Bovine Dermal Collagen Matrix* as Adjunct for Closure of Challenging Wounds After Surgical Incision Dehiscence

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PURPOSE

Post surgical wounds with the complication of dehiscence present a challenge in compromised patients. When traditional incision re-closure is not an option, secondary intent closure is the goal. The aim of this case series is to introduce a unique collagen matrix designed to support the wound healing process in the complication of wound dehiscence. Bovine dermal collagen matrix* is an absorbent extracellular matrix (ECM) comprised of Type I and Type III bovine collagen that closely resembles the human body's native collagen. Fibrillar collagen derived from bovine dermis is biocompatible, biodegradable, and is used in this case series as a wound healing adjunct. Two podiatric surgical dehiscence cases with challenging wounds are presented which were successfully treated with bovine dermal collagen matrix*.

MATERIALS & METHODS

Two surgical dehiscence cases are presented in this series, showing the efficacy of bovine dermal collagen matrix*. Male to female ratio was equal, average age was 55.5 (55-56). The average number of applications of collagen matrix was 3.5. Average time to heal was 28 days.

RESULTS

Achieved closure of a complex surgical dehiscence wounds in two patients with multiple comorbidities and surgical complications. DBCM* provided an extracellular matrix scaffold to support granulation tissue formation and epithelialization.

DISCUSSION

The results of this case series show efficacy and reduced healing times of hard to heal postoperative dehisced wounds using bovine dermal collagen matrix*.

Bovine dermal collagen matrix* provides a collagen scaffold like human native collagen and is known to sequester excess proteases away from the wound bed, allowing blood and new vessel formation to integrate within its scaffold. Bovine dermal collagen matrix* contains intrinsic hemostatic properties to control minor bleeding and is 100% resorbable through normal metabolic pathways.

When surgical procedures resulted in postoperative dehiscence, bovine dermal collagen matrix* showed efficacy in improving results with reduced closure time and prevention of further complications.

CASE 1

55-year-old female patient S/P resection of posterior calcaneal Haglund's deformity with Achilles Tendon repair presented at Day 14 with distal surgical incision dehiscence and exposed tendon. Pain and drainage from incision. Patient reported getting dressing wet.

PMH: Obesity with BMI >30 S/P bariatric surgery, HTN, and OSA.

Goal: Obtain Achieve closure of a complex wound with exposed tendon in a patient with multiple comorbidities. Provide HELIOGEN as an ECM scaffold to support granulation tissue formation and epithelialization.

Presentation: Postop Day 14 surgical incision dehiscence with exposed tendon measuring 2.3 cm x 1.3 cm x 0.2 cm.

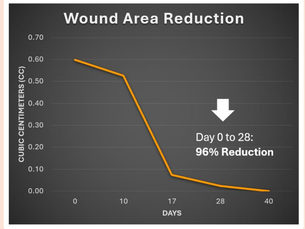
Day 0: DBCM* 500 mg paste application #1. Patient off-loaded with boot.

Day 10: Wound size: 1.5 cm x 0.7 cm x 0.1 cm 12% wound reduction. DBCM* application #2

Day 17: Wound size: 1.5 cm x 0.5 cm x 0.1 cm. 86% wound reduction. DBCM* application #3

Day 28: Wound size: 0.8 cm x 0.3 cm x 0.1 cm. DBCM*application.#4

Day 40: Wound closed.



CASE 2

56-year-old healthy male had elective surgery to excise a painful ganglion cyst causing neuritis on the dorsum of his right foot without complications. Two weeks postoperatively, the patient presented with a fully dehisced surgical incision and hematoma in the wound base. Patient had not been compliant to using a postop shoe, being non-weight bearing to the treated foot, and keeping the foot dry.

PMH: Cervical and lumbar radiculopathy (noncontributory).

Goal: Obtain wound closure in a patient with surgical wound dehiscence to prevent nerve damage. Provide HELIOGEN as an ECM scaffold to support granulation tissue formation and epithelialization over nerve.

Presentation: Before debridement.

Sutures removed and wound debrided.

Day 0: 500 mg of DBCM* paste application.

Day 14: DBCM* application #2

Day 28: Wound closed.

Results:

- Patient had 3 applications of HELIOGEN and went on to full closure at Day 28.
- Patient and surgeon both satisfied with results in the presence of dehiscence with potential nerve compromise. There was no evidence of nerve damage and minimal scarring at the site

[1]MIMEDX Group, Inc., Marietta, GA, US. Disclosure: Poster development supported by MIMEDX Group, Inc. Marietta, GA, USA

DBCM* HELIOGEN, MIMEDX, Inc., Marrietta, GA