Innovative Solutions Utilizing Ovine Extracellular Matrix with Antimicrobial Silver in the Management of Wounds with Exposed Tendon and Bone

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Introduction

Technologies to reduce the risk of microbial contamination are important additions to the wound care armamentum. An ECM technology containing ionic silver (ECM-Ag$^{\phi}$) offers a new tool to combat non-healing wounds, and can be used in the early phases of wound healing and prior to non-antimicrobial ECM technologies*.

Methods

Patients (n=4) with wounds including exposed bone and tendon were debrided prior to a 2-week challenge[1] with ECM-Ag technology. Dressings were changed every 3-7 days. After the initial 2-week challenge, treatment was switched to non-antimicrobial ECM technology, with weekly treatment.

Conclusions

An antimicrobial ECM technology offers a new approach to managing at risk wounds early . Following a two-week challenge all wounds responded positively to the ECM-Ag, and wounds were infection free, enabling a switch to a non-antimicrobial ECM.

References and Disclosures

1. Ayello EA, Carville K, Fletcher J, et al. Appropriate use of silver dressings in wounds. An expert working group consensus. . *Wounds International.* 2012.

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$^{\phi}$Endoform Antimicrobial Dermal Template;
*Endoform Natural Dermal Template;
#Hydrofera Blue; www.appulsemed.com

Results

Case Study 1

Patient: 88 year old female
Medical History: Underlying arterial disease, multiple toe amputations
Wound Description: Acute traumatic injury, periosteum exposed
Previous Treatments: Wet-to-dry, antibiotics

Week 0:
1.5 x 1.5 cm.
Debridement, ECM-Ag, GV/MB#.

Week 1:
1.5 x 1.2 cm.
Debridement, ECM-Ag, GV/MB.
- *20% reduction*

Week 5:
1.2 x 1.0 cm.
Debridement, ECM, GV/MB foam.
- *47% reduction*
- *Periosteum covered*

Case Study 2

Patient: 72 year old male
Medical History: Diabetic, osteomyelitis bilat great toe
Wound Description: Pressure injury, exposed periosteum
Previous Treatments: Diabetic shoe

Week 0:
2.0 x 1.0 cm.
Debrided callus, ECM-Ag, GV/MB foam.

Week 3:
0.7 x 0.5 cm.
Debridement, ECM, GV/MB.
- *83% reduction*
- *periwound epithelization*
- *granular base*

Week 6:
0.2 x 0.3 cm.
Debridement, ECM, GV/MB foam.
- *97% reduction*
- *Granulated base*

Case Study 3

Patient: 61 year old male
Medical History: Venous disease; diabetic neuropathy
Wound Description: Midfoot amputation, broke down under pressure, macerated periwound and hypergranular

Week 0:
4.0 x 1.0 cm.
Debrided, ECM-Ag, GV/MB foam, CAM boot.

Week 2:
3.0 x 1.0 cm.
Debridement, ECM, GV/MB.
- *25% reduction*
- *periwound maceration resolved*
- *granular base*

Week 4:
2.5 x 0.5 cm.
Debridement, ECM, GV/MB foam.
- *69% reduction*
- *Closed, with slight tunneling*

Case Study 4

Patient: 58 year old female
Medical History: Digital amputation, diabetes
Wound Description: Traumatic wound to 3rd toe – tendon exposed

Week 0:
1.5 x 1.5 cm.
Debrided, ECM-Ag, contact layer.

Week 2:
1.3 x 1.0 cm.
Debridement, ECM-Ag, GV/MB.
- *42% reduction*
- *Tendon partially covered*
- *granular base*

Week 4:
Wound closed