

Emergency Laparoscopic Ileocecal Resection for Crohn's Acute Obstruction

Nereo Vettoretto, MD, Luca Gazzola, MD, Maurizio Giovanetti, MD

ABSTRACT

Introduction: Emergency surgery for Crohn's disease (CD) is a rare entity, and its indications are scant in the published literature. Emergency laparoscopy for small bowel obstruction has gained wide dissemination with the spread of advanced laparoscopic skills within surgical practice. Therefore, incidental terminal ileitis after exploration might be a more-common finding in the near future, and further studies are needed to better ascertain proper surgical treatment.

Case Description: We report on a case of acute obstruction caused by undiagnosed terminal ileitis associated with CD.

Discussion and Conclusion: The patient underwent explorative laparoscopy and subsequent video-assisted ileocecal resection with an optimal outcome.

Key Words: Laparoscopy, Colorectal surgery, Small bowel obstruction, Crohn's disease.

INTRODUCTION

Currently, Crohn's disease (CD) surgery is limited to complications that include intestinal obstruction, intestinal perforation with fistula or abscess formation, free perforation, gastrointestinal bleeding, urological complications, cancer, and perianal disease.¹ Some of these events might require emergency operation, and the role of surgery, especially for minimally invasive operations, is not yet well established. Moreover, a scarcity of indications exists with regard to not-so-rare cases of "incidental" CD, particularly when the suspected diagnosis involves an acute surgical condition. Acute obstruction of the terminal ileus has been described as a result of previously undiagnosed CD exacerbated by a foreign body or by a biliary ileus.²⁻⁴ We report on a case of acute intestinal obstruction resulting from terminal ileitis, leading to a first diagnosis of CD, that was treated with video-assisted ileocecal resection.

CASE REPORT

A 42-y-old woman was admitted to the emergency department with acute abdominal pain caused by an intestinal obstruction. Past illness history was positive for a previous open appendectomy and recurrent arthralgias and uveitis. Laboratory findings showed an elevated leukocyte count and C-reactive protein. Computed tomography (CT) scan showed an acute obstruction of the small bowel, suddenly ending at the terminal ileum, which appeared thickened and enhanced by contrast medium, mimicking a strangulated internal hernia (presumably resulting from adhesions in the area of the previous McBurney incision) (**Figure 1**). These findings, together with untreatable pain (resistant to nonsteroidal anti-inflammatory drugs), persistent vomiting, and consistent nasogastric aspiration of enteric fluid, demanded emergent explorative laparoscopy with a suspicion of intestinal ischemia caused by a complete intestinal obstruction; an open Hasson access was made in the umbilical scar, followed by the insertion of 2 additional 5-mm trocars in the left iliac fossa and the suprapubic area. An acute obstruction was found, the result of an inflammatory process that involved the terminal ileum, which appeared thickened, edematous, and hyperemic, with associated mesenteric lymphadenopathy; thus, localized, obstructing CD was suspected (no other

Laparoscopic Surgical Unit, M. Mellini Hospital, Chiari (BS), Italy (Dr. Vettoretto).
Surgical Clinic, University of Brescia, Brescia, Italy (Dr. Gazzola).

General and Vascular Surgery, M. Mellini Hospital, Chiari (BS), Italy (Dr. Giovanetti).

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Address correspondence to: Nereo Vettoretto, MD, UOS Chirurgia Laparoscopica, Azienda Ospedaliera M. Mellini, Viale Giuseppe Mazzini 4, 25032 Chiari (BS), Italy. Telephone: 00390307102799, Fax: 00390307102478, E-mail: nereovet@gmail.com

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Figure 1. CT scan appearance of the distal ileum.



Figure 2. Thickened and inflamed bowel extracted through a McBurney minilaparotomy.

strictures or localizations of the disease were observed upon exploration). A laparoscopic-facilitated ileocecal resection was performed, and exteriorization of the bowel was obtained through a minilaparotomy performed on the previous McBurney incision (**Figure 2**). The vascular section was performed extracorporeally because of intense inflammation of the mesentery and the subsequent risk of vascular damage. An ileoascending colon anastomosis was made with an isoperistaltic hand-sewn technique. The postoperative course was uneventful; oral intake started on postoperative day 2, after the first passage of stools, and the patient was discharged on postoperative day 6, after the confirmation of CD by histology (**Figure 3**) and the initiation of mesalazine therapy. Over the next 6 mo, endoscopic studies and gastroenterological consulta-

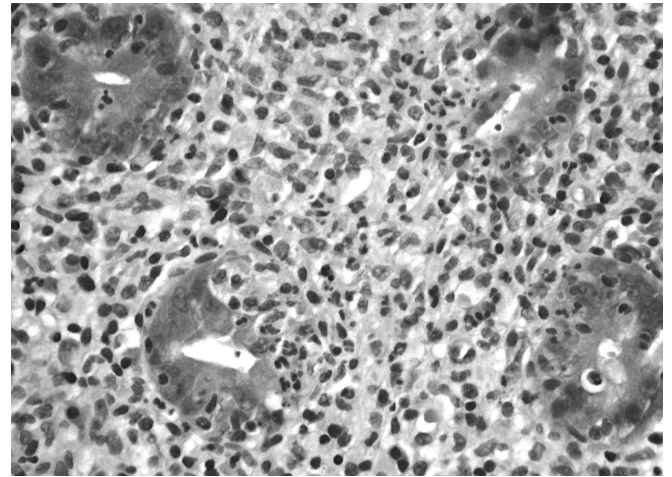


Figure 3. Histologic appearance of the terminal ileus.

tions did not provide evidence for either further recurrence or other localizations of CD.

DISCUSSION

Emergency laparoscopic exploration for acute intestinal obstruction has been validated by recent guidelines.⁵ CT is the gold standard for the preoperative workup of a clinically relevant obstruction so as to spot the probable site and cause and to rule out intestinal ischemia.⁶ Once a suspicion of CD of the terminal ileum is diagnosed, which is not amenable to strictureplasty as a result of its extension (indeed this procedure is not indicated in the absence of a previous diagnosis of CD), limited ileocecal resection is the treatment of choice because it resolves the obstruction and guarantees a specimen for pathological examination⁷; in fact, possible future complications of the disease might require further intestinal resections, and thus an “economical” resection is preferable so as to preserve intestinal length and minimize the risk of “short gut syndrome.”⁸ The alternative might have been closure of the abdomen and initiation of immunosuppressive therapy; in our opinion, this has several disadvantages, including a delay in diagnosis (biopsies can be taken through an ileocolonoscopy only after the obstruction has resolved, but are associated with lower sensitivity for the correct diagnosis of CD, in comparison to a surgical specimen⁹), belated resolution of symptoms (which were very disturbing in this case), as well as the possibility of forced surgery in the case of failure of conservative therapy; in these patients, anastomoses carry a significantly higher risk of dehiscence.¹⁰ The operation is feasible by means of laparoscopy,¹¹ and the choice to perform laparoscopic-facilitated resection was mainly the result of a difficult vascular

section with the presence of important mesenteric thickening and lymphadenopathy. Exteriorization of the bowel was granted by a minilaparotomy through the previous McBurney scar, thus preserving cosmesis. This technique was used in 3 large case series focusing on laparoscopic intestinal resection for CD, where laparoscopic-assisted surgery was preferred and internal vascular sections were limited to a minor group of patients; laparoscopic resection and anastomosis was never mentioned in these patients, although the disease was always operated on in a nonemergent setting.¹²⁻¹⁴ No consensus is available regarding the technique for intestinal anastomoses in CD, and, to date, no evidence supports the benefit of one particular type of anastomosis over another¹⁵; we opted for the side-to-side hand-sewn suture, which is our usual technique for the ileocolic stoma. The advantages of a minimally invasive approach are obvious in CD-dedicated studies (less blood loss, swifter return of bowel function and shortened hospital stay, and improved overall quality of life),^{16,17} similar colorectal surgery for cancer,¹⁸ as well as in the long term.¹⁹

CONCLUSION

We can assert that whenever explorative laparoscopy is performed in patients with an acute small bowel obstruction, a CT scan must precede the operation, so as to better ascertain the causes and rule out ischemic complications in intestinal segments. In this particular case, the CT scan did not help in the diagnosis of CD, and instead provided a misleading clinical suspicion and forced the surgeon to perform an emergent operation, as a result of the suspicion of segmental intestinal complications, justified by abdominal tenderness and the laboratory workup. In our practice, we pursue an “all-comers” policy toward laparoscopy for intestinal obstruction, thus the patient underwent immediate exploration (the precocity of the operation permitted safe entry and visualization of the entire bowel with minimal risk of iatrogenic perforation). Once the diagnosis was established, we decided to proceed with a minimally invasive approach with optimal results. This shows how training in advanced laparoscopy is needed to assure the correct indication for the patient and minimal invasiveness whenever emergency explorative laparoscopy is performed. Hence, the threshold for conversion (to guided minilaparotomy or to major midline laparotomy) must be kept very low so as to perform safe intestinal resections when needed, especially in the case of excessive bowel distension.⁵ We propose, as do other investigators,^{20,21} that video-assisted ileocecal resection is the treatment of choice for “incidental” CD causing acute

ileal obstruction, especially in an emergency setting, where anastomotic leaks and vascular lesions with consequent hemorrhage can be a real hazard for the patient. To our knowledge, this is the first case described regarding emergency laparoscopic treatment of undiagnosed CD for acute obstruction.

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