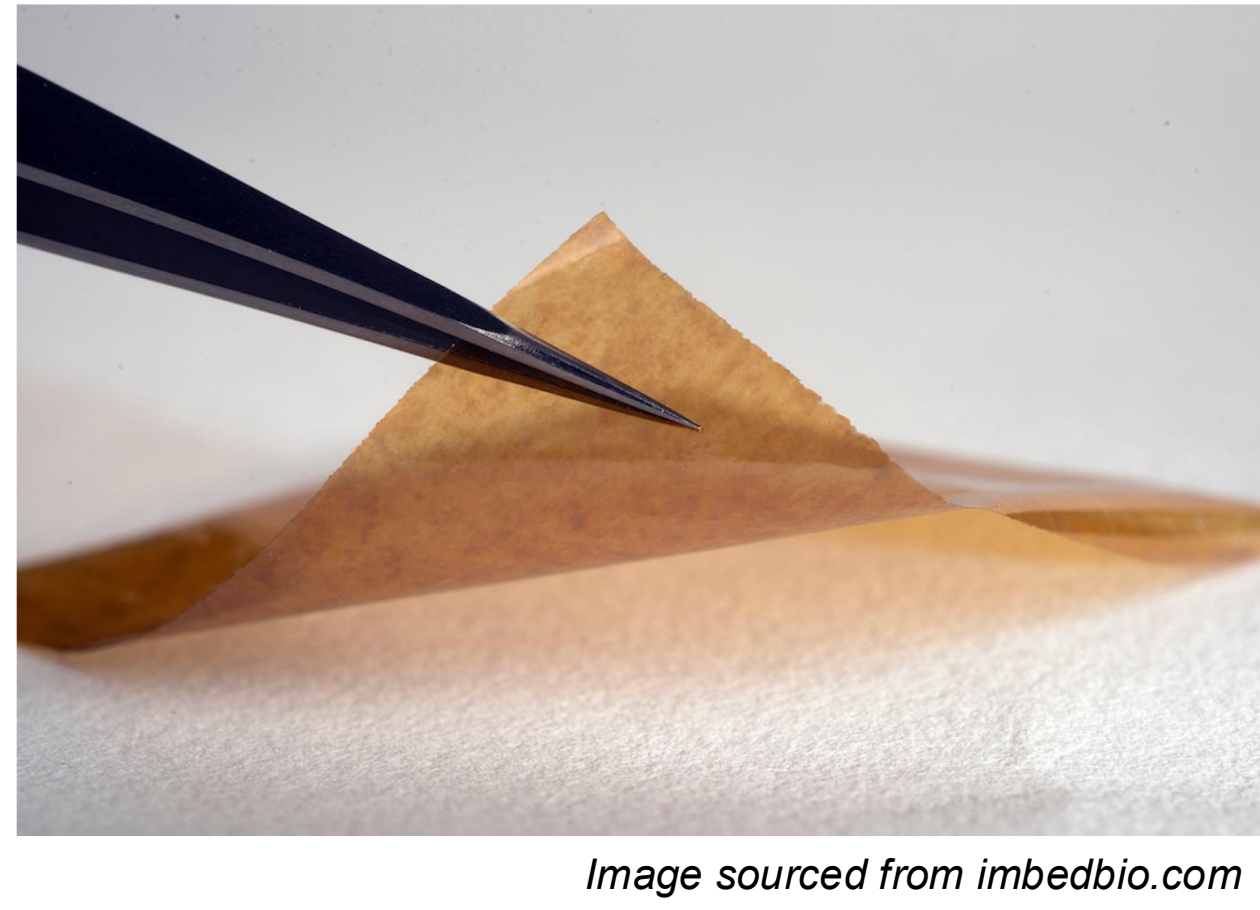


Management of Complex Wounds with a Bioresorbable Antimicrobial Matrix in Patients at Risk for Delayed Healing

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Introduction

- Chronic wounds in patients with diabetes and other comorbid conditions are often slow to resolve and prone to infection.
- A fully synthetic, resorbable antimicrobial matrix has previously been shown to facilitate healing in non-progressing wounds and to help prevent SSIs among high-risk individuals.
- This report summarizes our clinical experience using the matrix in five cases to support closure in patients at risk for delayed healing.



Methods

- Patients (N = 5) with chronic or dehisced wounds were evaluated
- Interventions:
 - Sharp surgical debridement
 - Bioresorbable antimicrobial matrix (sheet sizes 3 × 3 cm or 5 × 5 cm), secured with a non-adherent contact layer and porous adhesive strips
 - Secondary coverings of gauze and conforming wraps
- Weekly appointments:
 - Assessment of healing progression
 - Debridement as indicated and additional matrix applications until full closure or readiness for further advanced therapy

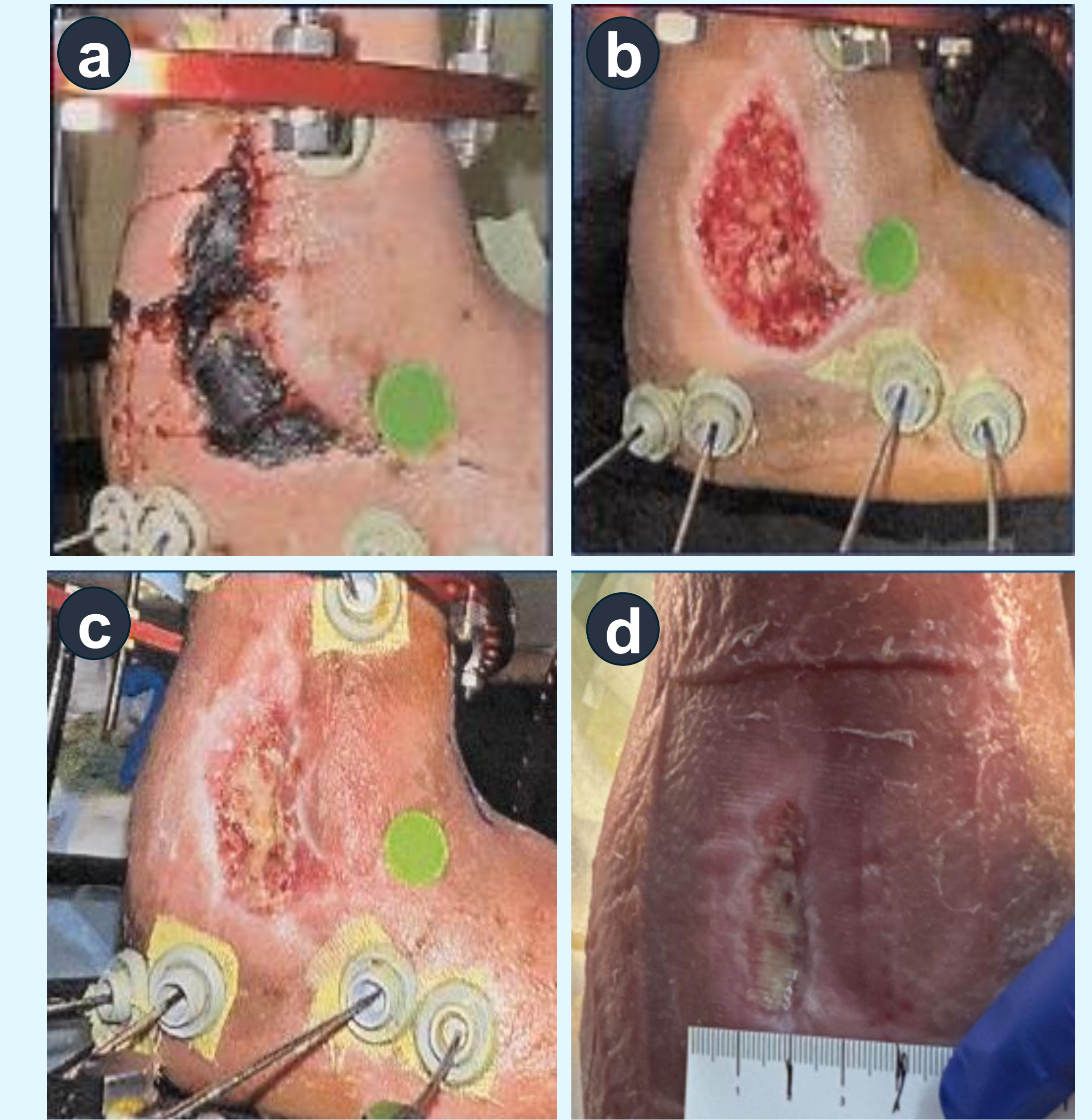
Results



Chronic wound secondary to blister formation. Day 0, following serial debridement and intravenous antibiotics over several weeks (a); Day 11, 4 days following debridement and first app of the matrix (b); Day 27, prior to second app (c); Day 43, 17 days following second app (d); Day 55, 28 days following second app (e); Day 88, wound 95% closed ~2 months following second app (f).



Debridement of hematoma following dorsal crush injury. Day 0, post-debridement of hematoma prior to first app of matrix (a); Day 8, prior to second app of matrix (b); Day 15, prior to third app of matrix (c); Day 28, wound closure (d).



Dehisced surgical wounds following reconstruction and fixation of catastrophic ankle/subtalar dislocations. Post-op day 7, prior to debridement of wound bed and app of matrix (a); Post-op day 14, 1 week following first app of matrix and prior to second app (b); 7 days following second matrix app (c); Week 6, following weekly matrix app and two placental allograft apps (d).

- All five patients presented with comorbidities associated with impaired wound healing, including diabetes, hypertension, and anticoagulant therapy.
- Patient age was a median of 71 years, ranging from 48 to 98 years.
- Across all patients, management with the bioresorbable antimicrobial matrix supported progress towards closure or readiness for a CAMP/autograft.
- No treatment-related complications or infections were observed throughout the course of care.

Conclusions

- Application of a fully synthetic antimicrobial matrix contributed to wound improvement in this group of patients at risk for delayed healing, ranging in age, comorbidities, and wound etiology. These findings reinforce its potential role in reducing complications, enhancing patient outcomes, and improving the efficiency of care for individuals with prolonged or compromised wound healing.
- Further controlled investigations comparing this matrix with other cellular- or matrix-based products and conventional antimicrobials will be necessary to validate the clinical benefits observed here and guide its evidence-based use.