

# CHRONIC NONHEALING COMBAT INJURY OF THE FOOT HEALS USING NOVEL TRANSFORMING POWDER WOUND CARE DRESSING

VA



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H. David Gottlieb, DPM, DABPM, FAPWCA<sup>1</sup>; Susan Rolniak St. John, MSN, APRN-NP<sup>2</sup>; Kiana Trent, DPM, FABPM, FASPS<sup>1</sup>  
1VA Maryland HealthCare System; <sup>2</sup>Altrazeal Life Sciences Inc. (ALSI)

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## INTRODUCTION

Several wounded Veterans deal with lasting and debilitating effects of military service long after discharge, and “their wounds from war are daily facts of life.”<sup>1</sup> Veterans also experience a higher prevalence of chronic diseases such as diabetes, that hinder wound healing and affect nearly 25% of the United States Veteran population. The case presented here illustrates the challenges faced by one such diabetic Veteran who had been handicapped with a non-healing foot wound from a combat injury for 53 years despite receiving quality standard of care (SOC).

## METHODOLOGY

The 75-year-old diabetic male Veteran had sustained a high velocity injury to his heel (Vietnam War in 1968) and suffered from recurring wound infections over five subsequent decades. A plethora of SOC and advanced wound care treatments (including skin substitutes), and multiple surgical procedures (including grafting) were utilized in an attempt to heal the wound. However, despite the use of a multitude of SOC alternatives, including a thorough investigation evaluating adequacy of vascular status and nutrition, and smoking cessation, the wound continued to stagnate. The patient conducted daily dressing changes himself and had resigned himself to living with a wound the rest of his life.

In September, 2022, the patient’s wound was treated with a novel transforming powder dressing (TPD)\* for the first time as part of a randomized clinical study sponsored by the Navy Advanced Medical Development Command. TPD is an extended wear (up to 30-days) dressing comprised primarily of polymers similar to those used in contact lenses. When hydrated, TPD granules aggregate to form a moist oxygen-permeable barrier that covers and protects the wound. As the wound heals, TPD dries and flakes away.

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\*Altrazeal® Transforming Powder Dressing, USA

## RESULTS

The patient was evaluated on a weekly basis during the study and treated with TPD applications or “top offs” (additional powder sprinkled over existing TPD matrix without requiring primary dressing changes). TPD was covered with a nonadherent contact layer and gauze which were replaced at each visit. The wound healed in 72 days or approximately seven weeks after transition to TPD, with only two debridements and four TPD treatments, and has remained healed to date (1.5 years later).

1.5 x 0.5 cm | FIRST TPD APPLICATION



WEEK 2: 1.8 x 0.7 cm | TPD TOPPED OFF



WEEK 5: 0.9 x 0.5 cm | 2<sup>ND</sup> TPD APPLICATION



WEEK 7: 0.1 x 0.1 cm | 3<sup>RD</sup> TPD APPLICATION



WEEK 10: WOUND EPITHELIALIZED



## DISCUSSION

TPD accelerated wound closure with significantly reduced frequency of dressing changes and debridements relative to SOC, presenting a cost-effective and easy to use alternative to current SOC. Use of novel technology innovations should always be considered, especially when SOC fail. The views and conclusions contained herein are those of the authors and should not be interpreted as necessarily representing the official policies or endorsements, either expressed or implied, of the U.S. Government.

## REFERENCES

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