Persistence Pays Off – Managing a Complex Case with an Equally Challenging Complex Medical Condition. One Woman's Journey to Attaining Skin Health.

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Abstract

'Energy and persistence conquer all things' – Benjamin Franklin.

This case study reflects the complexity of challenges that many of our patients face. A challenging diagnosis of a condition that can create negative skin impacts even without a stoma can be problematic at the best of times. By adding emergency stoma formation into this scenario, one could predict there would be peristomal skin challenges almost from the outset. This patient had a difficult journey on her road to recovery. Persistence to meet the challenges head on by both clinician and patient helped in obtaining the positive outcome of peristomal skin health.

Background & Medical/Surgical History

Mrs. G (initial changed to protect privacy) is thirty-six-year-old married female who is working full time. Initially, she was referred to our service for pre-operative stoma site marking. At the time, Mrs. G was an inpatient already of approximately seven weeks, with a diverticular abscess that the medical team had been treating conservatively using percutaneous drainage. Further investigations however, had discovered an abscess on her left ovary and a perforated bowel. She was to be transferred to the local private hospital for urgent surgery the next day.

Mrs. G has a relatively recent diagnosis of granulomatosis with polyangiitis (GPA), formerly known as Wegener's Disease. This is a rare disease of uncertain cause that can affect people of all ages. It is characterised by inflammation in various tissues, including blood vessels (vasculitis), but primarily parts of the respiratory tract and the kidneys.[1,2] Gastrointestinal involvement is less common, and severe intestinal involvement is even rarer.[2] Perforation is one of the most severe and life-threatening complications of GPA.[2] The skin may be affected in 40–50% of patients with granulomatosis with polyangiitis.[3] Skin problems include, ulcers, palpable purpura (raised dark red spots due to small vessel vasculitis), nodules, papules and vesicles (small blisters), pyoderma gangrenosum (rare), and Raynaud phenomenon (white/purple fingers on exposure to the cold) which is also rare.[3]

People with GPA who have critical organ system involvement are generally treated with corticosteroids combined with another immunosuppressive medications. In patients with less severe GPA, corticosteroids and methotrexate can be used initially.[1] The goal of treatment is to stop all injury that is occurring as a result of GPA. Prior to recognising effective therapy in the 1970s, half of all patients with this illness died within five months of diagnosis. Now, over 80% of treated patients are alive at least eight years later.[1] Mrs. G was initially commenced on high dose oral corticosteroids (prednisone 75mg) for a period of 6 months. This was reduced over time, and at the time we first met her, she was on maintenance therapy of 12.5mg daily, however her skin had become very thin and fragile.

Mrs. G underwent a low anterior resection and formation of loop ileostomy. She was discharged twelve days after surgery after an unremarkable recovery. She was referred to our service on discharge for routine review. As she lived out of the geographical area, an appointment was made for her to attend our stoma clinic.

Challenges & Nursing Interventions

When Mrs. G presented to our clinic with her husband two weeks post-surgery, she was visibly anxious and tearful when discussing her surgery and having to have a stoma formed. She described that she was still coming to terms with ending up with a 'bag' and had not yet accepted it. She was looking forward to the day her stoma was reversed, and she could 'return to normal'. She was not confident with her stoma care as she couldn't see her stoma (she had pendulous breasts and large abdominal skin folds) and needed assistance from her husband in changing pouches at home.

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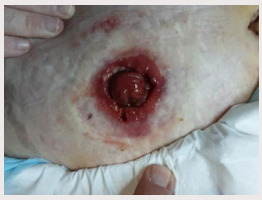

Figure 1 Initial clinic visit. Note mucocutaneous separation and significant PMASD

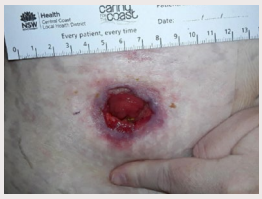

Figure 2 4th clinic visit. Note violaceous peristomal margins and associated ulceration.

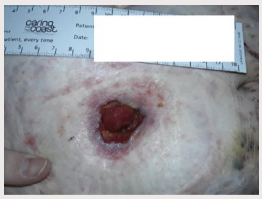

Figure 3 Clinic visit 5. Note improved visual appearance in overall skin condition.

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Upon review, her stoma measured 25mm in diameter, was retracted, and with full circumferential mucocutaneous separation. A small ulcer was visible at twelve o'clock, a hole from a suture at seven o'clock. *(See Figure 1)* She described the area as extremely painful and cried when the peristomal skin was cleansed. Leakage of effluent was noted underneath the skin barrier bathing the skin. This leakage contributed to significant peristomal moisture associated skin damage (PMASD). Her original pouching system was a flat cut-to-fit, two-piece skin barrier with a drainable pouch. This was changed to a pre-cut 25mm convex skin barrier to assist with stoma protrusion and help provide a more secure skin seal. Prior to application, stoma powder was applied all over the red and moist peristomal skin to help absorb the excess moisture and provide a better surface for adhesion of the skin barrier. Stoma paste was also applied around the opening of the skin barrier before application to help provide a more leakproof seal.

Figure 4 Mrs. G applying the convex barrier ring to the skin barrier.

Mrs. G was advised to change the base three times a week and if she experienced pain or felt leakage, to change the pouching system as soon as possible to avoid effluent resting on the skin for extended periods. She asked if she could attend the clinic for her pouching system changes as she felt she was unable to manage herself and was not confident that her husband was applying the products correctly. We determined that if she was willing to come to the clinic, we would do this for an initial period only.

On her second visit we found the pouch intact but silent seepage had started to breach 10mm under the skin barrier. Her stoma now measured 20mm with the mucocutaneous separation still evident. The adhesive border of the skin barrier appeared to be causing some skin sensitisation. The pouching system was reassessed and an Adapt CeraRing™ convex barrier ring sized 20mm was placed over a pre-cut 22mm firm convex skin barrier, smoothed into place with stoma paste again placed around the opening. We find these convex rings are helpful in creating either soft and flexible convexity when applied to flat skin barriers, or if additional depth is required to fill in peristomal defects. Thin hydrocolloid barrier extenders were placed under the adhesive border with stoma powder applied again to the PMASD.

Figure 5 & 6 Applying the stoma paste ahead of pouching system application.

On her third visit, the skin under the barrier extenders appeared improved so the all-barrier two-piece samples were requested. The fourth visit revealed an intact system free from leakage, but a dermal ulcer had developed along the top and this had a sloughy base. Initially it was assumed that the plastic flange from the two-piece had rubbed and possibly created a friction injury. However, there was also another ulcer at seven o'clock that appeared to be the development of peristomal pyoderma gangrenosum (PPG). This ulcer had irregular edges, the typical violaceous border, and localised pain. *(See Figure 2)* The PMASD persisted around the stoma, however her outer skin irritation had settled. Given her medical history, and some of the skin disorders associated with GPA, the suspicion of PPG informed the next management methods.

A hydrofiber dressing (AquaCel™ Ag) was selected for absorbency and to ease the bioburden within the ulcers. Stoma powder was applied to the ongoing mucocutaneous separation, the convex barrier ring was again applied, this time to a pre-cut 25mm two-piece skin barrier, stoma paste, and barrier extenders were used again. She was advised to visit her general practitioner for a prescription of a topical steroidal medication. As PPG is an inflammatory condition and considered the diagnosis for Mrs. G, a topical steroid was introduced to her care plan (mometasone furoate – Elocon™ Lotion) to help manage inflammation. She was advised to change her pouching system every two days and apply this lotion prior to pouching system reapplication.

At her next clinic visit, she reported there were no incidences of leakage, her skin had less redness visually, and she reported a reduction in her pain. *(See Figure 3)* However, the all-barrier products were bases lifting on the edges, so the decision was made to revert to the skin barriers with the adhesive border.

Mrs. G visited us several more times over the subsequent weeks. We had to continuously make tweaks here and there with her management as her situation warranted. Many mini steps were taken to optimise her care including dietary changes to reduce high output, adding ostomy belts, and continued minor modifications to her pouching system.

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Most importantly, the education regarding her self-care was crucial to her overcoming all her obstacles. Simple steps around preparation ahead of time including how to correctly apply the convex barrier ring to the skin barrier *(See Figure 4)* and correctly apply stoma paste, *(See Figures 5&6)* before applying the barrier were instrumental in her journey to self-care with confidence. She also assists with stretching of her skin to ensure a smoother skin surface for product application. Her skin continued to improve and on her thirteenth visit (6 weeks after surgery) her skin appeared greatly improved *(See Figure 7)* and she expressed greater comfort with her pouching system. *(See Figure 8)*

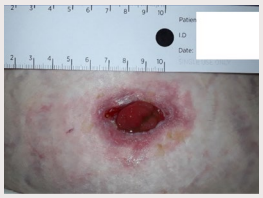

Figure 7 Peristomal skin appearance six weeks post-surgery.

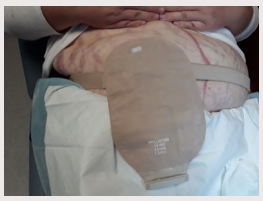

Figure 8 Pouching system in place.

Conclusion & Reflection

Mrs. G ultimately became self-caring and was able to manage at home. While minor challenges continue to persist, she also persists in return. We no longer see her in clinic, and she reports that her skin issues have resolved, and that she now remains leak free. From a stomal therapy nurse perspective, tenacity also mattered in achieving the desired outcomes. Making small but important changes to ensure a secure skin seal was the primary objective and ultimately, peristomal skin health should always be the goal of care. This was a challenging and complex case with comorbidities creating additional considerations for patient management that were overcome through persistence.

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