

Utilization of Ovine Forestomach Derived Matrix for Treatment of Challenging Venous Stasis Ulceration: A Clinical Case Study

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Introduction

Venous stasis ulcerations are inherently difficult to treat and heal due to an increase in limiting factors such as inflammatory cytokines and metalloproteinases as well as valve dysfunction. The wound healing process in venous stasis ulcerations is impaired due to increased blood pooling and collections which leads to an extended healing timeline. In addition, tissue remodeling is impeded, leading to wound recurrence. Lower extremity wounds present unique challenges in the setting of comorbidities such as diabetes mellitus, vascular disease, immunosuppression, smoking, and others leading to an increased complexity of care, chronicity, and multiple wounds. Therefore, timely and effective treatment is key as risks can be serious and include superficial and deep infection.²

Background

In order to combat the unique challenges associated with venous stasis ulcers, such as biofilm formation and bacterial overload, it is important to promote expedited wound healing. A common tool in wound care is the utilization of skin substitute product. This case study investigates the efficacy of Ovine Forestomach-derived Matrix (OFM). This product was chosen for its ability to provide extracellular matrix proteins, enhanced structural support, and stimulation of healthy tissue formation that includes vascular channels.¹ OFM extracellular matrix closely resembles that of ECM structure in native cells.³ OFM provides an increased chance at timely healing of refractory ulcerations.

A 61-year-old male patient with type 2 diabetes presented with a venous stasis ulceration recalcitrant to local wound care modalities. In April 2025, he underwent debridement and application of OFM in the operating room with weekly follow-ups for serial debridements. By July 2025, the pretibial venous ulceration was healed after a single OFM application.



Pre-OFM treatment ulceration

Methods

A hydrosurgical versajet debrider was utilized in the operating room to debride the venous ulceration. Following debridement the ulceration was measured and was noted to be 7.2 cm x 2.4 cm x 0.2 cm. The OFM was reconstituted according to manufacturer guidelines and recommendations and applied to the wound bed. A non-adherent dressing was overlaid on the graft and secured with steri strips. A compressive dressing was applied. The patient then followed up on a routine basis for continued wound care and evaluation.

Results

Complete healing of the venous stasis ulcer was achieved in 13 weeks following a single OFM application. Progressive granulation tissue was noted throughout the follow up period until full epithelialization was visualized at week 13.

Follow up consisted of weekly evaluations. Over the course of follow up, no complications or adverse events relating to the wound were noted. No recurrence to the same ulcer was achieved in the long-term follow up period.



Discussion

This case demonstrates that OFM is a reasonable treatment method especially in the setting of stubborn venous stasis ulcerations. With one application, OFM bridged the gap from chronicity and infectious risk to full healing. This is significant in helping cut down costs for the patient, reduce chronic care burden, and decrease time commitment. Since no repeat treatment was necessary in this case, OFM presents a practical tool for patients of all socioeconomic backgrounds, including those with limited resources and transportation. In addition, OFM can be a reliable solution for patients with lower compliance or difficulty in commitment to longer healing timelines during the follow up and postoperative periods.



References

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