Efficacy of a Transforming Powder Dressing for Deep and Tunneling Wounds

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BACKGROUND

- Management of deep, tunneling, undermining and pressure wounds can be challenging.
- Cellular, acellular, and synthetic matrices that come in powdered, morcellated, or flowable forms can be useful for filling deep wound spaces and reducing wound volumes to promote closure.
- Considering its unique ability to form a shape-retaining hydrogel that locks in moisture, allows exudate to escape, and prevents bacterial penetration, we assessed if a synthetic, transforming powder dressing (TPD*) composed of biologically inert, hydrophilic polymers could accelerate granulation and closure in deep and tunneling wounds.[1]

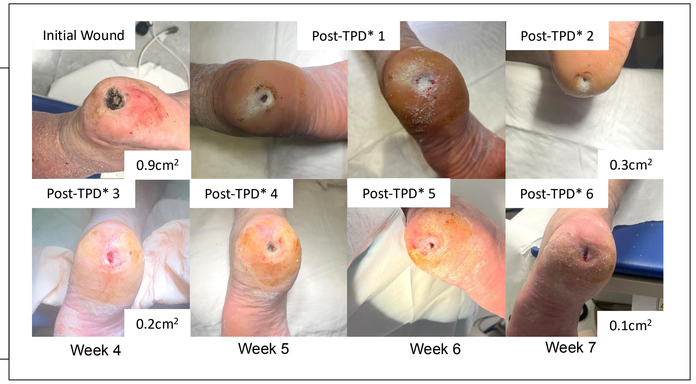
METHODS

- The patients had an initial debridement followed by application of the TPD*(Altrazeal®, Uluru Inc., Addison, TX). Weekly re-application occurred in the outpatient setting. A nonadherent dressing was placed overlying and compression was applied when appropriate. Wound measurements, images, and wound characteristics were assessed at each visit.

RESULTS

A patient with a 1cm deep, post-surgical abdominal wound measuring 5.4cm2 was treated with TPD* at twice weekly visits. After 2 applications, wound depth decreased to 0.3cm and wound area was 4.2cm2 and after 7 applications, the wound had no appreciable depth and measured 1.6cm2. After 9 TPD* applications, the wound was 0.9cm2 and subsequently closed 3 weeks later.

Another patient with a 0.5cm deep traumatic heel wound measuring 0.9cm2 underwent weekly TPD* applications and after 2 TPD*, wound depth decreased to 0.3 and area was 0.2cm2. Depth was no longer appreciable after 6 TPD* and the wound closed 2 weeks thereafter. All patients underwent an average of 8 TPD* applications.



CONCLUSIONS

- In our current experience, TPD* appears to be highly effective in maintaining a wound environment that promotes healing at an accelerated rate, specifically in deep and tunneling wounds.
- These wounds are likely too small to be managed with negative pressure wound therapy (NPWT) and TPD* may possibly be a replacement for NPWT in larger tunneling wounds, however we did not explore this.
- TPD* application was somewhat cumbersome and alternative packaging that facilitates easier product application may be a worthwhile future endeavor.
- Presently, the majority of the applications occur in the outpatient setting but the lack of outpatient reimbursement calls for unique algorithms of care; which the QA nature of this trial did not require.

REFERENCES

1. Altrazeal - Transforming Powder Dressing. Altrazeal Life Sciences Inc. Published 2023. Accessed April 30, 2024. https://www.altrazeal.info