The Healing Power of Nature

Application of Novel Fish Skin Graft in the Foot & Ankle

Niral A. Patel, DPM, MS; Christopher Winters, DPM
Ascension St. Vincent - Indianapolis

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INTRODUCTION

Chronic wounds, particularly in the lower extremities, pose significant challenges in terms of management and healing.1 In the United States alone, these wounds affect an estimated 4.5 million people.[1] This case series explores the application of Fish Skin Grafts in treating of complex wounds, including those associated with a heel, transmetatarsal amputation, fifth metatarsal, and hallux IPJ (interphalangeal joint). Fish skin grafts, derived from omega-3-rich fish sources, offer a unique and promising alternative for wound healing due to their natural composition and regenerative properties.[2]

METHODS

A retrospective analysis was conducted on cases involving patients with chronic wounds in the specified anatomical locations. Patients received Fish Skin Grafts as part of their wound care regimen. Wound dimensions, healing progress, and patient outcomes were assessed over a predetermined follow-up period. Relevant demographic and clinical data, including comorbidities, were collected to understand the patient population comprehensively.

RESULTS

Applying Fish Skin Grafts demonstrated significant efficacy in promoting wound closure across all anatomical locations. Wounds associated with a heel, transmetatarsal amputation, fifth metatarsal, and medial hallux IPJ showed accelerated healing rates, reduced inflammation, and improved tissue regeneration. Observationally, the fish skin grafts exhibited a notable ability to modulate the inflammatory response and stimulate angiogenesis, contributing to enhanced wound healing outcomes.

CONCLUSIONS

The findings of this case series highlight the potential of Fish Skin Grafts as a promising intervention for challenging wounds in the lower extremities. The natural composition of the grafts, rich in polyunsaturated fatty acids (PUFAs) and bioactive molecules, appears to create an optimal microenvironment for wound healing.[3] The outcomes observed in this series suggest that Fish Skin Grafts may be particularly beneficial in complex cases, such as those involving the heel, transmetatarsal amputation, fifth metatarsal, and hallux IPJ. Further prospective studies with larger sample sizes are warranted to validate these findings and elucidate the underlying mechanisms contributing to the observed therapeutic effects. The unique regenerative properties of these grafts suggest a potential breakthrough in wound care, particularly for cases involving challenging anatomical locations. Further research is needed to establish the generalizability of these findings and optimize the integration of Fish Skin Grafts into standard wound care protocols.

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CASE 1: S.C.

68 y/o F with T2DM, ESRD, CAD, polyneuropathy, obesity, venous insufficiency, left BKA.

Kerecis Applications: 3

12/2022: 3.8cm X 2.5cm X 0.5cm

05/2023: Epithelialization

CASE 2: J.S.

62 y/o M with T2DM, polyneuropathy, midfoot amputation, gout, HTN, former smoker.

Kerecis Applications: 3
(1 additional application of living cellular skin substitute)

12/2022: 2.5cm X 1.5cm X 0.3cm

01/2023: Epithelialization

CASE 3: W.T.

59 y/o M with T2DM, polyneuropathy, HTN

Kerecis Applications: 2
(1 additional application of living cellular skin substitute)

02/2023: 3.5cm X 3.0cm X 0.3cm

05/2023: Epithelialization

CASE 4: R.G.

73 y/o M with T2DM, HTN, CAD, PAD, polyneuropathy.

Kerecis Applications: 5

03/2023: 2.4cm X 1.7cm X 0.1cm

06/2023: Epithelialization