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Conservative Treatment of wide Anastomotic Leakage after total Colectomy with Ileo-Anal Anastomosis

Francesco Mongelli[1]
Davide La Regina[1]
Gianluca Lollo[2]
Alberto Fasoli[2]
Lorenzo Gavino[3]
Andreas Perren[3]

[1]Department of Surgery, San Giovanni Hospital, Bellinzona, Switzerland
[2]Department of Gastroenterology, San Giovanni Hospital, Bellinzona, Switzerland
[3]Intensive Care Unit, San Giovanni Hospital, Bellinzona, Switzerland

Abstract

Anastomotic leakage following colorectal surgery is associated with significant morbidity and mortality. The treatment of choice depends on clinical, morphological and endoscopic findings. A 61-year-old male, after total colectomy with an ileo-anal anastomosis, developed septic shock due to an anastomotic leakage involving 60% of the circumference. After 3 weeks of conservative management with percutaneous drainage of abdominal collections, antibiotics and intermittent lavage of the anastomotic leakage, the patient recovered and a complete healing of the leakage was achieved. Despite the fact that several factors contraindicate non-operative management, the conservative treatment of wide anastomotic leakage, in selected patients, could results as a valuable therapeutic option.

Keywords

Colon; Endoscopy; Ileoanal; Surgery

Introduction

Anastomotic leakage following colorectal surgery is a dreaded complication, associated with significant morbidity and mortality [1]. The treatment is traditionally operative [2], although, over the last decade, several less invasive therapies have been developed [3,4]. There is no consensus with regard to the best treatment; therefore patient therapy should be tailored according to clinical, morphological and endoscopic findings.

Case Report

We report the case of a 61-year-old male who underwent a laparotomic repair of a ruptured abdominal aortic aneurysm and concomitant acute perforated appendicitis. Six weeks thereafter, the patient suffered an ischemic colitis of the sigma that was treated with a classical Hartmann's procedure. At a distance of 2 months, he underwent a laparotomy with division of adhesions and reversal of Hartmann's procedure. One year thereafter, he developed a huge and symptomatic ventral hernia that was surgically repaired. In the first postoperative day, the patient developed an ischemic syndrome of the lower extremities caused by a thrombosis of the aortic graft. A hybrid approach (endovascular and open surgery) was performed successfully. During the following week, the patient required vaso-active agents due to a septic shock. A CT scan of the abdomen showed massive colic pneumatosis due to a diffuse ischemic colitis that required a laparotomy total colectomy with ileo-anal anastomosis as prior to the procedure the patient had refused a stoma. We performed a latero-terminal ileo-anal anastomosis with a 25 mm mechanical circular stapler, leaving a 15 cm long closed end of the ileum, which was sutured with absorbable sutures around the anastomosis as an intestinal plication.

After the initial improvement of the clinical conditions, the patient developed a massive distributive shock leading to multiple organ failure. Acute kidney failure (RIFLE stage F) due to septic shock and Rhabdomyolysis required continuous renal dialysis. Ventilator-associated pneumonia leads to severe respiratory failure that necessitated antibiotic therapy and prolonged mechanical ventilation. A recto-sigmoidoscopy was performed and confirmed the clinical suspicion of an anastomotic leakage involving more than 60% of the lumen circumference (Figure 1). Respecting the patient's refusal for a stoma placement, a conservative management with percutaneous drainage of abdominal collections, broad-spectrum antibiotics (Piperacillin-Tazobactam and later Meropenem), vaso-supportive agents and intermittent lavage of the anastomotic leakage with Foley catheter, were instituted. After 3 weeks of therapy, the patient had a full recover and the solely antibiotic therapy was continued. The recto-sigmoidoscopy showed complete healing of the anastomotic breach and resolution of the leakage, with granulation of the soft tissue and

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*Corresponding author:

Francesco Mongelli, MD
Department of Surgery, San Giovanni Hospital, Bellinzona, Switzerland
Tel: +41764706297
Fax: +41918119066
E-mail: francesco.mongelli@mail.com

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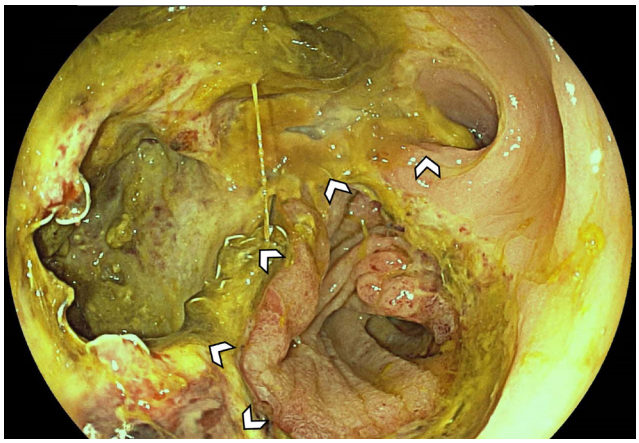

Figure 1: Endoscopic vision of the ileo-anal anastomosis showing a wide anastomotic leak, involving more than 60% of circumference (Arrowhead)

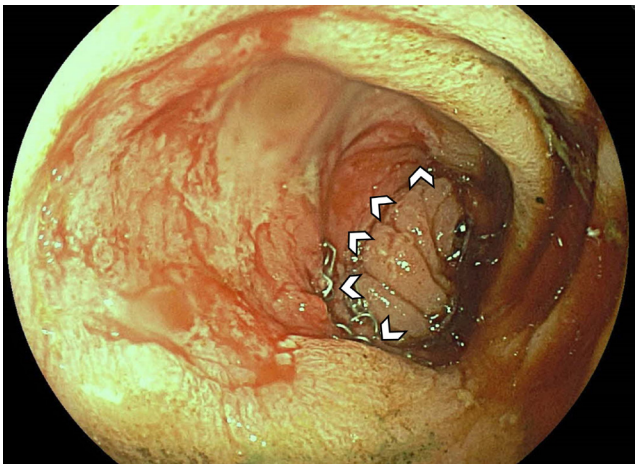

Figure 2: Endoscopic vision of the anastomosis after 3 weeks of treatment, notice the area healed covered with granulation tissue and epithelium (Arrowhead)

neo-epithelization of the mucosa (Figure 2). As bowel dysfunction, the patient presented only a transient diarrhoea lasting 6 weeks after surgery until resolution. Globally, he stayed in intensive care unit for 40 days and in the ward for 29 days. Antibiotics were required for 60 days and discontinued upon abdominal collections resolution.

Discussion

The incidence of anastomotic leakage following colo-rectal surgery ranges from 1.8 to 19.2% [5], usually accompanied by significant morbidity and mortality [1]. Notwithstanding the fact that the gold standard of therapy is generally considered to be operative management [2], to date, several conservative and anastomosis sparing therapies have been developed [3,4]. Transanal drainage, irrigation of the leak with saline solution, percutaneous drainage, stents, EndoSponge, endoscopic clips and fibrin sealants are some of the most referenced techniques used to conservatively manage an anastomotic leakage [4].

The treatment of choice should be tailored to the patient, according to clinical conditions, morphological, endoscopic findings and type of anastomosis [5]. The non-operative management should be reserved to pauci-symptomatic patients with small tears and contained leaks, or to patients with absolute contraindications to surgery. Generally, fever, tachycardia, leucocytosis, faecal drainage, signs of sepsis and generalized peritonitis are criteria favouring the operative management. Some conditions are considered as negative prognostic factors for failure of non-operative management, in particular large and loculated tears, multiple abscesses and the absence of a diverting stoma [3]. The diverting stoma should be considered the milestone of the anastomosis sparing treatment since it may attenuate the severity of the anastomotic leakage. Matthiessen P et al. [6] demonstrated a lower reoperation rate for symptomatic leak in patients with diverting stoma and ultimately it maximises the possibility of non-operative management and combined treatments.

In our specific clinical case, we encountered several factors that contraindicated the non-operative management have been encountered. Firstly, the anastomotic tear involved more than 60% of the anastomosis' circumference, the patient showed clear signs of septic shock and finally was not protected by a stoma. Such conditions, when taken into consideration together, usually prelude a catastrophic conclusion.

The decision to proceed with a conservative therapy was related to both the strict observance of the patient's wishes, successively underlined by the next of kin, and the clinical conditions that precluded the possibility of an operative approach. Thus, vaso-active agents and broad-spectrum antibiotics were implemented, as well as percutaneous drainage of abdominal fluid collections. An attempt with an EndoSponge failed due to the overall volume of the cavity requiring drainage and the typically high flow of faecal matter through the ileo-anal anastomoses, causing displacement of the sponges. The only feasible strategy to achieve a clean cavity was the intermittent irrigation of the leak *via* a Foley catheter (50 mL saline solution every 6 hours). After 3 weeks of treatment, an endoscopic control showed a complete healing of the anastomotic leak. The bowel plication around the anastomosis might have been a crucial factor in protecting the intraperitoneal cavity from contamination. The patient was discharged from hospital and went home after 4 weeks' of physical rehabilitation.

Conclusion

We conclude that the conservative treatment of a wide anastomotic leakage after total colectomy could represent a valuable therapeutic option, especially in patients that refuse or are not suitable for, surgical intervention.

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