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## Case Report

# Anastomotic Fistula after a Laparoscopic Left Colectomy - A Simple Suture Can Be an Option? -

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## ABSTRACT

Colorectal anastomosis leak is a frequent complication in general surgery which is related to significant morbidity and mortality. Nowadays, several approaches are utilized, frequently invasive for the patient. Nevertheless, a common strategy for anastomotic leak management has not been identified. We report a simple suture and drainage as a solution for an anastomotic fistula after left laparoscopic colectomy for diverticular disease, associated to reduced interventional time, minimal invasive for the patient and a good surgical outcome. Nevertheless this surgical solution should be applied for well selected patients.

## INTRODUCTION

Despite advances in modern colorectal surgery, anastomotic leak of colorectal or coloanal anastomosis, cause significant morbidity and mortality. However, there is no consensus on the management of colorectal anastomotic leak. Currently operative procedures in case of fistula can vary from simple suture with drainage to resection of the anastomosis and closure of the rectal stump with end colostomy (Hartmann's procedure).

We report a simple suture and pelvic drainage of an anastomotic fistula after a left laparoscopic colectomy for diverticular colic disease with a uneventful postoperative course.

## CASE PRESENTATION

A 40-years old patient, who had a laparoscopic left hemicolectomy for sigmoidal diverticulosis 14 days before, presented at the emergency room for diffuse abdominal pain more important in the pelvic region, nausea and vomiting. Clinical abdominal examination revealed signs of parietal defense and positive Blumberg sign. The abdominal auscultation reveals no peristalsis. The vital parameters were normal. The laboratory investigations revealed: CRP 18 mg/L (normal < 5 mg/L). An abdominal CT scan showed moderate fat infiltration of the peri-anastomotic area and free intraabdominal air without collection at this level.

We decided then to perform an explorative laparoscopy under general anesthesia. Four trocars were placed: one of 12 mm in umbilical position and three of 5 mm in right iliac fossa, right and left flank. During explorative procedure, we noticed a posterior small abscess and a posterior anastomotic dehiscence of the anastomosis on the posterior side evaluated at < 5 mm. We closed the dehiscence with a figure of eight silk suture (Figure 1&2). Peritoneal cavity was washed and two silicon multitubular drainages were positioned: next to the fistula suture and one in Douglas space. The patient was discharged after a rapid recovery of the intestinal function and did not presented any further complication.

## DISCUSSION

The risk of colonic anastomotic leak ranges between 1.5% and 23%, increasing for low colorectal and coloanal anastomoses. The presentation can be widely variable, as is its definition. Some patients present with sepsis and peritonitis while others have a more insidious course with fever, leukocytosis and abdominal pain [1-5].

Murray et al evaluated the association between laparoscopic and open approaches on leak rate. The overall leak rate was 3.4%; 2.8% in the laparoscopic group and 4.5% in the open group. Two randomized trials, however, did not show a difference in leak for colorectal anastomosis between laparoscopic and open procedures, although surgeons were likely earlier in their laparoscopic learning curve in those series.

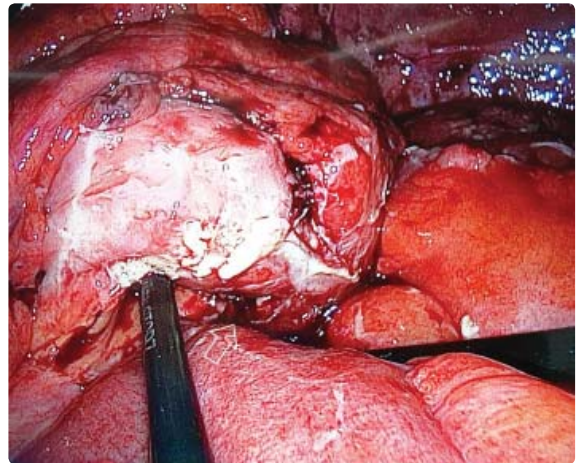


Figure 1: Intraoperative image- minimal contamination of the peritoneal cavity.



Figure 2: Intraoperative image- direct visualization of the fistula.

Multitudes of risk factors for anastomotic leak have been described in the literature. The location of the anastomosis, defined as intraperitoneal versus extra-peritoneal, has been shown to be directly related to the risk of leak: more distal anastomoses had higher leak rates and particularly ultralow or coloanal anastomoses had the highest leak rate (8%) [6]. A retrospective review of 382 patients undergoing colorectal resection evaluated the impact of the number of staple fires required for rectal division on leak rates and particularly three or more stapler loads were associated to an increased risk [7].

Individuals' factors have been also identified as risk factors for anastomotic leak. Several large, retrospective studies have described modifiable and non-modifiable patients factors possibly related



to increased risk of anastomotic leak including diabetes, smoking, anemia, neoadjuvant radiation, increased operative time and emergency surgery. Young age was also identified as an individual factor for colorectal anastomotic fistula [8,9].

The management has changed over the past several decades and many new techniques are now available, with the goal of preservation of the anastomosis and restoration of gastrointestinal continuity with good functional recovery. Traditionally, the treatment of choice for a leaking colorectal or coloanal anastomosis is the Hartmann's procedure, consisting in the resection of the anastomosis with exteriorization of the proximal limb as an end colostomy [10].

Techniques like complete mobilization of the left colon (takedown of the splenic flexure) and performing appropriate vascular ligation (high ligation of the inferior mesenteric artery and vein) for a tension-free anastomosis are recommended [11,12].

In our case we decided to apply a stitch considering the small dimensions of the anastomotic leak, the localized peritonitis and the young age of the patient. We think that if there is a chance of minimal invasive treatment for selected patients, this might be an option, and can give the possibility of avoiding a colostomy.

## CONCLUSION

Anastomotic leak is a common complication in colo-rectal surgery, causing significant morbidity and mortality. We report a surgical technique that can be an option for selected patients and which is an alternative to the Hartmann procedure. The feasibility of this technique must be confirmed in larger series of patients.

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