

Harnessing the Microbiome to Rapidly Resolve Peristomal Skin Complications

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Almost all ostomates experience peristomal complications at some time. In one study, the incidence ranged from 18-55% but is thought to be grossly under-reported. Factors that predispose patients to complications include poorly sited and poorly constructed stomas, obesity, wound complications, and disease. Common peristomal complications include irritant dermatitis, candidiasis, folliculitis, trauma, contact dermatitis and pseudoverrucous lesions. These alterations in skin integrity result in inflammation, pain, pruritus, and changes in trans-epidermal water loss. All of these changes interfere with successful pouching. Pouch failures result in embarrassing leaks and worsening of these skin conditions with additional exposure to stool, urine, and trauma with frequent pouch changes.

liquid stool and/or urine. Along with the added moisture, the effluent increases the alkalinity of the skin. This damages the important acid mantle integral to skin's ability to withstand skin damage.

This study expands the research on managing refractory Incontinence Associated Dermatitis (IAD) and the importance of pH with chronic wounds. Understanding the importance of achieving an acid mantle, a novel, low pH, microbiome optimizing treatment was used to treat peristomal skin after cleansing and before applying an appropriate pouching system. Prior research with IAD, showed this intervention lowered inflammation, enhanced skin's adhesion, cohesion, and integrity by down regulating a



February 11, 2019

Irritant Dermatitis

Classic irritant dermatitis after multiple pouch failures in the immediate rehabilitation period. Patient taught to use tap water or approved cleanser to clean and then to apply a small amount of the trial product around the stoma. This was dried well before the ileostomy was pouched with appropriate caulking.



February 13, 2019



November 28, 2018

Peristomal Skin Necrosis

Good Pasture Syndrome is a rare autoimmune disease affecting collagen deposition in the lungs and kidneys. Although there is not much research on its effect on skin, this case shows the necrosis and skin erosion secondary to Good Pasture Syndrome following an emergency ostomy surgery secondary to a ruptured diverticulum. The immediate peristomal skin became necrotic but unlike mucocutaneous separation, the necrotic tissue advanced into a full thickness wound with slough and eschar. The surrounding skin and wound base were cleaned with the trial product applied to dry gauze. The wound cavity was then filled with a soft conformable wound filler rehydrated with the trial product. Routine pouching was done with the addition of a thin hydrocolloid base.



January 3, 2019



August 20, 2019

Pyoderma Gangrenosum

Painful lesions greatly improved in both appearance and pain levels when the trial product was applied to the periwound skin and wound bases after cleansing. All wounds were then treated with a gentle, conformable wound filler to minimize pathergy



August 23, 2019



November, 16

Irritant dermatitis threatening incision line

Patient came in immediately after discharge from acute care after repeated pouch failures. Irritant dermatitis had caused inflammation and edema so severe that the incision line was threatened. Peristomal skin cleaned with tap water before being treated with trial product and routine pouching. No powder or skin sealant used. Dramatic improvement 2 days later.



November, 18



Oct. 9, 2018

Mucocutaneous Separation

Full mucocutaneous separation occurred in immune compromised patient. Drainage from the MC separation resulted in inflammation and Moisture Associated Skin Damage. Standard of care cleansing and then treatment with trial product with routine pouching including filler for wound depth. Marked improvement with next visit.



October 11, 2018



September 17, 2018

Contact Dermatitis

Sensitivity to the skin prep resulted in inflammation with a slightly irregular border. Patient complained of pain and itching. Routine cleansing and then treatment with trial product. Patient called to report decreased discomfort later that same day



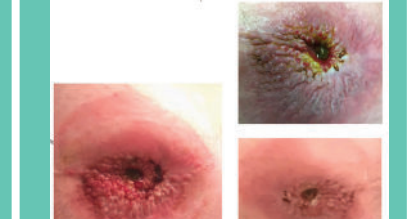
September 19, 2018



September 17, 2018

Pseudoverrucous Lesions

Patient has had pseudoverrucous lesions for years so severe that surgery was required. With this episode, the irregular lesions were cleaned with the trial product and then the area was dried completely before a standard pouch and caulking was applied. Patient removed his pouch out of habit 12 hours later and texted in amazement on how much better the skin looked. The photo he sent showed epithelial regrowth in a mere 12 hours. The following week, the lesions were almost flat and a month later even more improvement. Currently enjoying a routine pouch change every 4 days.



Traditional management involves a variety of treatments including powders and sealants, improved pouching technique, correct use of pouches and accessories, as well as advanced treatments. All of these treatments are aimed at correcting the underlying problem but there is little attention to improving and strengthening the epithelium's outermost layer, the stratum corneum. Skin plays an important role in successful ostomy care as the foundation that the pouching system adheres to. A strong, intact, healthy epidermis and a well-fitting pouching system help assure reliable, sustained, and predictable wear time. Since skin is critical to pouching success, ensuring strong, healthy skin should be a primary goal.

In the specific cases of Irritant Dermatitis and Pseudoverrucous papules and nodules (PPN), it is commonly believed that the underlying cause is prolonged exposure to

group of enzymes that leads to shedding of the stratum corneum. This study with over 20 patients resulted in rapid resolution or significant improvement of peristomal complications in 24-72 hours with a simple application before pouching. This was a marked improvement over standard of care. Additional research is needed to further explore how optimizing the stratum corneum can impact practice in all areas of wound, ostomy, and continence.

REFERENCES

1. Colwell J, Goldberg M, Carmel J. The state of the standard diversion. JWOCN. 2001; 28(1): 6-17.
2. Arumugam PJ, Bevan L, Macdonald L, et al. A prospective audit of stomas-analysis of risk factors and complications and their management. Colorectal Disease. London, UK: Blackwell Publishing;2002;49-52
3. Rolstad B, Erwin-Toth, P. Peristomal skin complications: peristomal skin management. OWM. 2004; 50(9):68-77
4. Paulson D, Topp R, Boykin R, Schultz G, Qingping Y. Efficacy and safety of a novel skin cleansing formulation versus chlorhexidine gulconate. AJIC. 2018. Journal homepage:www.ajicjournal.org
5. Fernandez I S, Merano C, Vano-Galvan S, Olasolo P J. Pseudoverrucous irritant peristomal dermatologist with an histological pattern of nutritional deficiency dermatitis. Derm Online Journal. 2010; 16 (9)