Utilization of Advanced Extracellular Matrix Scaffold for Wound Healing: A Case Report
Disclosure

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Our disclosures are in the Final AOFAS Program Book.

There are no potential conflicts with this presentation
A 76 year old female presented with a calcaneal fracture following a fall. She was treated with ORIF three weeks after injury. Ten weeks following her ORIF she presented with an open lesion with a positive probe to deep hardware. Local wound care with enzymatic debriders was promptly initiated. Approximately four months post-op, Porcine Derived Urinary Bladder Matrix (UBM) was applied to help re-establish the wound’s basement membrane.
Materials & Methods

APPLICATION OF POWDER

APPLICATION OF SHEET
Results

- Post operatively, sutures were removed at two weeks and Surgilube® was used to keep the graft moist.
- The patient continued with similar dressing changes every third day for four weeks.
- Epithelialization and a granular wound base was noted twenty-one days after application.
Forty-one days after initial application, a small open lesion was still present. To further promote granular tissue formation, powdered UBM was applied in the office to the wound bed. The patient was followed closely to assess for graft uptake. Full closure of the wound was noted approximately eleven weeks from initial application of UBM.
Porcine derived UBM is a new product utilized in wound care which contains both a basement membrane layer and a tunica propria layer. This unique combination promotes angiogenesis, provides an antibacterial environment and also recruits progenitor stem cells to allow for gradual scaffold degeneration.
From a structural standpoint, UBM is composed of collagen (types I, II, III, IV, V, VI and VII), bioactive components (GAGs, Proteoglycans), numerous growth factors, glycoproteins and anti-infective peptides.

This composition provides versatility to UBM and allows it to be applied in a number ways systemically including hernia augmentation, treatment of abdominal wall defects, myocardial repair and esophageal reconstructions.
Conclusion

- We present a case where Porcine Derived Urinary Bladder Matrix was used to successfully treat a dehisced surgical incision with exposed hardware following ORIF of a calcaneal fracture.
- The two components of the graft, powder and layered sheet, were effective in promoting the production of granular tissue within the wound bed and allowed for wound closure via epithelialization.
- This prevented superficial and deep infections of the skin and calcaneus and eliminated the need for removal of internal fixation.


