Ovine Forestomach Matrix in the Surgical Management of Scleroderma Skin Ulcer

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INTRODUCTION

Scleroderma is a rare auto-immune condition characterized by hardening of skin and connective tissue which can result in chronic, painful, inflamed soft tissue lesions prone to infection and diminished quality of life [1]. The skin ulcerates due to poor blood flow, inflammation, and tissue calcification, and scleroderma lesions are notoriously difficult to close. This case report demonstrates preliminary outcome in the use of ovine derived extracellular matrix (OFM) iterations in the surgical management of a chronic non-healing scleroderma lesion.

PATIENT HISTORY AND SURGICAL METHOD

24-Year-old female with history of painful ulceration secondary to scleroderma persisting for a year failing to improved with multiple treatments, including surgical excisions, amniotic tissue, skin substitutes and systemic treatments. The full thickness defect measured 9 cm x 5.5 cm x 0.2 cm with a fibrotic, inflamed wound bed and friable edges. Presently, the patient underwent a hydrosurgical and excisional debridement with application of micronized OFM graft into the irregular wound bed and subsequently covered with an OFM 3-layer graft rehydrated with saline and fixated with adhesive strips. A re-application of the micronized OFM graft was performed at Week 13.

RESULTS

OFM-based devices are available both as a multi-layer graft^ and as a micronized graft*. Patient noted significant reduction in pain within 1 week of the procedure allowing for a reduction in narcotic pain medication usage. Within 3 weeks, the exposed peroneal tendon was covered with functional granulation tissue, the wound edges had improved, and there was evidence of robust, vascularized neodermis formation not previously achieved via various advanced treatments in the preceding year. The patient was lost to follow up after 16 weeks due to worsening of systemic condition.

DISCUSSION

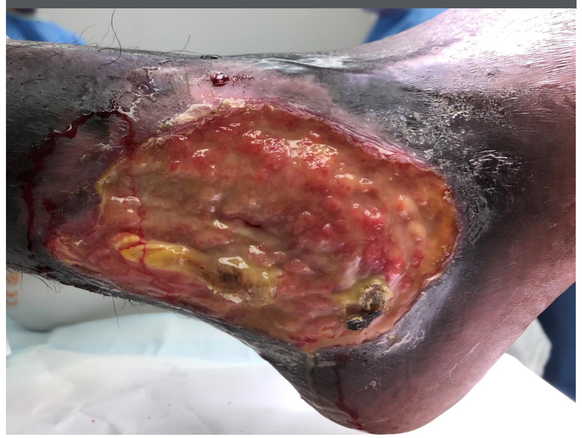
The present case report highlights a combination use of a micronized and 3-layer sheet extracellular matrix xenograft to provide coverage of exposed tendon, reduce inflammation, reduce pain, and improved the overall quality of the wound bed to aid in closure in an immuno-compromised patient with a challenging, contaminated skin defect present for over a year.

Reduced chronic inflammation, minimizing the need for narcotic pain medication

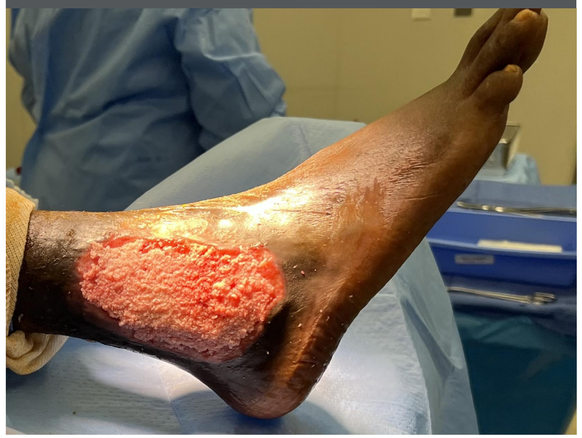
Rapid Coverage of exposed tendon

Improved quality of wound bed tissue, reduced wound area

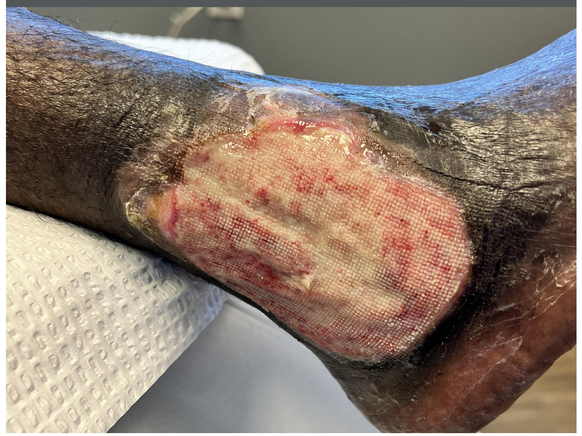
Initial presentation



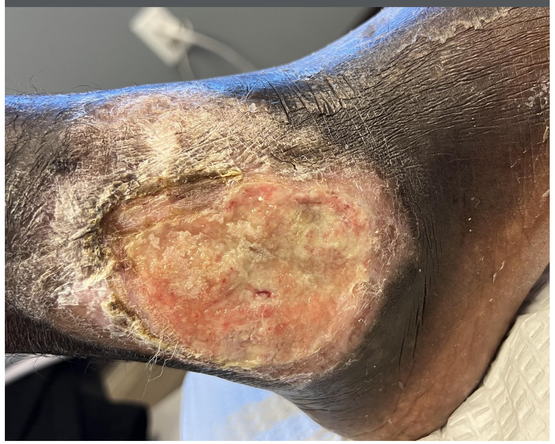
Initial application of micronized OFM



Week 3 – OFM graft integration



Week 21



REFERENCES AND DISCLOSURES

^ Myriad Matrix, Aroa Biosurgery Limited, New Zealand, * Myriad Morcells, Aroa Biosurgery Limited, New Zealand. Dr. LaLama has a consultancy agreement with Aroa Biosurgery Limited. [1] Moran ME. Scleroderma and evidence based non-pharmaceutical treatment modalities for digital ulcers: a systematic review. J Wound Care. 2014 Oct;23(10):510-6.