

Laparoscopic Deloyers Procedure as a Salvage Technique for Colorectal Anastomosis: An Alternative to Total Colectomy

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Abstract

Introduction: The Deloyers procedure is a valuable technique used in reconstructing bowel transit following an extended left colectomy, a Hartmann-type colostomy, or repeated colon resections. It enables the creation of a tension-free colorectal or coloanal anastomosis. **Case presentation:** A 60-year-old female patient presented for consultation regarding the closure of a colostomy. Her medical history included segmental colectomy of the sigmoid and descending colon, resulting in a Hartmann-type colostomy due to complicated diverticulitis. The patient underwent laparoscopic surgery, during which a segment of the transverse colon with a short mesocolon was identified. Due to the complete release of the colon, a colorectal anastomosis could not be performed. As an alternative to preserving the ileocecal valve and achieving a tension-free colorectal anastomosis, the patient underwent the Deloyers procedure. **Discussion:** The Deloyers procedure involves tension-free anastomosis between the right colon and the rectum or anus. It includes complete mobilization and a 180° counterclockwise rotation of the hepatic angle and the right colon. The right and middle colic vessels are divided, while preserving the ileocolic pedicle and the ileocecal valve, thus avoiding the need for total colectomy and ileorectal anastomosis, which may yield unsatisfactory functional outcomes. **Conclusion:** The Deloyers procedure represents a viable alternative to ileorectal or ileoanal anastomosis, offering satisfactory functional outcomes.

Keywords

Colectomy, surgical anastomosis, colostomy, ileocecal valve.

INTRODUCTION

The Deloyers procedure is a technique that consists of an anastomosis between the right or transverse colon and the rectum or anus after complete mobilization and rotation of the right colon, preserving the ileocolic vessels. It is advantageous in reconstructing intestinal transit after an extended left colectomy, Hartmann-type colostomy closure, or iterative colonic resections. In these situations, when the residual colon cannot reach the rectal stump without tension, the Deloyers procedure for tension-free colorectal or

coloanal anastomosis can be used as an alternative technique to avoid total colectomy and ileorectal anastomosis^(1,2).

CASE REPORT

A 60-year-old woman attended the clinic for colostomy closure, a critical history in the medical record. Three years earlier, she underwent a segmental colectomy of the sigmoid and descending colon and was referred to with a Hartmann-type colostomy due to an episode of complicated diverticulitis. She had preoperative imaging studies; colon by rectal

enema indicated a rectal stump inferior to the promontory, and proximal ostomy colonoscopy showed a segment of the transverse colon and normal right colon.

The patient was taken to laparoscopic surgery, where four disposable trocars were used, two of 12 mm and two of 5 mm, and a short segment of the descending colon with a short meso was found. When freed entirely, the colorectal anastomosis could not be performed. Therefore, we decided to perform the Deloyers procedure using a completely laparoscopic approach. With advanced bipolar energy, the transverse colon was released, including the hepatic and splenic angle and the right colon. The middle colic vessels were ligated proximally with Hem-O-Lok clips, preserving the ileocolic vessels through which the colonic remnant will receive irrigation from the marginal arteries. Once complete mobilization of the colon was achieved, a standard appendectomy was performed since the caecum and distal ileum were going to be located in the hepatic position, which in the future would have diagnostic difficulties in the acute event of appendicitis. Subsequently, counterclockwise rotation was performed around the axis of the ileocolic vessels of the right colon to conduct the tension-free colorectal anastomosis with circular mechanical suture number 29. She had a satisfactory clinical evolution during the hospital stay, for which she was discharged on the third postoperative day.

DISCUSSION

The Deloyers procedure was first reported in 1964 by Dr. Lucien Deloyers. He performed complete mobilization of the right colon (**Figure 1**) and counterclockwise rotation around the axis of the ileocolic vessels, allowing colorectal or coloanal anastomosis with no tension and correct perfusion preservation⁽³⁾.

It is generally performed by open surgery, although the Deloyers laparoscopic procedure is feasible and safe but requires trained teams⁽⁴⁾. Indications for this procedure are generally tumors of the left colon (e.g., splenic flexure), synchronous colorectal cancers, rectal resections, ischemia of the left colon after inferior mesenteric artery ligation, Hirschprung's disease, severe constipation, and reconstructions of complex intestinal transit, or iterative colonic resections when the anatomy is not favorable to allow a tension-free transversorectal or anal anastomosis^(1,5,6).

The procedure aims to achieve a tension-free anastomosis of the right colon and rectum or anus after complete mobilization and 180° anticlockwise rotation of the hepatic angle and the right colon (**Figure 2**). The right and middle colic vessels are sectioned, with preservation of the ileocolic pedicle and ileocecal valve, avoiding the need for total

colectomy and ileorectal anastomosis, for which functional results may be unsatisfactory (**Figure 3**)⁽¹⁾.

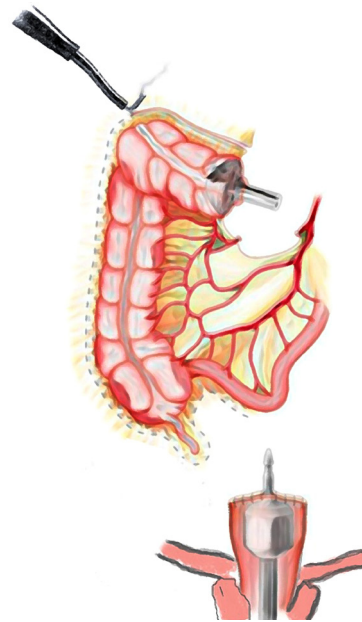


Figure 1. Release and mobilization of the right colon laparoscopically with monopolar energy and Hook forceps. Image owned by the authors.

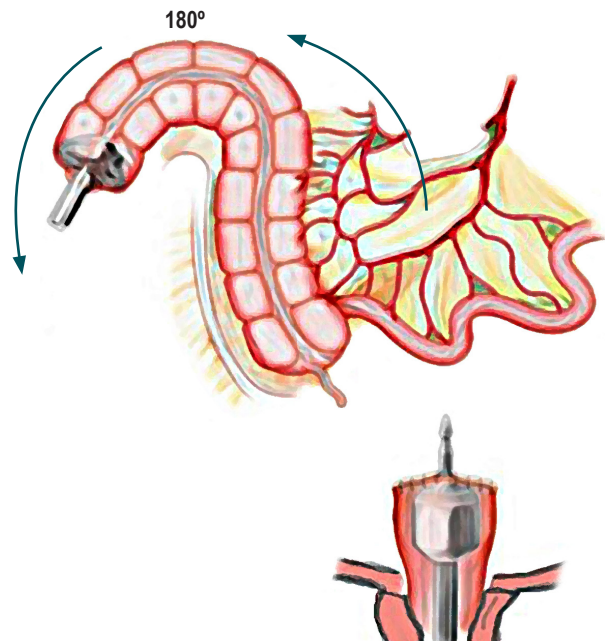


Figure 2. 180° rotation of the right colon on the ileocolic vascular pedicle. Image owned by the authors.

For the treating surgeon, it is vital to have a variety of surgical options to the conventional ones when reconstituting intestinal transit and to consider the Deloyers procedure as a safe technique and a possible alternative to ileorectal

anastomoses when there is not enough remaining colon length to perform a traditional colorectal anastomosis after a resection.

Our patient's procedure was performed using a completely laparoscopic approach, using advanced bipolar energy. The operating time was 3.5 hours. No intraoperative complications were recorded.

CONCLUSION

We deem the laparoscopic Deloyers procedure a safe and feasible technique and a viable alternative to the ileorectal or ileoanal anastomosis with satisfactory functional results.

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None.

Conflicts of interest

There are no conflicts of interest.

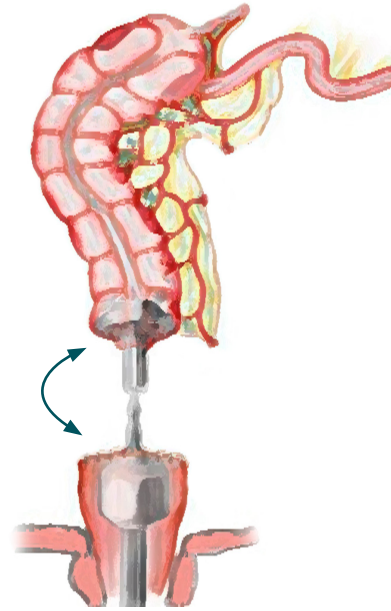


Figura 3. Anastomosis colorrectal sin tensión, preservando la válvula ileocecal. Imagen propiedad de los autores.

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