Novel Application of Fish Skin Grafts* in Pilonidal Wounds

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INTRODUCTION

Pilonidal excision is a surgical procedure to treat a pilonidal cyst or sinus. Several forms of wound closure can be used for pilonidal wounds, and the choice of closure technique may depend on various factors. Wound complication rates and infections are expected in these patients ranging from 10% to 30% (Mahmood et al., 2020) 1. Kerecis is a fish skin-derived acellular dermal matrix product used in various wound care applications (Lantis et al., 2023; Badois et al., 2019) 2,3. While it has shown promising results in wound healing, it is essential to note that its use specifically for wound closure in pilonidal disease has yet to be widely established. Our Case series studies three patients who received Kerecis fish skin graft to assist with granulation tissue and primary colure without complications

METHODS

We selected three random patients with recurrent pilonidal disease who underwent primary excision and closure in their operation. They were all healthy adults of ages 16, 23, and 26. The patients had primary excision, and the wound was irrigated and washed with peroxide, followed by applying Kerecis fragmented xenograft. We made sure there was adequate bleeding at the wound base as well. After this, two wounds were closed with Karydakis flaps and one with a Y-advancement flap, as it required extensive debridement. The skin was closed with mattress nylon sutures. All patients went home with post-op dressings, including bacitracin ointment once a day and instructions to keep pressure off the incision. They were all followed on post-op day 21 for removal of sutures and wound check-ups.

RESULTS

All the patients followed up on time. None of them had any wound complications, including wound breakdown or infection. The sutures were removed, and they returned to normal activities without restrictions.

CONCLUSIONS

Fish skin xenografts are FDA approved for treating chronic and acute surgical wounds4,5. The product is an acellular dermal matrix harvested from Icelandic cod with a porous microstructure like human skin. Characteristics of xenograft include bacterial resistance, angiogenesis, and inflammatory cytokine mitigation6. Our study noted no wound complications and excellent wound healing after one application of the Kerecis product. These wounds included complex wounds with advancement flaps and obese patients. The study's infancy requires more cases to prove a stronger correlation. It is an encouraging start with a cautiously optimistic hope to become the standard of care for pilonidal wounds.

CASE 1: 23-YEAR-OLD FEMALE

Patient History: 23-year-old female with no PMH

Wound History: Patient presented with lesion on left side and abscess

Fish Skin Graft Applications: Single application of intact fish skin graft intraoperatively

Patient Outcomes: After a single application of intact fish skin graft, wound closed at POD 28

Total wound size: 6cmx6cmx3cm
Karydakis flap created

Delayed follow up, POD 28, stiches removed, wound healed well.

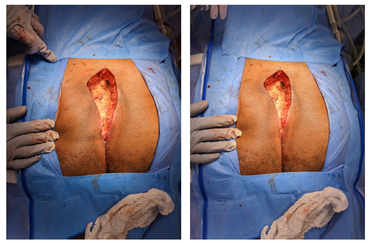
CASE 2 : 26-YEAR-OLD MALE

Patient History: 26-year-old overweight male

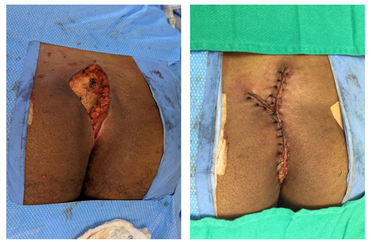
Wound History: Recurrent infections over the past year

Fish Skin Graft Applications: Single application of intact fish skin intraoperatively

Patient Outcomes: After a single application of intact fish skin graft, wound closed at POD 14



More extensive debridement
Wound size: 12 cm x 6 cm x 3 cm



Needed rotational flap for tension free closure

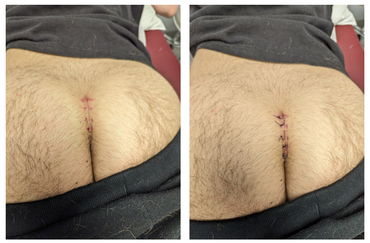
CASE 3: 16-YEAR-OLD MALE

Patient History: 16-year-old male with developmental delay

Wound History: Patient has had recurrent pilonidal infections over the past two years

Fish Skin Graft Applications: Single application of intact fish skin intraoperatively

Patient Outcomes: After a single application of intact fish skin graft, wound closed at POD 21



*Kerecis™, Kerecis, Isafjordur, Iceland

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