Collagen carboxy-methylcellulose for the management of chronic nonhealing wounds

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Introduction

Non-healing wounds can have many complications including socio-economic and psychological strains. Normal wound healing moves through phases in a timely and uncomplicated fashion; hemostasis, inflammation, proliferative, and remodeling/maturation. Chronic wounds, those that have been present for greater than six months, deviate from the expected sequence of repair.

As wound healing stalls, providers must identify the barriers that inhibit the wound from moving to the next phase. Some barriers can include heavy drainage, high bioburden, excessive non-viable tissue which can delay or limit epithelialization of the wound margin. When barriers are identified, interventions are directed to correct the problem and support the healing process. Delays in wound healing most commonly occur during the inflammatory and proliferative phases.

During these phases, leukocytes and cytokines release proteases that damage and degrade the extracellular matrix. Efforts to inhibit the release and activity of these proteolytic enzymes can allow the wound healing process to continue. A new collagen matrix dressing has become available. The dressing is a collagen, carboxy-methyl cellulose and sodium alginate product that facilitates epithelial migration and tissue regeneration via unique properties. The dressing contains EDTA (Ethylene Diamine Tetracetic Acid) which inhibits the detrimental effects of proteolytic activity in chronic wounds.

Methods

The study group consisted of patients with wounds that stalled in the inflammatory and proliferative phases of wound healing. These patients were treated with the new collagen matrix dressing. We present a series of cases which illustrate our clinical experience.

Case report 1

This is a 68-year-old insulin diabetic female with non-healing wound to L anterior ankle for 4 years. Wound failed to heal despite maximization of arterial flow and local wound care with cadexomer, enzymatic agents, ultrasonic assisted wound therapy and compression to control edema. After initiation of product wound base progressed to near closure after 5 weeks of therapy, with dressing changes twice a week. Complete ulcer closure achieved after 8 weeks of therapy.

Case report 2

This is a 57-year-old diabetic male, status post L TMA. Despite maximum offloading and local wound care, wound failed to progress. Patient achieved significant contraction of wound in 2 weeks after initiation of product in addition to continuation of offloading. Complete wound closure achieved after 3 weeks of therapy.

Case report 3

This is a 75-year-old male with a PMH of hypertension, venous insufficiency, and non-healing wound for 4 months. Previous wound care prior to product initiation included compression and topical antimicrobial care. Wound progressed to closure after 4 weeks of therapy.

Conclusion

After 6 weeks of the new collagen matrix dressing application, participants were found to have increased granulation tissue and epithelialization of their wounds. The new collagen matrix dressing is an effective management option in select wounds that have stalled.

References


* BIOSTEP™ – Smith & Nephew Wound Management Inc, Largo, Fl.