

From Plateau to Progress: Transforming Burn Recovery with Type I Bovine Collagen and 2% Lidocaine Hydrogel

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Introduction

Effective wound healing is critical to limiting complications such as infection, scarring, and long-term functional impairment, which drive much of the lifetime disability associated with thermal burns. ¹Bovine collagen has emerged as an important biomaterial that can assist in burn management because the triple-helical structure and amino acid composition closely resembles human collagen. This provides an extracellular matrix scaffold that supports hemostasis, cellular migration, angiogenesis, and tissue regeneration. ²his case study documents a patient that had slow wound healing with various wound care strategies that accelerated when a Type I bovine collagen powder and 2% lidocaine hydrogel were introduced.

Results

The patient's wound healing increased from 38% over 10 weeks to 60% 12 weeks post implementation of the Type I bovine collagen powder and 2% lidocaine hydrogel. The wound was reduced from 137.5 cm² to just 55.3 cm² 8 weeks after the start of the Type I bovine collagen and 2% lidocaine hydrogel combination.

Conclusion

The use of a bovine collagen powder and 2% lidocaine hydrogel resulted in reduced wound pain, increased granulation of tissue, and accelerated wound healing in a third-degree full thickness thermal burn.

References

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Methods

A 70-year-old male presented to the wound care clinic approximately three weeks post third degree, full-thickness thermal burn to the left upper extremity from a space heater. Initial debridement was performed, and the resulting wound size was 224.2 cm². Various wound dressing combinations such as collagenase gel, HFB foam, wet to dry dressings, and saline moist gauze, were tried for the first 10 weeks with limited success, along with some additional debridement, which resulted in a reduction of the wound to 137.5 cm², but the patient was in continued pain with a plateau of wound healing seen. After 10 weeks, the patient was then switched to a Type I bovine collagen powder and 2% lidocaine hydrogel with the continued use of a super absorbent dressing.

Initial Visit



Start of Collagen and Lidocaine Hydrogel



8 Weeks Later

