The Healing Power of Nature

Application of Fish Skin Grafts* on Decubitus Ulceration in a Quadriplegic Patient

Luis J. Navazo, MD

Mobile Doctor Medical Clinic, Oceanside, CA

INTRODUCTION

Pressure ulcers (PU) are a significant health burden in the United States, affecting approximately 3 million adults annually[1]. The manifestation of PUs involves the patient's overall health and extrinsic factors, including friction, shearing forces, temperature, time, and humidity[2]. Immobility due to neurological diseases is a significant risk factor for developing PUs[2]. Further, PUs is notoriously difficult to heal in the quadriplegic population. Fish skin graft (FSG) is a novel product derived from Atlantic cod fish and has proven to augment acute and chronic wound healing[3,4]. Therefore, the purpose of this case is to evaluate FSG in a quadriplegic patient with complicated PUs.

METHODS

The patient is a 36-year-old quadriplegic male that presented with a one-month-old stage IV PU on the left gluteal muscle that had failed conservative wound care. The patient underwent surgical debridement and subsequent negative wound therapy followed by a cadaveric skin graft which failed to improve the wound status. Due to transportation challenges, treating the patient in his home with FSG and negative pressure therapy was decided.

*Kerecis™, Kerecis, Isafjordur, Iceland

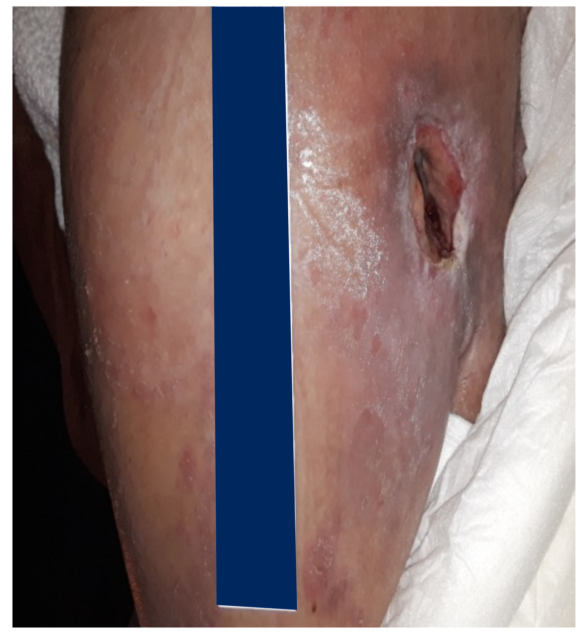
CASE: 36-YEAR-OLD MALE STAGE IV PRESSURE ULCER (PU)

Patient History: 36-year-old-quadriplegic male

Wound History: Patient presented with a one-month-old stage IV PU on the left gluteal muscle that had failed conservative wound care.

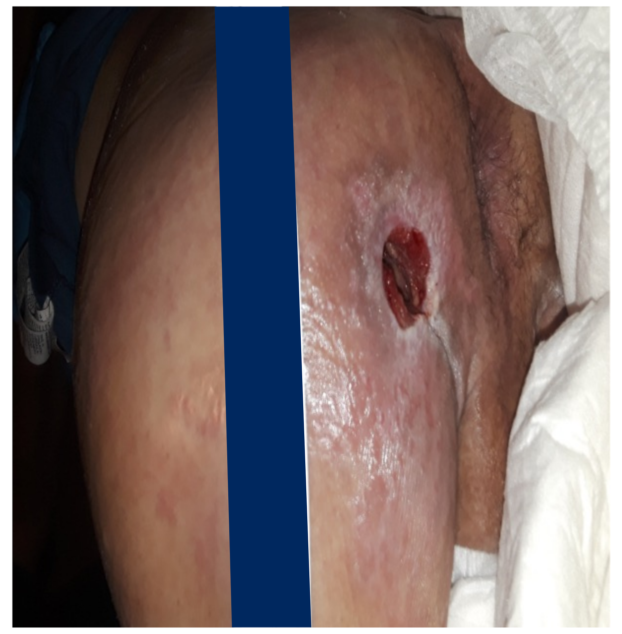
Kerecis Applications: Single application of intact fish skin graft

Patient Outcomes: Wound achieved complete closure at 3 months after a single application of intact fish skin graft

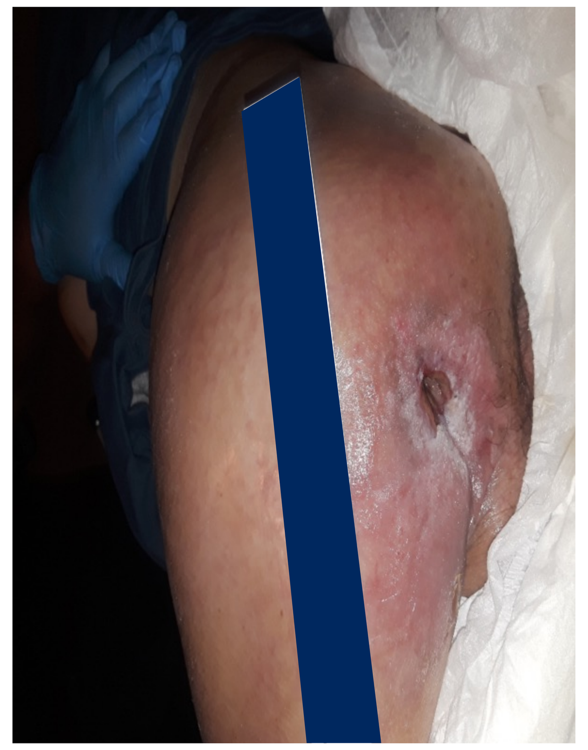


Initial presentation
Wound size: 3.8x2.8x3.4 cm after NPWT applied every other day for approximately eight weeks in preparation of the granulation bed prior to graft application.

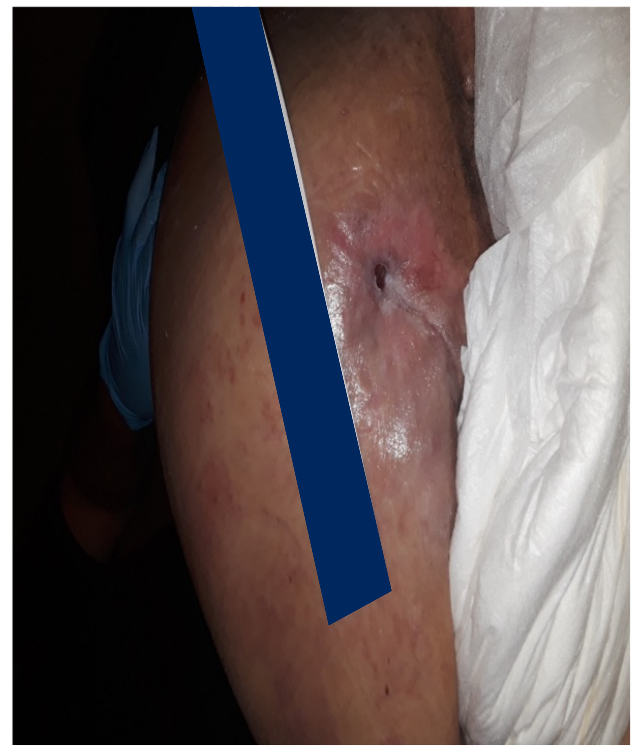
Week 1 Follow up
Wound size: 2.7x3.5x2.5 cm



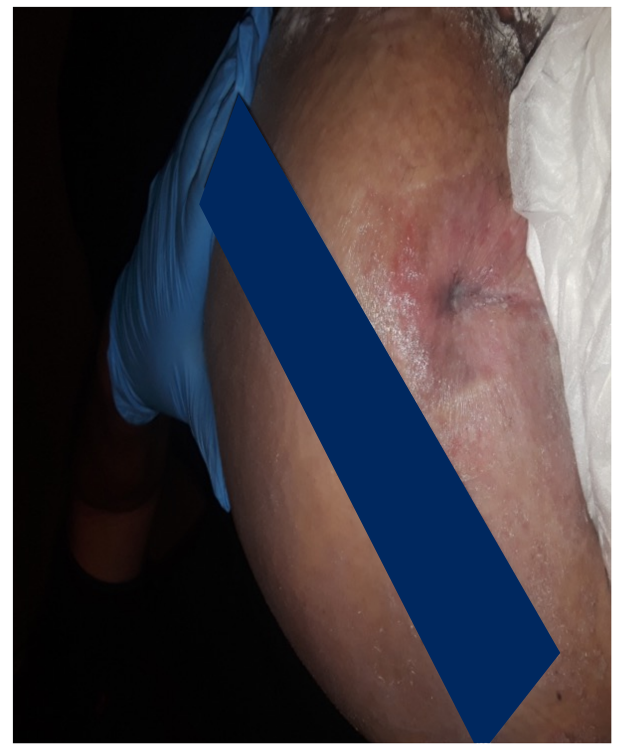
Week 2 Follow up
Wound size: 3.0x2.7x2.6 cm



Week 5 Follow up
Wound size: 2.2x1.5x2.0 cm



Week 12 Follow up
Wound size: 1.0x0.6x0.9 cm



Week 15 Follow up
Wound achieved 100% closure

RESULTS

Three weeks after one application with the FSG, the wound had significantly improved (Initial-3.8x2.8x3.4, Follow-up- 2.2x1.5x2.0). Three-month follow-up revealed complete closure of the PU.

DISCUSSION

This case illustrates clinical efficacy in treating PUs using FSG in a male quadriplegic. The product proved a safe and effective option for wound closure at the patient's residence. The FSG was easily applied at the patient's home, required minimal maintenance, and augmented healing after conservative wound care, and cadaveric tissue had failed. More extensive prospective studies should investigate FSG efficacy in treating PUs in patients with neurological diseases.

References

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