PROSPECTIVE ANALYSIS OF FULL THICKNESS TRAUMATIC WOUNDS TREATED WITH TRANSFORMING POWDER DRESSING IN A LOW RESOURCE SETTING: IMPACT ON WOUND HEALING AND DRESSING CHANGE FREQUENCY

Susan Rolniak St. John, MSN, APRN-NP; Jonathan M. Saxe, MD, MAR, MBA, FACS

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INTRODUCTION

Traumatic wounds are common in military conflicts impeding return-to-duty. Despite the availability of a plethora of wound dressings, management of wounds remains a global challenge, requiring frequent and painful dressing changes and consuming precious medical resources.

The proposed project presents a charitable initiative led by Altrazeal Life Sciences Inc. (ALSI) in partnership with the Austrian Development Agency. The project aimed to deliver an effective wound treatment solution for managing traumatic wounds in underserved patients in India, particularly those receiving care in government hospitals with limited medical resources.

METHODS

Test article: Transforming Powder Dressing (TPD*) is an extended-wear dressing that can remain on the wound for up to 30 days. Upon hydration, it's methacrylate-based granules instantly aggregate into an oxygen permeable, moist barrier matrix that protects the wound while facilitating flow of excess exudate through vapor transpiration

Design: Prospective, mission-oriented project with a goal to treat as many patients as possible

Timeframe: One year

Sites: Eight public hospitals in India

Inclusion criteria: Patients of any age with full thickness traumatic wounds being treated with standard of care (SOC). No restrictions of wound location or trauma etiology were made.

Methodology: All patients treated with SOC dressings were converted to transforming powder dressing (TPD*) and were treated until healed, grafted or discharged

Data collected: Demographics, wound age, dressing changes prior to and with TPD, days to healing, grafting or discharge.

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- Susan St. John serves as clinical consultant and Jonathan Saxe as Medical Director (consultant) for ALSI

Altrazeal® Transforming Powder Dressing

***TPD application numbers include "top-off" or addition of TPD without primary dressing changes*

SAMPLE POPULATION

Sample Size (n=39)	N=23 included in final analysis (patients with ≥ 2 visits) N=16 lost to follow up due to onset of COVID-19
Demographics	70% male | Mean age: 42 years (range 8-82)
Wound Age	Mean = 40 days (range 5-120 days)
Wound Area Size	Mean = 143.2 cm2 (range 7-600 cm2)
Wound Depth	Mean = 2.0 cm (range 0.5-3.5 cm)
Study Limitations	Enrollments were limited and several patients were lost to follow up or could not be treated to completion due to COVID-19 onset during the project.

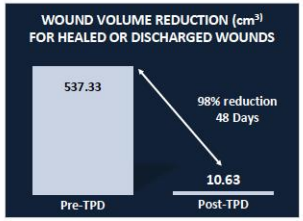
OUTCOMES

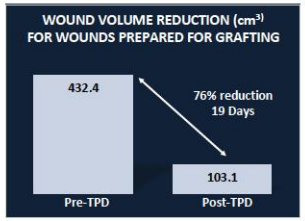
Wound healing: All patients showed marked clinical improvement

- 39% (n=9 w/ 5 infected) healed (n=7, 78%) or reduced greatly
  - 98% mean wound volume reduction pre-discharge after 48 days
- 61% (n=14) were taken for grafting
  - 76% mean wound volume reduction after 19 days

Dressing change efficiency: 85% reduction in dressing changes

- **SOC:** Daily (mean = 89 per patient)
- **TPD:** Every 4.8 days** (mean = 5.6 per patient)





CONCLUSION

Patients transitioned from SOC to TPD showed:

- Marked wound volume reduction in all wounds
- Significant reduction in dressing changes frequency and time
- Lower material utilization and related waste
- No wound related adverse events

ILLUSTRATIVE CASES**

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