

OPTIMIZING CARE OF PERI-STOMAL SKIN COMPLICATIONS WITH A NOVEL TRANSFORMING POWDER

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Southeast Region of the Wound, Ostomy and Continence Nurse Society 2023 Conference | Winston-Salem, NC | August 24 – 26

PURPOSE

An estimated 77% of patients with Crohn's Disease and stomas develop peristomal skin issues¹, with complications such as wounds and pyoderma gangrenosum (PG) that are challenging to manage^{2,3}. These patients often experience excruciating pain in the wounds. Enterostomal leakages also exacerbate existing skin damage making it difficult to secure stomal appliances.

The resulting increase in the frequency of appliance and wound dressing changes aggravates pain and frustration, decreases quality of life, and increases overall costs of care. Traditional dressings used to manage such wounds often require daily dressing changes multiplying the time, materials and labor needed to provide adequate care.

The objective of this practice innovation was to test the feasibility of transforming powder dressing (TPD*) in simplifying care of complicated peristomal wounds.

TPD is an extended wear (up to 30 days) powder dressing that, when hydrated, transforms into a moist, oxygen permeable matrix that protects the wound. TPD is made out of methacrylate polymers similar to those used in contact lenses. Upon hydration of the sterile white granules, TPD forms a moist, oxygen permeable barrier that conforms to and seals the wound surface while allowing fluid and gaseous exchange and is designed to control bacterial penetration.

METHODOLOGY

TPD's performance was tested in a challenging case involving a patient with significant systemic and peri-stomal wound complications including:

- Crohn's disease
- Pyoderma Gangrenosum (PG)
- Moisture Associated Skin Damage (MASD)
- Chemical (irritant) dermatitis

She failed improvement of her wound and skin issues after four appliance changes and conventional dressings. She used TPD as a "last resort" after consultation with her gastroenterologist. She was undergoing daily appliance changes and taking narcotics due to severe pain around the stoma. With her gastroenterologist's approval, she stopped her current wound regime and applied TPD directly onto both the PG wound as well as the peristomal skin dermatitis. She then applied the ostomy appliance over the TPD.

THE CHALLENGE: A CASE STUDY

Female, 60 years old with:

- Crohn's Disease for 26 years with 27 hospitalizations
- Ileum resection, colostomy, loop colostomy revision secondary to hernia complication
- Diagnosed with peri-stomal PG 3 years ago
- 18%+ unintentional recent weight loss
- Excruciating pain (10/10 based on VAS score) secondary to PG and irritant dermatitis requiring
 - Narcotics
 - Hospital admissions for pain management
 - Frequent appliance changes due to severe burning pain around the stoma
- Poorly fitting ostomy appliance and irritant dermatitis from leaking stool

Failed Treatments: Tested several devices and dressings. In addition, injectable and topical steroids were tried without improvement. Opioids were taken every six hours to control pain.

Onerous Care Regime: Daily or twice daily appliance changes performed by the patient with homecare nurse visits every other day for ostomy evaluation and wound care.

TREATMENT WITH TPD

TPD was used as a "last resort" after consultation with the patient's gastroenterologist to manage moisture and exudate of peristomal wounds, protect the damaged skin with MASD and cover the PG wounds. TPD was applied after wound cleansing and covered with the appliance. The appliance remained in place over TPD without further leakage of stool.



BEFORE TPD APPLICATION



TPD APPLICATION



IN-BETWEEN TPD APPLICATIONS



2 MONTHS POST TPD TREATMENT

REFERENCES | ACKNOWLEDGEMENTS

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Acknowledgements: Patient self-reported, photographed, and provided to authors with patient permission and encouragement to share her success story with other patients with similar issues. The second author (SRSJ) is a consultant for the manufacturer of TPD. This work was supported by the manufacturer of TPD.

OUTCOMES | CONCLUSION

All peri-stomal skin complications, pain, and wounds were resolved while using TPD. Within one week, pain reduced from severe to minimal and wound quality improved markedly. Skin complications were resolved within days and the appliance was worn comfortably for four days continuously, without pain or leakage. All oral pain medications were discontinued.

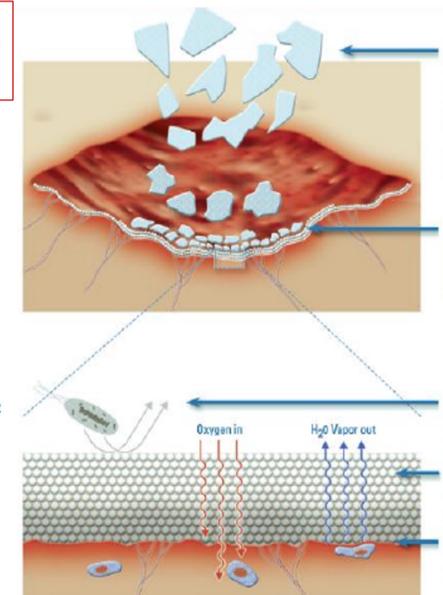
- Pain scores dropped from 10/10 to 0/10 within minutes of TPD application
- All wounds healed within two months
- Significantly improved patient's quality of life
- TPD application also resulted in several cost savings:
 - Reduced home nursing visits
 - Eliminated pain medications
 - Reduced appliance changes, supplies and labor costs
 - Avoided readmission for permanent ileostomy

Conclusion: Challenging ostomy complications can be successfully managed and resolved. Involving specialists and adoption of new technologies like TPD are key to delivering successful interventions and outcomes. Research is needed to investigate the full utility of TPD in peristomal complications.

ABOUT TPD

HOW IT HELPS:

- Wear time up to 30 days: reduces dressing changes, wound disturbance and exposure to infections
- Non-occlusive barrier: blocks entry of external bacteria but allows moisture and oxygen transportation
- Optimum moisture balance: absorbs moisture up to 68% (similar to skin tissue) but permits excess moisture to flow out
- Translucent cover: allows wound inspection without dressing removal
- Enhanced patient comfort: automatically flakes off as the wound heals or may be removed easily and atraumatically if required as it adheres without using adhesives



HOW IT WORKS:

pHEMA (contact lens material) based dressing, scientifically engineered to provide an ideal wound healing environment

Its granules absorb moisture to transform into a transparent, skin-like barrier that seals and protects the wound

Prevents entry of exogenous bacteria

Permits oxygen transportation

Facilitates exudate management via vapor transpiration