

Fish Skin Graft (FSG) for the treatment of hard-to-heal venous leg ulcers (VLU)



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INTRODUCTION

Venous leg ulcers (VLU) are non-healing full-thickness skin defects resultant from chronic venous diseases, including venous hypertension, a consequence of valve reflux often accompanied by venous obstruction. VLUs impact approximately three out of ten Americans, and treatment costs the U.S. an estimated 2.5 million dollars annually¹. The complex pathophysiology associated with VLUs makes treatment challenging. The clinical manifestation of ulceration is a significant burden on the patient, often causing edema, pain, limb heaviness, and poor ambulation 1. Advanced skin biologics have implications for expediting healing, thus improving quality of life and patient care. A relatively new and novel biologic, Fish skin graft (FSG) has been used and proven to be a highly effective adjunctive therapy for treating VLUs².

METHODS

A sixty-five-year-old female presented with a painful VLU on the lateral aspect of her ankle that had significant erythema, edema, and necrotic tissue. After managing the underlying pathophysiology, the patient underwent debridement and ten applications with FSG. Debridement and application were not definitive and clinical manifestation and judgment guided treatment.





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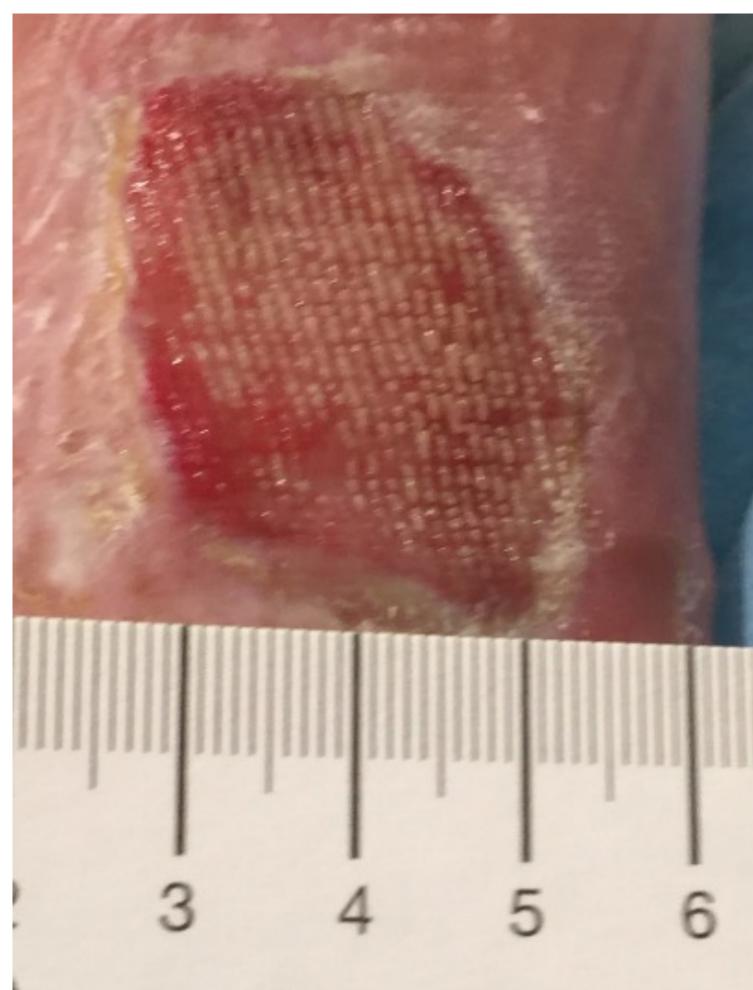
CASE 1



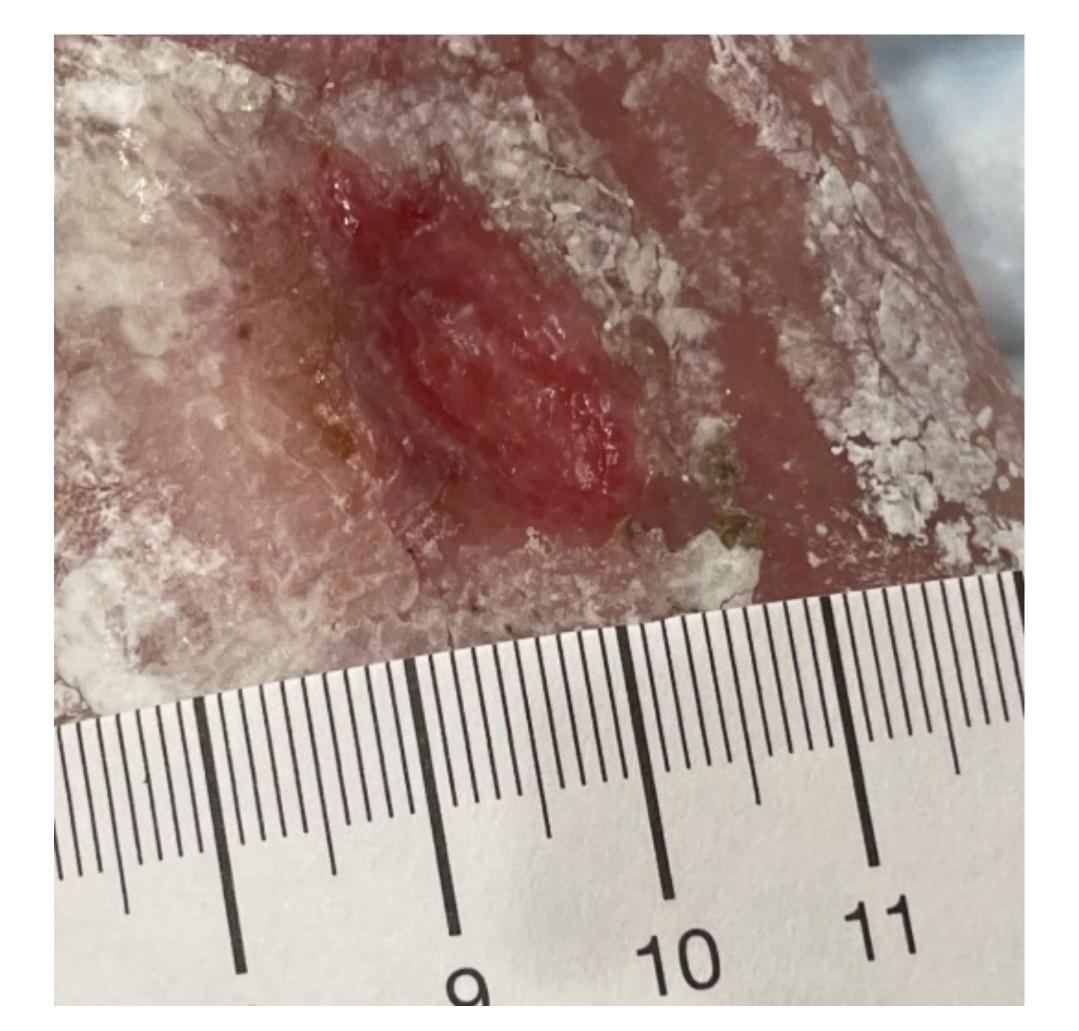
Venous ulcer right left
Graft placement in office setting



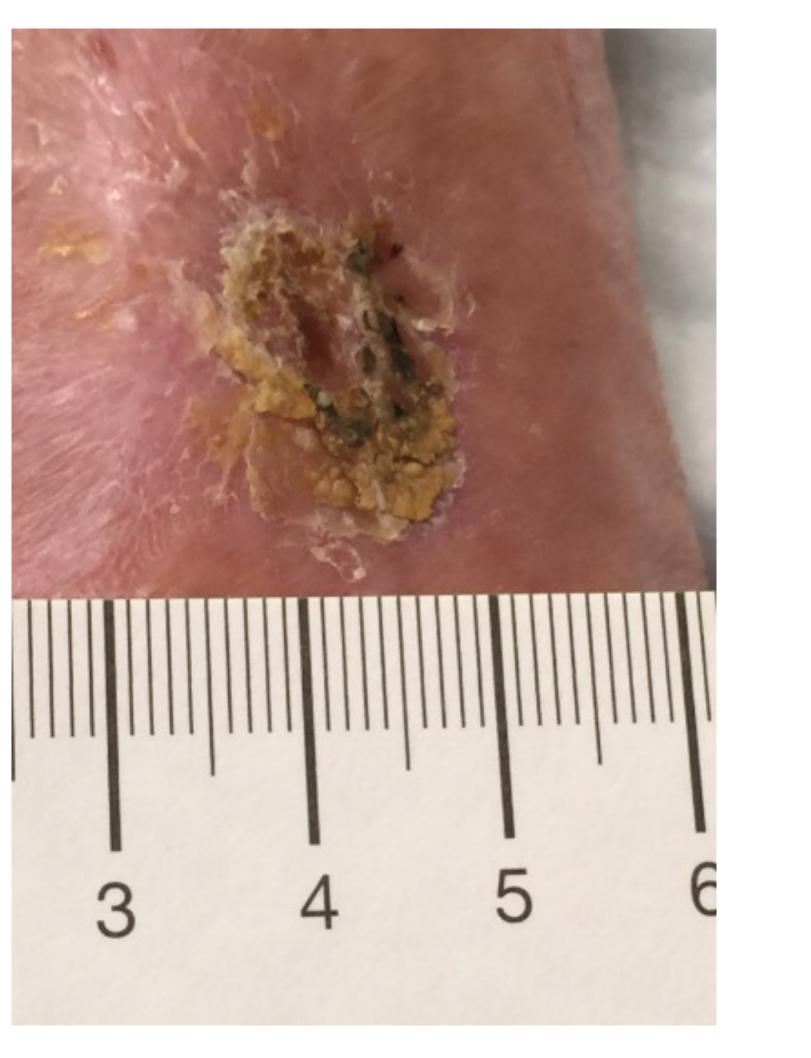
14 days
Post initial
Graft placement



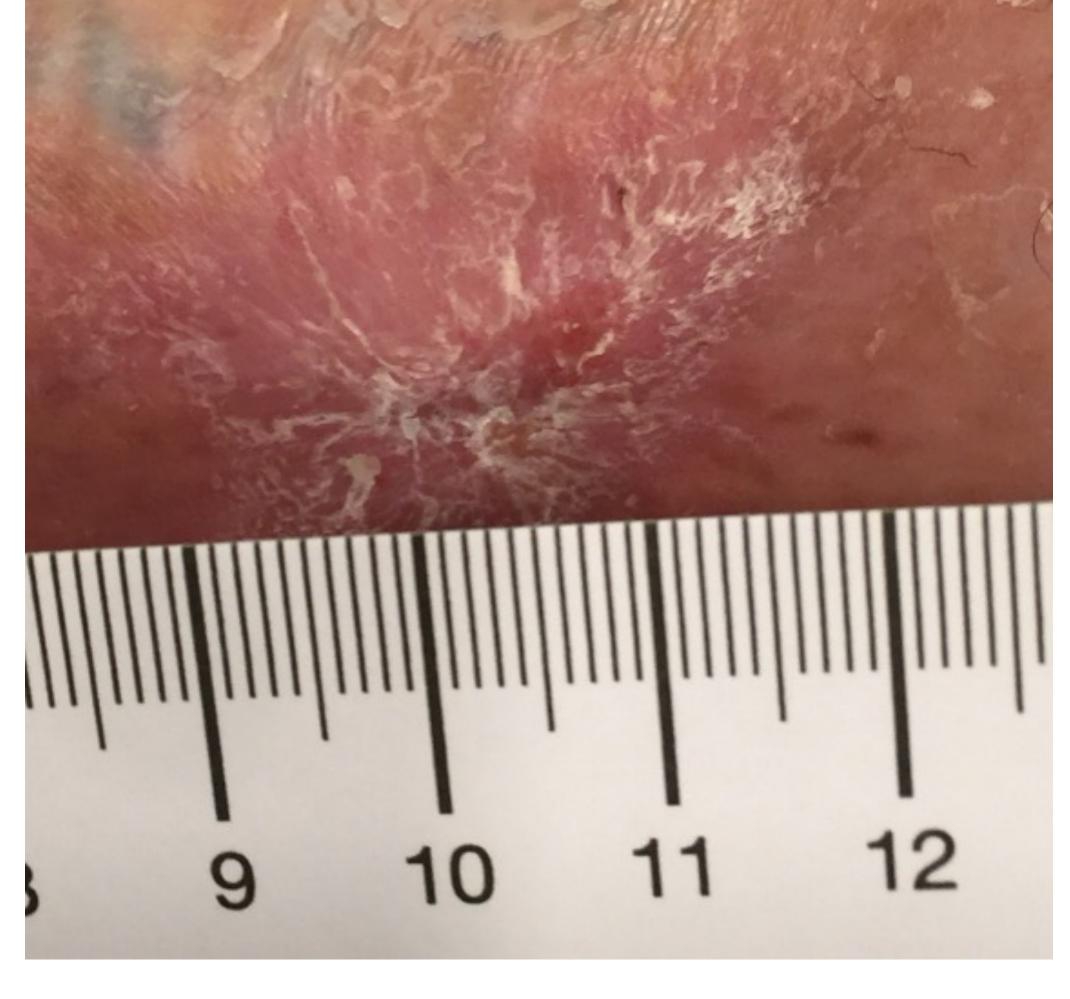
31 days



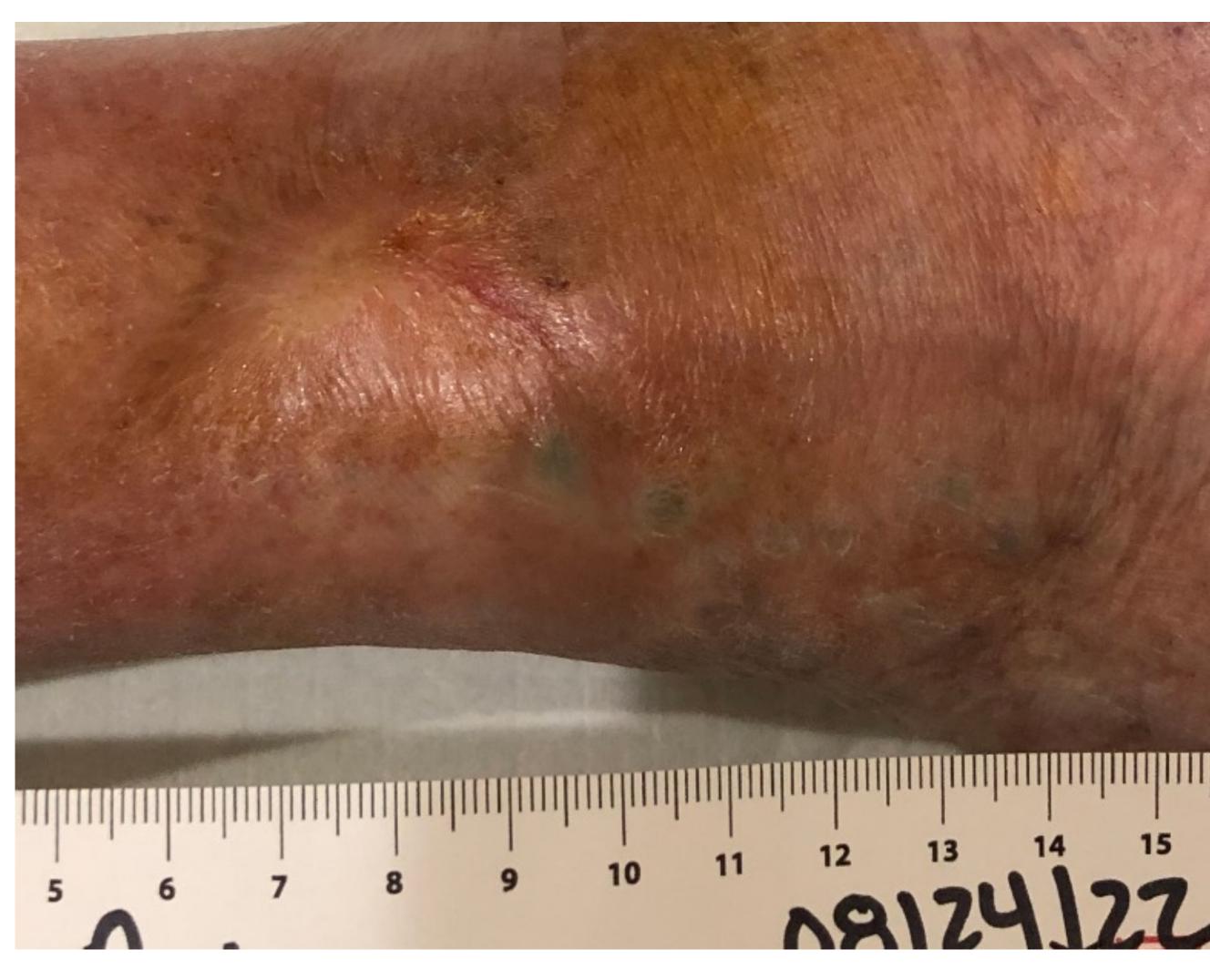
4 months



5 months



7.5 months



2 month follow-up

RESULTS

There was a significant improvement to the peri-wound and wound bed on day fourteen following only two applications of the FSG. A beneficial and linear progression ensued until the patient benefited from complete closure during the seventh month.

CONCLUSION

FSG is a relatively new and innovative biologic that has preserved mechanical and biological properties, allowing faster cell migration and guided regeneration, augmenting neovascularization. Not yet fully elucidated, but evidence suggests that hemostatic properties of the fish skin combined with faster cell migration and neovascularization rapidly progress chronic wounds through the stages of healing^{3,4}. VLUs are clinically and economically debilitating and often long-standing. There is evidence to suggest that FSG may expedite healing, improving clinical outcomes and the economic burden associated with treating VLUs. More extensive prospective studies should evaluate the use of FSG in treating VLUs.

eferences

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