Management of a Double Barrel Stoma and Ileal Conduit

Abstract:
The management of more than one abdominal stoma with liquid output in close proximity to each other, can create skin management and pouching system challenges for the clinician. Skin barrier selection is important when trying to achieve optimal wear time for the patient. This challenge can be compounded when the patient is confused and unable to understand the reason for the presence of ostomy pouching systems attached to his/her abdomen.

Aim:
To restore and maintain peristomal skin integrity by providing a secure skin barrier seal. This promotes skin protection against corrosive leakage from both stomas, while minimizing the risk of traumatic skin stripping from repeated skin barrier removal.

Setting:
This patient was admitted to an acute care hospital in Australia early June, 2010 for an elective cystoprostatectomy and ileal conduit formation for bladder and prostate cancer. The patient led an active social life and was in good health. He had no co-morbidities or known allergies.

Patient Overview:
The patient developed an acute abdomen. He underwent an urgent laparotomy, peritoneal lavage, repair of left ureteric anastomosis, small bowel anastomosis, double barrel stoma, omentoplasty secondary to leaking small bowel, and left ureteric anastomosis leakage. He tested positive on swabs for Vancomycin-Resistant Enterococci (VRE) and was nursed in isolation.
**Problem:**

There was a delay in referring the patient to the stomal therapy department until later the same month. On examination, the ileal conduit was leaking and the double barrel stoma was covered by an occlusive dressing and gauze. The patient was in a medically induced coma and on respiratory support. The ileal conduit and the double barrel stoma were 2.5 cm apart with the ileal conduit positioned below the fecal stomas (Photo 1). The ureteric stents were intact in the ileal conduit. The midline suture line was left open and a leaking left ureter was draining one to two liters per day through a separate drain tube.

The ileal conduit was very healthy and measured 30 mm, was oval in shape, and had two stents. The stoma was flush with the skin level. Only the right stent was working. The double barrel stoma (terminal ileostomy and ascending colostomy) was retracted below the skin level between two and five o’clock, measured 38 mm, and had no output at that point. The distance between both stomas was 2.5 cm and located in a skin fold (Photo 2).

**Interventions:**

When leakage occurred, the peristomal skin became extremely moist. Severe skin damage resulted from the degree of burning from the acidic output. It was critical that the products used provided security, an environment which encouraged healing, and a reduction in the pain experienced by the patient — as pain added to his restlessness.

Convexity solutions are often the product of choice when pouching problematic stomas1. After deliberation and consideration of the issues of ease of use, cost containment, minimization of nursing time2, patient comfort, and using a pooled knowledge of convex products available, the products selected for both stomas were from the New Image product line. The specific features considered were cut-to-fit convex FlexWear skin barriers with tape border, and matching pouches. Differing flange sizes were required — 44 mm for the ileal conduit, and 57 mm for the double barrel stoma.

Previous experience with the FlexWear skin barrier gave reassurance that if the pouching system could remain intact for only 24 hours, a marked improvement in skin healing and integrity would soon follow.

Hydrocolloid seals were used to aid in skin protection and build up the edge closest to the wound. Stoma paste was used to aid in cementing the skin barriers (Photo 3). Twice a week and whenever necessary, the products were changed (Photo 4).
Additionally:

- A vacuum-assisted closure dressing was applied to the suture line to contain and remove excessive exudate and promote wound healing
- A left nephrostomy tube was inserted to reduce urinary output into the drain tube
- The patient was weaned off the ventilator and it became apparent that he was having delirium episodes. During one episode he pulled off all the dressings and pouches, and removed the nephrostomy tube. This caused increased urine leakage into the abdominal cavity
- All the drain tubes were removed. The urine continued to leak into the left side of the pelvis and drained through the laparotomy site, leading to continuing issues with extreme moist wound exudate. Management of this was aided by the use of the vacuum-assisted closure dressing system

Outcomes:

The desired outcome was for skin barrier changes twice per week, and to slowly involve the patient in regaining his independence. However, this did not occur due to several contributing factors:

- The wound exudate would dissolve the skin barriers prematurely when the wound dressings were insecure. When the wound was dressed as needed with an alginate dressing and pad, the skin barriers lasted three days
- The Stomal Therapy staff provided the ward nursing staff with additional resources and support including pictorial care plans, a USB flash drive with information, and staff education to assist them in coping with the patient’s changing needs in a very difficult situation. The patient was not able to manage his own care at all through this period
- The delirium continued; there may have been early signs of short-term memory loss
- The patient was very adept at removing the belts and bags inappropriately
- High-level isolation nursing was necessary due to the patient’s associated infection, resulting in the additional psychological distress of the patient
- The patient became more agitated as the day progressed – so-called ‘Sundowners/Sundowning syndrome’
Conclusion:
This case was very challenging and complex from several angles. The Stomal Therapy nurses tried to achieve the criteria of a leak-proof seal, easy application, and the use of skin-friendly products with some considerable success. However, additional external factors previously discussed in the article directly impinged on the wear time of the pouches and the patient’s stoma care management. The FlexWear skin barrier achieved a wear time of three days. Given the external factors that could negatively impact the wear time, this was considered a good result.

The patient was eventually transferred to a rehabilitation facility once his wound had healed. A Stomal Therapy Nurse reviewed the case twice weekly and had been involved with his care planning since he was first admitted. Sadly the patient passed away before the double barrel stoma could be reversed.

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References: