

Complex Refractory Wounds: Innovative Bioactive Glass Wound Matrix Facilitates Healing in Setting of Radiation, Steroid Use, and Multiple Failed Prior Treatments

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INTRODUCTION

Chronic wounds are detrimental to patient quality of life and a significant strain on the healthcare economy.¹ To reduce healthcare utilization, use of advanced wound care products that address essential components of the healing phases of chronic wounds is critical. A recently developed novel borate-based bioactive glass wound matrix* (BGWM) has been shown to promote healing in complex chronic wounds.² Borate-based bioactive glasses are biocompatible water-soluble materials that have been formulated to degrade in a wound over a period of days or weeks. These bioactive glasses have shown promise in wound healing by improving angiogenesis, increasing metabolic activity and cell proliferation, and reducing incidence of infection.³⁻⁵ We report our experience with application of BGWM in recalcitrant, non-healing wounds previously treated with multiple advanced wound care modalities.

METHODS

Three patients with 3 wounds were treated. Wounds were cleansed with sterile normal saline solution and debrided. Systemic antibiotics were administered as needed. BGWM was shaped to fit the size of the wound bed and pressed directly in contact with the wound, covering the entire wound area and overlapping³⁻⁴ mm onto periwound. A cover dressing was applied over BGWM to secure the matrix and absorb exudate. Dressings were changed once per week.

*MIRRAGEN Advanced Wound Matrix, ETS Wound Care, Rolla, Missouri



RESULTS

The mean age of patients was 72 (range: 56-84). Two surgical wounds and one radiation wound were treated. All three wounds in this series had failed multiple previous advanced, costly therapies and surgeries with a mean wound duration of 13.2 months. Mean wound size volume at start of BGWM was 1.9 cm³. All wounds healed after a mean of 8.1 weeks with use of BGWM.

DISCUSSION

All previously recalcitrant, non-healing wounds in this series were healed following initiation of BGWM application. BGWM was used until complete closure for all wounds.

- Was it easy to apply?
- How did patients tolerate BGWM?
- Were there reports of pain during treatment?
- Other observations about the product or outcome?

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