



CASE STUDY

Case Study: Effectiveness of BLASTX™ with Collagen in Challenging Wound Scenarios

Dr. Patricia Stevenson & Daniel Hawk

NextScience

Received Date:
27-06-2024
Revised Date:
06-07-2024
Accepted Date:
11-07-2024
Published Date:
29-07-2024

Corresponding Author:
Patricia Stevenson

Citation:
Patricia Stevenson & Daniel Hawk (2024) Case Study: Effectiveness of BLASTX™ with Collagen in Challenging Wound Scenarios. *World J Case Rep Clin Imag.* 2024 July; 3(2)1.4

Copyrights
© 2024, Patricia Stevenson & Daniel Hawk. This article is licensed under the Creative Commons Attribution-NonCommercial-4.0-International-License-(CCBY-NC) (<https://worldjournalofcasereports.org/blogpage/copyright-policy>). Usage and distribution for commercial purposes require written permission.

Introduction

Chronic wounds resistant to conventional treatments pose significant challenges in clinical wound management. This case study explores the efficacy of BLASTX Antimicrobial Wound Gel with Collagen in three challenging wound scenarios, highlighting its role in promoting rapid healing and successful wound closure.

Bioburden and Biofilm

Treating bioburden with biofilm-directed care is crucial for developing treatment plans for non-healing wounds. Bioburden levels are not static and can recur, necessitating ongoing biofilm-directed care to achieve healing. An unchecked bioburden can lead to mature, recalcitrant biofilm, ongoing inflammation, and infection-related complications, known to stall healing.

Collagen

Collagen is essential for wound healing and has been a staple in treating stalled wounds for over 15 years. Type 1 collagen, the predominant protein in body tissues, plays a crucial role in various cellular functions necessary for wound healing. Wound healing modulation with the addition of supplemental

collagen dressings produces a significantly faster wound closure when the bioburden is controlled. Collagen dressings can induce the transition from inflammatory to reparative cells in wounds, stimulating healing.

Case Studies

Patient 1: Surgical Site Dehiscence Post Rectal Cancer Surgery

History: Surgical intervention for rectal cancer with permanent colostomy and rectal closure resulted in post-operative surgical site dehiscence. The patient had a history of radiation abscess development and infection to the perirectal area, leading to an incision dehiscence with infection.

Challenges: Comorbidities included rectal cancer, radiation, and infection. Previous treatments with standard wound care and negative pressure wound therapy (NPWT) failed to progress healing over 3.5 months.

Treatment: Initiation of BLASTX with collagen (Collagen rope) on 5/14/2019 resulted in wound closure in 10 days with a 100% wound area reduction.

Outcome: Rapid closure was achieved despite previous failed NPWT, radiations therapy, and infection, demonstrating the effectiveness of BLASTX with collagen in challenging wound scenarios.

Illustrations: Visual representations of wound progression and closure with BLASTX and Collagen in each patient case complement the remarkable outcomes achieved, highlighting its efficacy in promoting accelerated healing and successful wound closure.

Patient 1: Before and after images showing the application of NPWT dressing prior to discontinuation in conjunction with BLASTX and collagen rope. Continued therapy of BLASTX and collagen rope resulted in full wound closure.



5/14/2019



5/14/2019 Post NPWT Dressing

Wound area reduction 100% in 10 days of starting BLASTX Antimicrobial Wound Gel

Testimonials from healthcare professionals emphasize the effectiveness of BLASTX and Collagen in wound closure.

“Irradiated tissue is hard to heal and fragile. Developing an abscess compounded the chronicity of the wound requiring IV antibiotics. As the wound healed the sponge become to large and painful for the small external opening and had to be discontinued. By using BLASTX on a collagen rope dressing and placed into the small opening the wound closed quickly and has not reopened.”

Patient 2: Non-Healing Surgical Incision with Dehiscence Post Double-Mastectomy Cancer Surgery

History: The patient had a history of breast cancer and chemotherapy, resulting in a non-healing surgical incision with dehiscence.

Challenges: Failed standard wound care, post chemotherapy treatments.

Treatment: BLASTX with collagen and sharp debridement led to initial closure within 10 days. The wound had a focal reopening due to a floating suture fragment, but reimplementation of BLASTX resulted in closure within 8 days.

Outcome: Accelerated healing potential was showcased, achieving 100% healing despite prior treatment failures.

Testimony on file.

Patient 2: Visual representation of the healed wound after a double mastectomy with a history of failed healing. The wound had focal reopening after stitch abscesses and subsequent closure with BLASTX and Collagen.



Healed: 10/1/2019

Wound closure in 10 days of starting BLASTX and Collagen.

Testimonials from healthcare professionals emphasize the effectiveness of BLASTX and Collagen in wound closure.

“A patient’s ability to heal depends on many factors, as this case demonstrates, even under compromised circumstances, the patient experienced 100% closure in days rather than the months prior to using BLASTX™ and appropriate biofilm focused care.”

Patient 3: Unstageable Sacral Pressure Injury Post Debridement

History: The patient had severe mental incapacity, resulting in an unstageable sacral pressure injury post-debridement.

Challenges: Failed standard care with off-loading and nutritional support.

Treatment: BLASTX with collagen initiated on 8/1/2019 led to wound closure within 15 days.

Outcome: The wound remained closed at a two-week recheck, highlighting BLASTX's efficacy in promoting rapid healing.

Testimony on File.

Patient 3: Graphical depiction of the wound area reduction over time with BLASTX and Collagen treatment. (Eschar covering wound).



8/1/2019



8/15/2019

Wound area reduction 100% in 15 days of starting BLASTX and Collagen.

Relevant statistics and research findings supporting the use of BLASTX and Collagen in challenging wound scenarios:

“A hard-to-heal wound is defined as a wound that has failed to heal 40-50% in 4 weeks with Standard of Care (SoC). A key factor in hard-to-heal or slow healing wounds is biofilm. Wound area reduction metrics provide wound care clinicians with an expected trajectory of healing, 40–50% reduction at four weeks, can be reasonably applied to all wounds with Standard of Care.”- **Atkin, 2019**

Conclusion

In all cases, BLASTX ability to reduce bioburden demonstrated how controlling bioburden optimized the impact of collagen even when collagen had failed previously. While collagen played a pivotal role in overcoming challenging wound scenarios, the ongoing bioburden control produced a synergy that promoted faster healing and achieved successful closure. These outcomes underscore the need for BLASTX in bioburden management and biofilm-directed wound care for non-healing wounds.

Conflict of Interest: None

Ethical Consideration:

The patients have given full access to publish and case studies and info graphic content.

Acknowledgements: #NextScience

References

1. Furuya EY. Infectious Diseases (Third Edition); Vol 2 Chapter 132 - Antibiotic prophylaxis, 2010, 1323-1332.
2. Johns Hopkins Medical, 2019; Surgical Site Infections.
3. Olsen MA, Nickel KB, Margenthaler JA, Fox IK, Ball KE, Mines D, Fraser VJ. (2016).
4. Atkin L, et al. Implementing TIMERS: the race against hard-to-heal wounds. *J Wound Care*, 2019; 28(3 Suppl 3): S1–S49.
5. Mathew-Steiner SS, Roy S, & Sen CK. (2021). Collagen in Wound Healing. *Bioengineering (Basel Switzerland)*, 8(5), 63. <https://doi.org/10.3390/bioengineering8050063>
6. Amirrah INA, Mohd Razip Wee MF, Tabata Y, Bt Hj Idrus R, Nordin A, & Fauzi MB. (2020). Antibacterial-Integrated Collagen Wound Dressing for Diabetes-Related Foot Ulcers: An Evidence-Based Review of Clinical Studies. *Polymers*, 12(9), 2168. <https://doi.org/10.3390/polym12092168>
7. Parmar PA, et al. (2016). Harnessing the Versatility of Bacterial Collagen to Improve the Chondrogenic Potential of Porous Collagen Scaffolds. *Advanced healthcare materials*, 5(13), 1656–1666.
8. Benito-Martínez, S., Pérez-Köhler, B., Rodríguez, M., Izco, J. M., Recalde, J. I., & Pascual, G. (2022). Wound Healing Modulation through the Local Application of Powder Collagen-Derived Treatments in an Excisional Cutaneous Murine Model. *Biomedicine*, 10(5),960. <https://doi.org/10.3390/biomedicine1005096>

Submit your manuscript to the
World Journal of Case Reports and Clinical Images
(ISSN: 2835-1568); CODEN: USA

And benefit from:

- Convenient online submission
- Rigorous peer review
- Immediate publication on acceptance
- Open access: articles freely available online
- High visibility within the field
- Retaining the copyright to your article

Submit your manuscript at

<https://worldjournalofcasereports.org/>

&

wjcasereports@gmail.com;

submission@worldjournalofcasereports.org

