

ADVANCED ECM TECHNOLOGY FOR THE TREATMENT OF SURGICAL WOUND RESULTING FROM A RECCURANT PRESSURE INJURY

¹Bronwyn Morgan, NZRN PG Dip, CNE General Surgery; Northland District Health Board, New Zealand

INTRODUCTION

A pressure injury (PI) is localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear [1]. PIs are one of the most frequently occurring, costly, adverse events in hospitals yet are potentially preventable. PIs are internationally recognized as an important indicator of the quality of healthcare delivery [2]. PIs are often associated with a longer duration of intensive care unit stay and increased mortality rates [3]. Complication rates from the surgical reconstruction of PIs can be as high as 58% [4].

METHODS

This case study followed the treatment of a 55-year-old male with spina bifida. The patient presented with a recurring PI that had been present for over three years. After being admitted to the ICU for sepsis, surgical reconstruction of the PI was undertaken via two flap rotations, that subsequently dehisced. The resulting surgical wound (measuring ~ 7. x 2.0 x 2.0 cm) had high volumes of exudate, requiring at least two dressing changes per day. The wound was then treated with advanced extracellular matrix (ECM⁺) technology (†Endoform®, Aroa Biosurgery Limited, New Zealand), with weekly applications till closure, along with the standard of care.

RESULTS

The complex wound went on to heal in 12 weeks. Most notable was the change in exudate volumes, which had previously required twice-daily dressing changes. Following the implementation of ECM⁺, a marked reduction in exudate within the first 2 weeks allowed for dressing change frequency to be reduced to twice-weekly. Granulation tissue was more extensive and of higher quality at week 3 of treatment, and the wound went on to close at 12 weeks with the continued application of ECM⁺.

CONCLUSION

These results demonstrate the successful integration of ECM technology to close a significant and complex surgical wound.

REFERENCES AND DISCLOSURES

Product was provided by Aroa Biosurgery Limited (New Zealand); †Endoform Natural Dermal Template (Aroa Biosurgery Limited, New Zealand). 1. McEvoy, N., et al., *The economic impact of pressure ulcers among patients in intensive care units. A systematic review.* J Tissue Viability, 2021. **30**(2): p. 168-177. 2. Black, J.M., et al., *Pressure ulcers: avoidable or unavoidable? Results of the National Pressure Ulcer Advisory Panel Consensus Conference.* Ostomy Wound Manage, 2011. **57**(2): p. 24-37. 3. Becker, D., et al., *Pressure ulcers in ICU patients: Incidence and clinical and epidemiological features: A multicenter study in southern Brazil.* Intensive Crit Care Nurs, 2017. **42**: p. 55-61. 4. Desvigne, M.N., et al., *Case Report: Surgical Closure of Chronic Soft Tissue Defects Using Extracellular Matrix Graft Augmented Tissue Flaps.* Frontiers in Surgery, 2020. **7**(173).

CASE 1:

55-year old male. Spina bifida, stoma, ileal conduit. Pressure injury for >3 years with multiple surgical debridement's and two previous failed flap repairs. Treated with ECMt.

Week 0: 7.0 x 2.0 x 2.0 cm (28.0 cm³) Week 1



Week 2



Week 3



Week 5



Week 6



Week 8 (Wound split due to hoist transfer)



Week 12: Healed

