

Pilonidal Cystectomy Using Extracellular Matrix Graft

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INTRODUCTION

Pilonidal sinus disease (PS) presents at the upper gluteal cleft causing pain, swelling and tenderness. Recurrent PS is characterized by inflammation and infection of the affected tissue with sinus cavities under the skin, and when left untreated has an increased risk of squamous cell carcinoma [1]. Severe PS requires surgical intervention involving the removal of diseased tissue but complications and recurrences rates are high [2]. Ovine forestomach matrix (OFM) is a surgical bioscaffold that has been widely used in reconstructive surgeries [3,4], undergoes remodelling, is anti-inflammatory, stimulates angiogenesis and is chemotactic towards progenitor cells [5-7]. In this pilot case series an OFM graft was used to augment PS reconstruction with a view to using the biology of OFM to overcome the generally poor quality of PS tissues and hence potentially reduce surgical complication rates.

METHODS

Three patients with recurrent PS underwent wide surgical excision of the affected tissues. OFM graft# was placed at the base of the defect, then a fasciocutaneous flap advanced over the graft, closed and incisional NPWT placed.

RESULTS

Incisions healed by 1 week. One patient had minor dehiscence (~2 cm) at 3 weeks that was debrided and closed. All patients healed well with no additional complications or recurrence at 10+ weeks.

CONCLUSIONS

These promising results provide preliminary insights into the successful management of PS using an OFM graft as an implant to augment flap reconstruction.

REFERENCES AND DISCLOSURES

OFM was provided by Aroa Biosurgery Limited (New Zealand). #Myriad “THIN” (Aroa Biosurgery Limited, New Zealand); &MepitelAg (Mölnlycke Health Care, USA).

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CASE 1:

21-Year old female with 5 years of progressively more extensive pilonidal disease. Previous management included I/D but no excisions. Disease tissue ~7 x 11 cm.

The resection area was delineated by methylene blue injection into the sinuses. Diseased tissue was excised leaving a 10 x 12 cm defect. OFM graft# (10 x 10 cm) placed as an implant in the defect and bolstered to the base with sutures. A bilateral superior gluteal artery perforator was performed sparing the gluteal flaps followed by incisional wound vac. An off-midline closure was performed to decrease recurrence rate.

At 1-week post op drains were removed. At 3 weeks a 2 cm dehiscence occurred which was debrided and reclosed, At 4 weeks this wound was healing (0.5 x 0.5 cm) . Patient unfortunately lost to follow up.

Lesion



Wide excision



Graft placement



Closure



Week 1



CASE 2:

20-Year old male with 2-year history prior I/D and primary midline closure (~1 year prior), resulting in wound dehiscence. Chronic draining purulent sinuses since prior surgery. Area of diseased tissue ~12 x 4 cm.

Excised the gluteal cleft and the tissue that extended to the right of midline. Defect was 12 x 6 cm, 5 cm deep. OFM graft# (10 x 10 cm) placed as an implant and bolstered to the deep sacral fascia and medial gluteus fascial with sutures. Fasciocutaneous flap (12 x 10 cm) from the right buttock, sparing the superior gluteal artery perforators. Flap inset with progressive tension sutures and dead space drain before closure. A silver dressing^a was placed over the incision followed by incisional NPWT.

At 3 weeks, wounds was fully healed. At 10 weeks, remained healed with no recurrence.

Lesion



Wide excision



Graft placement



Closure



Week 1



Week 10



CASE 3:

19-Year old male with a 4-year history. Previous management included multiple I/D, and midline closure (~1-year prior), resulting in wound dehiscence.

The gluteal cleft and the diseased tissue that extended to the right of midline was excised. The wound bed was irrigated then an OFM graft# (10 x 10 cm) was placed as an implant and bolstered to the deep sacral fascia and medial gluteus fascial with sutures. Right sided Karydakis flap (sparing perforators) then a left sided 2 cm off midline closure.

Sutures removed after four weeks, healed with no signs of dehiscence (week 10). Followed up via phone at 3 months post op, patient indicated healed without recurrence.

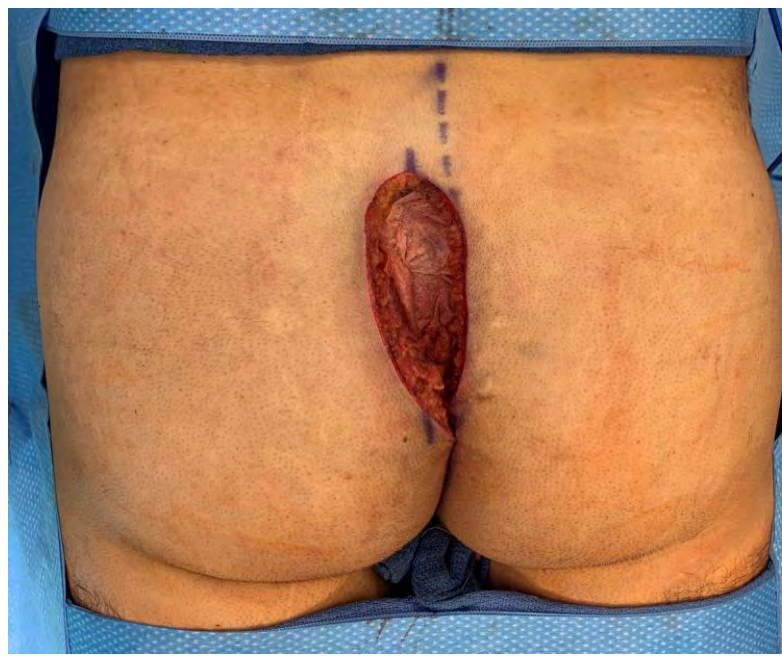
Lesion



Excision



Graft placement



Closure



Week 7

