

Use of Ovine Extracellular Matrix in Post-Surgical Wounds: A Case Series

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Introduction

In high risk patients, acute surgical wounds can transition to a chronic state due to unresolved inflammation. Treatments that incorporate an intact extracellular matrix (ECM) can promote the rebuilding of tissue and effectively rebalancing proteases that would otherwise lead to a state of chronicity¹.

Methods

Patients (n=4) with significant tissue loss after surgical procedures to lower extremities were treated with ECM* technology and GV/MB† post operatively to encourage closure. Management of surgical sites included application of ECM, along with NPWT as required.

Conclusions

In all cases ECM technology led to the formation of granulation tissue and a decrease in wound size or wound closure. Using an ovine ECM soon after surgery is a useful tool to promote constructive remodelling of tissue and can be used effectively with NPWT to prevent wound chronicity.

References and Disclosures

¹. Advances in Wound Care 2013 Oct; 2(8): 438-447 doi 10.1089/wound.2012.0370
 Financial support was provided by Aroa Biosurgery Limited (New Zealand)
 *Endoform Natural Dermal Template; †Hydrofera Blue; www.appulsemed.com

Results

Case Study 1

Patient: 61 year old male
Medical History: H/O diabetes, PVD, CAD, Angioplasty, stenting
Wound Description: 6 month old right foot ulcer, wet gangrene, slough and necrotic tissue
Previous Treatments: Metatarsal resection, HBO, IVAB

Surgical Procedure:
 S/P trans Metatarsal.
 Bilayer application.



Week 0:
 8.3 x 8.5 cm.
 ECM, NPWT.



Week 6:
 7.7 x 6.1 cm.
 ECM, NPWT.
Granulation, epithelial tissue, 34% reduction in wound area, ECM incorporating.



Week 8:
 6.5 x 6.2 cm.
 ECM, TCC, GV/MB.
 43% reduction in wound area.



Week 12:
 1 x 2 cm.
 Granulation tissue, 97% reduction in wound area.



Case Study 2

Patient: 55 year old female
Medical History: Diabetic, right foot infection
Wound Description: Partial 3rd and 4th ray resection of foot with wet gangrene

Surgical Procedure:
 Trans metatarsal surgery and placement of bilayer dermal substitute.



Week 0:
 10.5 x 8 cm.
 ECM, NPWT.



Week 3:
 8 x 5.8 cm.
 ECM, GV/MB.
 45% wound area reduction, red granulation Tissue.



Week 14:
 2.8 x 2 cm.
 ECM, GV/MB.
 93% reduction to wound area, granulation tissue.



Week 5:
 7 x 4.5 cm.
 ECM, GV/MB.
 Granulation tissue, 63% wound size.



Week 19:
 Closure



Case Study 3

Patient: 55 year old male
Medical History: H/O diabetic
Wound Description: 2 year old left foot ulcer, Charcot deformity, group E Strep +ve

Surgical Procedure:
 Irrigation and surgical debridement



Week 0:
 8.2 x 5.8 cm.
 ECM, NPWT.



Week 2:
 8.5 x 5.2 cm.
 ECM, NPWT.
 Red granulation Tissue, ECM Incorporating.



Week 23:
 1 x 0.9 cm.
 ECM, GV/MB, TCC.



Week 16:
 4.3 x 3.2 cm.
 ECM, GV/MB, TCO, HBO.
 71% reduction to wound area, granulation tissue.



Week 27:
 Closure

