

# A TRANSFORMING POWDER DRESSING FOR MANAGEMENT OF COMPLEX ATYPICAL WOUNDS

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## BACKGROUND

Atypical wounds, or wounds of unknown or uncommon etiologies, comprise approximately 10-20% of all chronic wounds.<sup>1,2</sup> Treatment presents an ongoing challenge to wound care specialists. Inflammatory diseases, infections, chronic illnesses, malignancies, or genetic disorders may predispose a patient to atypical wounds.<sup>4</sup> Atypical wounds can be painful with prolonged healing times, resulting in a reduction in patient quality of life and increased mortality. With an aging population and the presence of a progressively diverse array of identified etiologies, atypical wounds are being identified with a higher frequency.

Current treatment for patients with atypical wounds is a challenge as these wounds are typically nonresponsive to conventional therapy.<sup>3,4</sup> Alternative treatment strategies for atypical wounds are under investigation and should be considered to address the current gap in knowledge and clinical management of these patients.

## MATERIAL AND METHOD

We present a case series which evaluates the clinical outcomes of 3 patients with diverse atypical wounds which were refractory to prior treatment, including diagnoses with bullous pemphigoid (BP), pyoderma gangrenosum (PG), and vasculitis. Prior treatment in all cases was converted to a novel Transforming Powder Dressing (Altrazeal®, ULURU Inc., USA)

Transforming Powder Dressing (TPD) is a powder dressing comprised primarily of biocompatible polymers (same as those used in contact lenses). Upon hydration with saline, TPD granules aggregate to form a moist, oxygen-permeable barrier that protects the wound from contamination while helping to manage excess exudate through vapor transportation. Once applied, TPD may be left in place for up to 30 days. Additional powder may be added ("topped off") as needed without requiring primary dressing changes. TPD dries and flakes off as the wound heals.

For application instructions and risks of this device refer to Altrazeal Instructions for Use | EDU - 0014

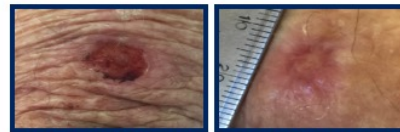
## RESULTS

### BULLOUS PEMPHIGOID

**History:** 89 y/o male with 1.0 x 1.2 cm erosion on left elbow | **Wound Duration:** 3-4 months

**TPD Treatment:** Weekly dressing changes with TPD

**Outcomes:** Fully healed in three weeks



### PYODERMA GANGRENOSUM

**History:** 60 y/o female with 26 years of Crohn's disease, peristomal PG for three years, 27 hospitalizations

**Challenge:** Excruciating pain requiring use of narcotics every six hours. Developed irritant dermatitis from leaking stoma appliance. Required daily or twice a day changes of stomal appliance.

**TPD Treatment:** TPD applied and topped off every 4 days

**Outcomes:**

- Healed PG wound
- Reduced reapplication of stomal appliance from once or twice per day to every four days
- Pain score reduced from 10/10 to 0/10
- Reduced home health visits
- Discontinued all pain medications



### VASCULITIS

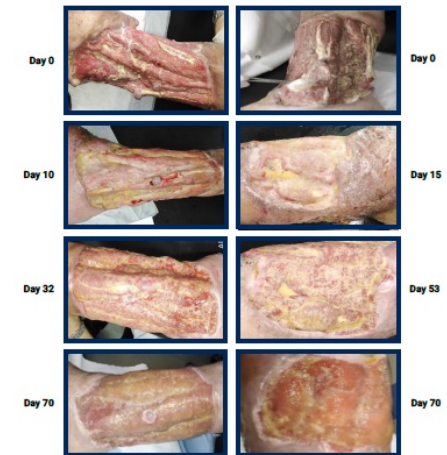
**History:** 42 y/o male with uncontrolled cutaneous vasculitis and history of p. aeruginosa. Developed circumferential venous ulcer on lower extremity with exposed bone and excruciating pain score (9/10).

**Wound Duration:** 4 months

**TPD Treatment:** TPD was changed twice a week for the first week and then on a weekly basis. Amikacin was used for infection control.

**Outcomes:**

- Accelerated granulation facilitated coverage of exposed bone
- Wound bed was ready for grafting in 70 days
- Patient reported reduction in pain immediately after the first application of TPD
- Prevented amputation



## CONCLUSIONS

The implementation of the novel powder treatment showed improvement from a healing perspective in all three cases. The stagnating BP wound was fully healed in three weeks. In the second case, all peristomal skin complications were resolved after using TPD under the stomal appliance and the patient was able to wear the appliance for extended periods without pain or leakage. In the patient with vasculitis, a marked reduction in pain was observed within a few minutes of application of TPD. TPD stimulated granulation to cover the exposed bone and the extensive wound was ready for grafting within ten weeks. The powder form allowed for easy application to wounds of irregular shapes and causes. The reported cases demonstrate the effectiveness of TPD in the treatment of patients with painful or refractory atypical wounds.

### References:

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