

# Correction of an end colostomy prolapse with the Delorme technique

## A case report



*Ann. Ital. Chir.*, 2012 83: 567-569  
pii: S0003469X12018507

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### Correction of an end colostomy prolapse with the Delorme technique. A case report

**INTRODUCTION:** *We report a case of correction of an end colostomy prolapse with Delorme technique in an advanced stage oncologic patient to emphasize the clinical implications and advantages of this procedure.*

**CASE REPORT:** *A 51-year-old male patient with a stage IV rectal adenocarcinoma underwent laparoscopy for a palliative end colostomy at our institution. Approximately 6 months later, a prolapse of the colostomy occurred during chemotherapeutic treatment. The patient complained of progressive onset of pain and bleeding during defecation as well as difficulty managing the pouch system. Given the stage of the disease and the on-going chemotherapy, a minimally invasive approach was desirable for prolapse correction and we opted for the Delorme procedure under local anesthesia. The post-operative course was excellent with no complications, the symptoms regressed rapidly, and defecation was normal immediately after surgery. The patient was discharged on the second post-operative day. After discharge the stoma was periodically controlled, confirming the success of the procedure. The last clinical evaluation was performed 3 months after surgery and stability was observed.*

**CONCLUSIONS:** *The Delorme technique is a minimally invasive procedure used to correct an end colostomy prolapse. This technique guarantees excellent results in selected patients and permits the avoidance of more invasive procedures.*

**KEY WORDS:** Colostomy, Delorme procedure, Prolapse, Stoma.

### Introduction

Stoma prolapse is one of the most common complications of a colostomy, and several surgical techniques with different grades of invasiveness have been proposed for correction. The Delorme procedure is usually employed to correct a rectal prolapse. In the present case report we describe a different use of this technique for treating an end colostomy prolapse to emphasize the clinical implications and advantages of this procedure.

### Case report

A 51-year-old male patient with stage IV rectal adenocarcinoma underwent laparoscopy for a palliative end colostomy at our institution. Approximately 6 months later, a prolapse of the colostomy occurred during chemotherapeutic treatment. The patient complained of progressive onset of pain and bleeding during evacuation as well as difficulty managing the pouch system. A surgical evaluation confirmed the presence of a complete prolapse of approximately 10 cm in length.

The Delorme procedure was chosen and performed under local anaesthesia with Marcaine - Adrenaline 0.25%. Mucosal tattooing was initially performed for approximately 1 cm from the stomal margin. The mucosa was then separated from the muscularis propria approximately 10 cm from to apex of the prolapse. Subsequently, we resected the mucosal surplus and positioned eight polydioxanone (PDS) 3/0 sutures, four cardinal and four intermediate, to create a muco-mucosal anastomosis. The muscular layer was folded the entire length of the pro-

*Pervenuto in Redazione Novembre 2011. Accettato per la pubblicazione Dicembre 2011*

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lapse. Once the sutures were tightened, we completed the anastomosis by adding more PDS 3/0 sutures.

The post-operative course was excellent with no complications, and defecation was normal immediately after surgery. The patient was discharged on the second post-operative day and continued chemotherapeutic treatment without any interruption. After discharge, the stoma was periodically controlled, confirming the success of the procedure. The last clinical evaluation was performed 3 months after surgery, and stability was observed.

## Discussion

Creating an intestinal stoma is commonly employed to treat several pathological conditions of the gastrointestinal tract. In the US, approximately 450,000 patients are living with stomas, and the number of new stomas increases by 3% per year<sup>1</sup>. About one-third of stomas are colostomies, and several laparoscopic or laparotomic procedures are available to create a colostomy<sup>2</sup>. Various early and late complications of such procedures are described in the literature, particularly after open procedures or when used in patients with an intestinal occlusion. The most common early complications reported are stoma ischemia, stenosis, muco-cutaneous separation, and fistulas, whereas the most frequent late complications described are skin irritations or ulcerations, a parastomal hernia, and stomal prolapse or retraction<sup>3</sup>.

Stomal prolapse is one of the most common complications of a colostomy, as it compromises the patient's quality of life and is commonly associated with morbidity. The incidence of prolapse varies between 1 and 16% of colostomies and depends on the type of colostomy and the age of the patient; stomal prolapses are more frequent in paediatric patients<sup>3,4</sup>. Two types of stomal prolapses have been described: a fixed type, which generally results from a technical error, and a sliding type, which is mobile in length and more susceptible to incarceration. A parastomal hernia is also present in approximately 50% of cases<sup>5</sup>. The causes of such conditions are not always clear and seem to depend on defects of surgical technique, inappropriate education of the patient and stomal care, obesity, chronic obstructive pulmonary disorder, bowel redundancy and weak fascia. The typical technical errors include improper stomal site, oversized aperture, and redundancy of the bowel at the stomal site.

The treatment for a stomal prolapse depends on the type and entity of the prolapse. Minimal asymptomatic prolapses can be managed conservatively without surgery, but surgery is necessary when a prolapse becomes large. If the stoma is temporary, the first option is to take-down the stoma and perform an anastomosis to restore intestinal continuity. However, a corrective surgical intervention must be performed for permanent stomas. There are two possible surgical accesses. One is parastomal with

local resection and recreation of the stoma and the other is an intra-abdominal procedure. Several techniques have been described for both types of access, such as simple parastomal reconstruction and laparotomic or laparoscopic repositioning with or without mesh and with or without staples<sup>3,6,7,8</sup>. The primary objective is to recreate the stoma using a less invasive method. This aim guided us to prefer the Delorme procedure in the case described herein.

Delorme described the procedure for correcting an external rectal prolapse in 1900, consisting of mucosal stripping of the previous dilatation of the anus and separating the mucosa from the sphincter and the muscularis propria, which then undergoes plication<sup>9</sup>. Although this surgical technique is still employed to treat a rectal prolapse, it has been very rarely described for treating a stomal prolapse<sup>10</sup>. We preferred this minimally invasive technique after considering the tumour stage of this patient, which permitted only palliative treatment and did not invalidate the advantages of the laparoscopic approach employed to create the colostomy. A more invasive procedure may have caused interruption and delay of chemotherapeutic treatment. Furthermore, the psychological impact of a new invasive surgical operation should be considered in such patients. Conversely, it is possible to perform the Delorme procedure under local anaesthesia and in a day-surgery regimen. The functional and aesthetic results obtained were excellent and the patient's quality of life improved significantly.

## Conclusions

The Delorme technique is an easy to perform minimally invasive procedure used to correct an end colostomy prolapse. This technique guarantees excellent results in selected patients and permits the avoidance of other more invasive laparotomic or laparoscopic procedures.

## Riassunto

**OBBIETTIVO:** Illustrare le implicazioni cliniche e i vantaggi della tecnica Delorme applicata alla correzione del prolasso di una colostomia terminale, confezionata a scopo palliativo in un paziente con carcinoma del retto in stadio avanzato.

**CASO CLINICO:** un paziente di sesso maschile e di 51 anni, affetto da carcinoma del retto in stadio IV, è stato sottoposto a confezionamento di colostomia terminale in videolaparoscopia per palliazione nel nostro Istituto. Circa sei mesi dopo l'intervento chirurgico, è stato osservato un prolasso della colostomia associato a progressiva insorgenza di dolore e sanguinamento durante la defecazione e difficoltà da parte del paziente nella gestione della stomia stessa. Dato lo stadio della malattia, il trattamento chemioterapico in corso e la necessità per un

approccio minimamente invasivo per la correzione del prolasso, abbiamo fatto ricorso alla tecnica Delorme eseguita in anestesia locale. Il decorso postoperatorio è stato eccellente con rapida regressione della sintomatologia e in assenza di complicanze ed il paziente è stato dimesso in seconda giornata postoperatoria. L'ultimo esame clinico di controllo effettuato tre mesi dopo l'intervento confermò la correzione del prolasso.

**CONCLUSIONI:** la tecnica Delorme è una procedura minimamente invasiva, eseguibile in anestesia locale, in grado di correggere ottimamente il prolasso stomale in pazienti selezionati.

## References

1. Turnbull GB: *Ostomy statistics: the \$64,000 question*. *Ostomy Wound Manage*, 2003; 49(6):22-23.
2. Husain S, Cataldo TE: *Late stomal complications*. *Clin Colon Rectal Surg*, 2008; 21(1):31-40.
3. Kim JT, Kumar RR: *Reoperation for stoma related complications*. *Clin Colon Rectal Surg*, 2006; 19(4):207-12.
4. Nour S, Beck J, Stringer MD: *Colostomy complications in infants and children*. *Ann R Coll Surg Engl*, 1996; 78(6):526-30.
5. Allen-Mersh TG, Thomson JP: *Surgical treatment of colostomy complications*. *Br J Surg*, 1988; 75:416-18.
6. Hata F, Kitagawa S, Nishimori H, Furuhashi T, Tsuruma T, Ezoe E et al.: *A novel, easy, and safe technique to repair a stoma prolapse using a surgical stapling device*. *Dig Surg*, 2005; 22(5):306-309.
7. Canil K, Fitzgerald P, Lau G, Cameron G, Walton M: *Button-pxy fixation for repair of ileostomy and colostomy prolapse*. *J Pediatr Surg*, 1995; 30(8):1148-149.
8. Ferguson HJ, Bhalerao S: *Correction of end colostomy prolapse using a curved surgical stapler, performed under sedation*. *Tech Coloproctol*, 2010; 14(2):165-67.
9. Delorme R: *Sur le traitement des prolapsus du rectum totaux pour l'excision de la musculature rectale ou rectocolique*. *Bull Mern Soc Chir Paris*, 1900; 26:499-518.
10. Abulafi AM, Sherman IW, Fiddian RV: *Delorme operation for prolapsed colostomy*. *Br J Surg*, 1989; 76:1321-322.

