

Early Clinical Experience Using an ECM Scaffold with Ionic Silver in Diabetic Patients with Lower Extremity Ulcers

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Introduction

Diabetes mellitus (DM) can cause the development of diabetic foot ulcerations (DFU)¹ that are at high risk of infection. Advanced wound management strategies can be used to achieve both wound closure and infection prevention. Silver (Ag) ions have been reported to disrupt vital processes within microbial cells.² This case series presents early clinical experience with an ovine ECM-Ag* scaffold on diabetic patients with high-risk lower extremity ulcers.

Methods

Six patients with diabetic ulcers were treated with ECM-Ag technology. The affected areas were cleaned and debrided then ECM-Ag was applied to the tissue and covered with GV/MB[†] foam and gauze. ECM-Ag application was repeated every 3-7 days or as required for 3 to 8 weeks.

Conclusions

ECM-Ag led to improved granulation tissue and an average 59% reduction in wound size across the treatment group (n=6) at 4 weeks. Additionally, none of the wounds became infected during treatment with ECM-Ag. ECM-Ag is a new and useful tool for the management of high-risk DFUs.

References and Disclosures

- Hobizal KB and Wukich DK (2012). "Diabetic foot infections: current concept review." *Diabetic Foot & Ankle* 3: 10.
- Leaper, D. J. (2006). "Silver dressings: their role in wound management." *Int Wound J* 3(4): 282-294.

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[†]Endoform Antimicrobial Dermal Template; ^{*}Hydrofera Blue; www.appulsemed.com

Results

Case Study 1

Patient: 68 year old male
Medical History: Type 2 DM, gangrene to 4th toe and infected wound on foot
Wound Description: Diabetic ulcer to dorsal foot to plantar area, tendon exposed and 70% granulation

Week 0:
 19 x 3.5 cm.
 ECM-Ag,
 GV/MB.



Week 1:
 18.5 x 3 cm.
 Hydrogel,
 ECM-Ag,
 GV/MB.



Week 3:
 17 x 1.5 cm.
 Debridement,
 Hydrogel,
 ECM-Ag,
 GV/MB.



Week 6:
 14 x 1 cm.
 Wound size
 reduced by
 79%



Case Study 2

Patient: 65 year old male
Medical History: Type 2 DM, thrombotic microangiopathy
Wound Description: Trans-metatarsal amputation (Dwight Newton)
Previous Treatments: Wet to dry dressing

Week 0:
 6.3 x 7.3 cm.
 ECM-Ag,
 GV/MB.



Week 3:
 6 x 7 cm.
 ECM-Ag,
 GV/MB.



Week 6:
 6 x 7 cm.
 Wound size
 reduced
 by 9%



Case Study 3

Patient: 65 year old female
Medical History: Type 2 DM, osteomyelitis
Wound Description: Macerated wound edge and periwound area, pale pink tissue wound bed, 20% yellow slough
Previous treatment: NPWT, ORC/Collagen, collagenase ointment, ORC/collagen/Ag, honey, topical antibiotic and disinfectant

Week 0:
 6.5 x 6.5 cm.
 Debridement,
 ECM-Ag,
 GV/MB.



Week 4:
 4 x 6 cm.
 Debridement,
 ECM-Ag,
 NPWT.



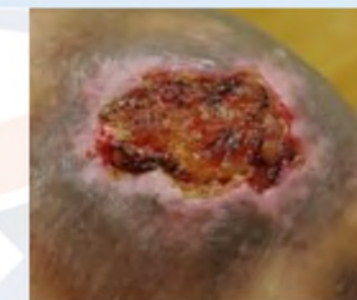
Week 8:
 2.3 x 5 cm.
 Epithelialized with beefy red tissue. Mild maceration of wound edge.
 Wound size reduced by 73%



Case Study 4

Patient: 85 year old female
Medical History: Type 2 DM, suffered a knee contusion due to a fall
Wound Description: 100% adherent black eschar 4 x 2 cm
Previous treatment: Debridement, gel matrix

Week 0:
 4 x 2.5 cm.
 Debridement,
 ECM-Ag,
 GV/MB.



Week 1:
 4 x 2.5 cm.
 Debridement,
 ECM-Ag,
 GV/MB.



Week 5:
 1.5 x 1 cm.
 Wound size
 reduced by 85%

