



Use of Fish Skin Grafts in the Management of Diabetic Foot Ulcers: A Case Series

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Introduction

Intact fish skin grafts are acellular dermal matrices derived from decellularized North Atlantic cod skin, preserving a natural three-dimensional structure that supports cellular migration and tissue regeneration.

Aim/Hypot

This study aimed to evaluate the clinical effectiveness of intact fish skin grafts (Kerecis®) applied after surgical or ultrasonic debridement in diabetes-related foot ulcers (DFUs).

Methods

We performed a prospective pilot study including five adults (N=5) with a DFU treated at a Diabetic Foot Unit between January and March 2026. All ulcers underwent ultrasonic debridement to prepare a viable wound bed before graft placement. The graft was rehydrated, cut to fit the ulcer, sutured to the wound edges, and covered with a non-adherent dressing. Standard DFU care (offloading, dressings, metabolic and vascular control) continued throughout follow-up. Patients were reviewed weekly for 12 weeks or until complete healing, with the option of a second application at week 4. The primary outcome was complete healing at 12 weeks; secondary outcomes included time to healing and adverse events.

Results

Five patients (80% male; median age 70 [IQR 65–71] years) were included.

- All had type 2 diabetes
- The median ulcer duration was 39 [IQR 24–51] weeks
- Ulcers were neuroischemic
- A median ABI of 0.96 [0.57–1.12]
- A median of TcPO₂ of 40.5 [34–52] mmHg.
- Ulcer location:
 - Three ulcers were located in the heel
 - two ulcers were located in the midfoot.



- Two patients healed before 12 weeks.
- Complete healing occurred in 4/5 cases (80%).
- One patient died due to oncologic process during the follow up.
- Median time to healing was 14 weeks [IQR 11.5–21.5].
- No graft-related adverse events were observed.
- One patient required a second application at week 4

From left to right: radiographic and clinical appearance at baseline (week 0), surgical debridement and post-debridement appearance, wound bed preparation, FishSkin graft preparation and application, FishSkin graft in place with a protective silicone dressing, follow-up at 8 weeks, and complete healing.

Discussion

Intact fish skin grafts appear to be a safe and potentially effective option for neuroischemic DFUs following ultrasonic debridement, supporting their use as an advanced therapy in hard-to-heal ulcers.

References

[1] Saiko G, Lombardi P, Au Y, Queen D, Armstrong D, Harding K. Hyperspectral imaging in wound care: A systematic review. Int Wound J. 2020 Dec;17(6):1840-1856. doi: 10.1111/iwj.13474. Epub 2020 Aug 23. PMID: 32830443; PMCID: PMC7949456.