

# A Technique for a Difficult Stoma Causing Severe Skin Problems

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## ABSTRACT

*Severe skin problems due to ineffective stoma care cause difficulties for both patients and surgeons. Here, a simple but useful technique was used to overcome such a problem. Although it appears to be outdated, this technique can work when necessary. Stoma care may be difficult when the stoma is produced under urgent and difficult conditions. Despite modern stoma care techniques and products, they are sometimes insufficient, and complaints of patients with burns to the skin around the stoma rank first among the primary problems of patients. We report herein an emergency patient who underwent a wide proximal loop jejunostomy, and we describe his stoma care problems and the method used to overcome these difficulties. Stoma care was provided by suturing a nylon camera cover, used in laparoscopy, around the stoma.*

**Key words:** Stoma care, Jejunostomy, Skin problems

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## ÖZET

### Zor Bir Stomaya Bağlı Ciddi Cilt Tahrişinden Korunmak İçin Bir Teknik

*Acil şartlarda, zorlukla yapılan stomalardan sonra stoma bakımı güç olabilir. Modern stoma bakım teknikleri ve ürünlerine rağmen stoma çevresi cilt yanıkları hastalarda ciddi şikayetlere neden olabilir. Burada acil şartlarda yapılan geniş ağızlı proksimal loop jejunostomili bir hastada stoma bakımındaki zorluklar ve bunu aşmak için kullanılan bir yöntem tariflendi. Stoma çevresine laparoskopide kullanılan kamera kılıfı dikilerek stoma bakımı sağlandı. Bu basit teknik ihtiyaç olduğunda işe yarayabilir.*

**Anahtar kelimeler:** Stoma bakımı, Jejunostomi, Cilt sorunları

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## INTRODUCTION

Peristomal skin problems are the most common complication following stoma operations, and are more frequent when created under urgent and difficult conditions. Our objective with this report was to share our treatment method for such serious skin complications.

## CASE REPORT

### Stoma Creation

A 32-year-old male patient had undergone ileocecal resection and ileocolonic anastomosis with a diagnosis of internal herniation resulting in intestinal ischemia. On post-operative day 4, relaparotomy was performed due to intestinal content leaking from the skin incision. Exploration during surgery revealed leakage from the ileocolonic anastomosis and generalized peritonitis. The distal portion of the anastomosis was closed with stump formation and the ileal segment of the anastomosis became an end-ileostomy. Following the bile-containing drainage observed through the skin incision on post-operative day 7, relaparotomy was performed, and three perforations in close proximity were observed 20 cm from the Treitz ligament. The perforations were incised and connected to form a defect of 6 x 3 cm. The intestinal segment with this opening was removed from the abdomen to produce an end jejunostomy. Intestinal segments were observed to be extremely edematous, with a dimension of 5 cm, and the distance from the Treitz ligament was not long enough to allow an appropriate location for a stoma. The Treitz ligament was mobilized in order to reduce the tension. As a result, the stoma was located close to the left subcostal region. A skin segment of 6 x 6 cm was excised for the anastomosis to the skin. Peritonitis was treated with the "open abdomen" method, with a border close to the stoma.

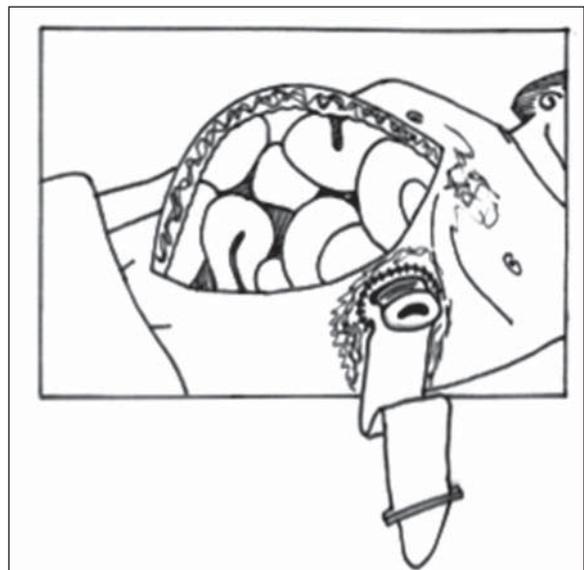
### Skin Problems

Systemic and abdominal septic findings decreased postoperatively; however, the proximal jejunostomy care, which was edematous, wide and with a high output, became complicated. High flow of fluid with a content of gastric acid, bile and pancreatic secretion caused erythema and irritation of the skin. Various preventive and treatment methods were applied to the skin lesions. Initially, the peristomal skin was cleansed with lotion and powdered, and a paste was applied before attaching wide stoma bags. The bags were detaching easily from the skin; therefore, wide wound dressings were attempted, with additional paste appli-

cation. The technical difficulty of stoma bag adhesion (as a result of being close to the subcostal arcus), wide dimensions of the stoma, high outflow (proximal jejunum), irritant effect of the intestinal content, and skin maceration resulted in frequent detachment of the stoma bag. One week later, complaints of the patient related to the skin lesions surpassed his abdominal complaints. Intestinal content draining throughout the stoma was contaminating his bed. The developed burn lesions that originated at the upper left quadrant extended to the left lumbar region. The patient avoided mobilization, which is encouraged during the postoperative period, and became bedridden. An aluminium-containing paint was applied to the skin in order to prevent further lesions, but the material could not cover the lesions due to the intestinal fluid leakage.

### Solution

One of the authors offered to attach the camera sheath used for the laparoscopic telescopic device during the operation, circumferentially around the stoma, using continuous sutures. This offer was considered to be reasonable as all of the classic methods had failed. Informed consent was provided by the patient and the family. Under local anesthesia, a single use nylon camera sheath was attached to the skin using 3/0 Prolene continuous sutures in the operating room (Figure 1). The suture line was supported with colostomy paste. A colostomy bag was not attached. Following the procedure, intestinal content was



**Figure 1. Attachment of the camera sheath around the stoma.**

observed to drain throughout the sheath. On the distal end of the sheath, a colostomy bag was connected to collect the drainage content. Aluminium-containing paint provided coverage for the burn lesions. After the patient's complaints decreased, he began mobilization. Over the following 10 days, stoma care was uneventful, but on the 10<sup>th</sup> day, leakage from the suture line developed. The sheath was replaced with a new one using the same suture material and technique. During this entire period, the patient received total parenteral nutrition. Six weeks after the jejunostomy operation, the proximal stoma was closed with jejunostomy. Five weeks later, the distal stoma was closed with ileo-colostomy. Throughout this period, no further skin irritation occurred.

### DISCUSSION

Skin lesions may develop as a result of allergic reactions to stoma care products or frequent renewal of the stoma bags. However, the most common reason is due to contact of stoma content with the skin<sup>[1,2]</sup>. Although these lesions may develop at any time after surgery, 25% of them develop during post-operative two weeks, 40% during post-operative six weeks and 20% during post-operative 12 weeks<sup>[3]</sup>.

Skin lesions are 1.5-fold more frequent among ileostomy patients compared with patients with colostomy<sup>[4]</sup>. There is no previous study in the literature about skin lesions in jejunostomy patients. However, it is not surprising to observe skin lesions more frequently among jejunostomy patients when compared with ileostomy or colostomy patients, when considering the content of the jejunostomy, which is rich in enzymatic products. Skin lesions are more frequent in patients with stomas produced under urgent conditions, with a lack of pre-operative stoma location determination and with poor stoma care. Jejunostomy or ileostomy (versus colostomy), being a loop-ostomy rather than an end-ostomy, and a wide stomal orifice are also associated with an increase in skin lesion frequency<sup>[5]</sup>.

Skin lesions that result in poor outcomes in terms of the patient's quality of life may be prevented with proper stoma care. Burt-McAliley et al. developed a

peristomal skin burn grading system in which Grade 1 represents normal skin and Grade 4 represents impaired skin integrity<sup>[6]</sup>. Our case progressed from irritation to Grade 4, skin integrity impairment, in a short period as a result of the high enzymatic content and outflow of the output. Most of the well-known skin care formulas did not succeed in reversing the progression of the skin lesion. We sutured a nylon material circumferentially around the stoma, providing a better quality of life until closure of the stoma.

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