Treatment of Chronic Calciphylaxis Ulcer with Novel Ovine Forestomach Matrix Composite with Hyaluronic Acid

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INTRODUCTION

Calciphylaxis is a serious, uncommon disease that confers a 50% mortality rate among patients who develop it. It is mostly seen in end stage renal disease patients who are receiving dialysis [1]. Patients develop painful, non-healing ischemic skin ulcerations due to calcium accumulates in small blood vessels that supply the fat and skin tissues. This case study highlights the success of one provider's use of novel ovine forestomach matrix composite with hyaluronic acid (OFM-HA)* to achieve full closure of a deep, tunneled calciphylaxis ulceration.

PATIENT HISTORY AND SURGICAL METHOD

47-Year-old female with past medical history of end-stage renal disease, uncontrolled diabetes mellitus (A1c: 8-9), peripheral arterial disease, obesity, and history of osteomyelitis of the lower limb. The patient developed painful irregular ulceration of the right lower quadrant of the abdomen requiring multiple hospital admissions over the course of 3 months. The patient was initially treated with antibiotics and local wound care with worsening of the wound and pain scale of the patient. A multi-modal approach was then deployed, including chelation of calcium from the dialysate along with local wound treatment, close observation and pain-control regiment. The wound progressed and OFM-HA was deployed into the tunneled area of the wound and secured with Steri-Strips™. The primary endpoints were time to full closure, and recurrence/complications.

RESULTS

Treatment with OFM-HA led to the closure of chronic, tunnelling calciphylaxis ulcerations 20 days after application and requiring only one (1) application. No recurrence was reported as at the 3-month follow-up visit.

DISCUSSION

Ulcerations due to calciphylaxis are challenging to diagnose and treat due to rarity and significant systemic complexity. Novel ovine forestomach matrix composite with hyaluronic acid demonstrated a clinically safe and effective option to close a calciphylaxis ulcerations with favorable handling characteristics. A larger case series and/or prospective study may be conducted to further elucidate the potential for the treatment of challenging atypical wounds such as calciphylaxis.

REFERENCES AND DISCLOSURES

*Symphony™, Aroa Biosurgery Limited, New Zealand. BZK has received honoraria from Aroa Biosurgery Limited.

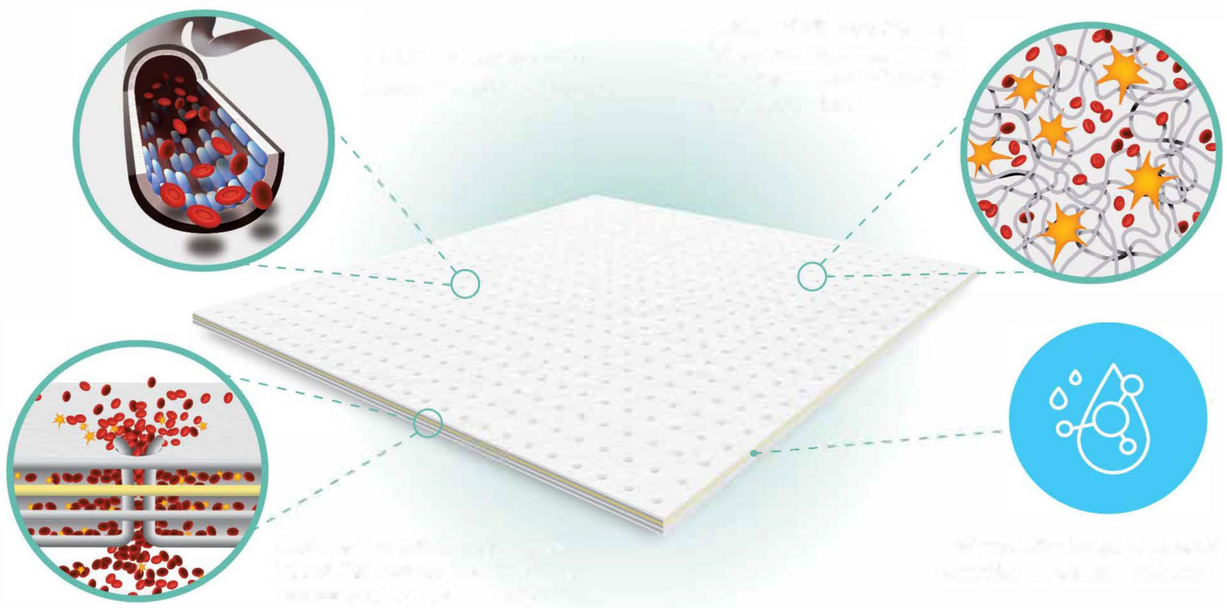
[1] Kodumudi, V., G. M. Jeha, N. Mydlo, and A. D. Kaye. 2020. 'Management of Cutaneous Calciphylaxis', Adv Ther, 37: 4797-807.

Initial Presentation (eschar with deep abscess)

Worsening of wound after abscess I&D

OFM-HA applied in 2 cm sinus

Healed – 20 days after single application of OFM-HA



Composite OFM-HA device

- Ovine forestomach matrix provides a biological scaffold known to support cell infiltration and migration
- High-quality hyaluronic acid layer optimizes moisture balance
- Engineered perforations and interstitial spaces facilitate cell access and lateral cell migration
- Natural vascular channels support angioconduction