

UTILIZATION OF TRANSFORMING POWDER DRESSING TO FACILITATE HEALING IN TREATMENT RESISTANT VENOUS LEG ULCERS

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BACKGROUND

The management of patients with venous leg ulcers (VLUs) is particularly challenging for providers. VLUs can last weeks, months or even years if not properly treated. Skin damage, prolonged healing times, infection, malodor, excessive pain, and diminished quality of life all may develop from excess wound exudate associated with VLUs. Current treatment paradigms for patients with VLUs are often ineffective, resulting in refractory wounds. Alternative treatment strategies are currently under investigation and should be considered for patients whose wounds are resistant to healing with current treatment modalities.

MATERIAL AND METHOD

This case series describes the clinical course of four patients with Stage 4 VLUs refractory to standard of care therapies. Consequently, treatment in all four cases was converted to a novel Transforming Powder Dressing (TPD)*.

Time to healing, frequency of dressing changes and pain scores were evaluated.

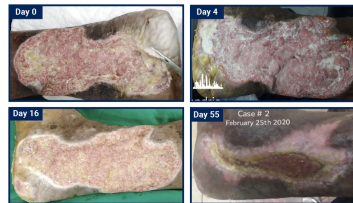
About TPD: TPD is a novel powder dressing comprised primarily of biocompatible polymers (same as those used in contact lenses). Upon hydration with saline, TPD granules aggregate to form a moist, oxygen-permeable matrix that protects the wound from contamination while helping to manage excess exudate through vapor transpiration. Once applied, TPD may be left in place for up to 30 days and additional powder may be added ("topped off") as needed without requiring primary dressing changes. Simple secondary dressings may be used in areas of high exudation or friction. TPD dries and flakes off as the wound heals.

RESULTS

- Patient 1:** 48 y/o male
Wound Duration: 7 months
Pain score: 8/10
Prior Treatment: 4-layer compression changed every 4 days
Outcomes with TPD:
- Healed in 65 days
 - Five TPD applications
 - Reduced dressing changes (every 15 days on average versus every 4 days with SOC)
 - Avoided amputation



- Patient 2:** 48 y/o male
Wound Duration: 24 months
Pain score: 9/10
Prior Treatment: 2-layer compression changed every 3 days
Outcomes with TPD:
- Healed 25cm x 15cm wound in 150 days without grafting
 - 22 TPD applications
 - Reduced dressing changes (every 7 days on average versus every 3 days with SOC)



- Patient 3:** 62 y/o male
Wound Duration: 24 months
Pain score: 8/10
Prior Treatment: 4-layer compression changed every 4 days
Outcomes with TPD:
- Healed in 60 days
 - Reduced pain scores
 - Five TPD applications
 - Reduced dressing changes (every 12 days on average versus every 4 days with SOC)



- Patient 4:** 54 y/o female
Wound Duration: 24 months
Pain score: 8/10
Prior Treatment: 4-layer compression changed every 5 days
Outcomes with TPD:
- Healed in 75 days
 - Reduced pain after 2nd application
 - Seven TPD applications
 - Reduced dressing changes (every 10 days on average versus every 4 days with SOC)



CONCLUSIONS

All 4 wounds (median duration: 24 months, range: 7 to 24 months) healed with a median healing time of 70 days (range: 60 to 150 days) with six TPD applications (range: 5 to 22). Frequency of dressing changes was reduced from once every 3 to 5 days to once every 11 days (range: 7 to 15 days) on average. Pain reduction was experienced in all four cases after TPD application. The reported cases highlight the effectiveness of TPD in the treatment of refractory VLU wounds.

References: Shi, C., Dumville, J. C., Cullum, N., Connaughton, E., & Norman, G. (2021). Compression bandages or stockings versus no compression for treating venous leg ulcers. The Cochrane database of systematic reviews, 7(7), CD013397. <https://doi.org/10.1002/14651858.CD013397.pub2>

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