decubitus ulcer (Figure 3). Patient underwent OFM sheet and particulate placement with additional placement of sheet and particulate 3 months later. At 8 months after initial placement of OFM, the wound decreased in size from 50.4 cm² to 20.0 cm².

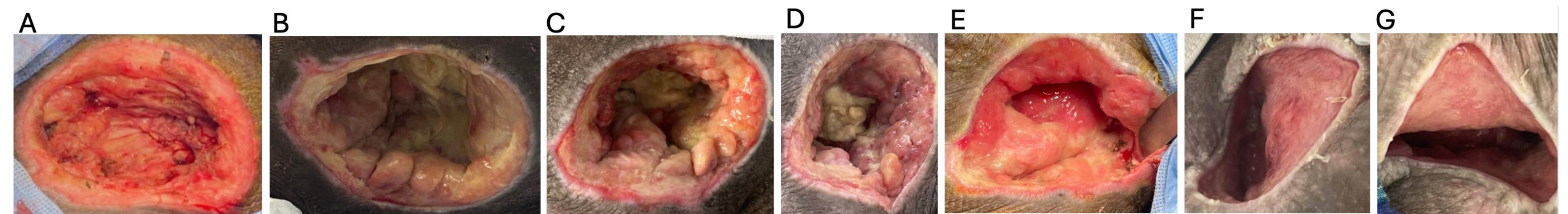


Figure 3. (A) Initial ischial wound after debridement, 9.7x7.1 cm. (B) 13 days after OFM placement, 7x5.5 cm. (C) 1 month after OFM placement, 7.3x5 cm. (D) 6 weeks after OFM placement, 6.8x6.5 cm. (E) 3 months after OFM placement, repeat debridement with additional OFM sheet and particulate placement, 9.5x7.7 cm. (F) 6 months after initial OFM placement. (G) 8 months after initial OFM placement, 5x4 cm.