

Cecal Endometriosis as a Cause of Ileocolic Intussusception

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ABSTRACT

Endometriosis is a disease that can affect various organs, has an unclear symptomatology, and in extreme cases, can result in intestinal obstruction. This particular case illustrates the synchronous localization of endometriosis, both genital and intestinal, resulting in ileo-colic and colonic intussusception. The relative diagnostic and therapeutic approach for such a rare occurrence is discussed.

Key Words: Cecal endometriosis, Intussusception, Laparoscopy.

INTRODUCTION

Endometriosis is a disease that can involve various organs, causing pain and infertility. In its most serious forms, the involvement of more than one organ can cause unclear symptoms, thereby obstructing diagnosis and worsening prognosis. In the reported case, we illustrate the synchronous genital and intestinal localization of endometriosis causing ileo-colic and colonic intussusception, and we discuss the diagnostic and therapeutic approach for this rare occurrence.

CASE REPORT

A 36-year-old, para 0, patient was hospitalized for laparoscopic debulking of severe endometriosis. She had experienced dysmenorrhea since age 26, progressively worsening. Diagnosis of endometriosis had been made at age 30, following excision of the right ovary for extensive endometrioma. The patient subsequently began therapy with low-dose estrogen-progestin pills for 5 years. Her desire for pregnancy resulted in discontinuation of estrogen-progestin treatment at age 35. After discontinuation, for the next 4 to 5 months, the patient complained of intense premenstrual and menstrual pain (6 on Vas scale) with abundant flow and pain improvement with nonsteroidal anti-inflammatory analgesics. Pain was also present during voiding (8 on Vas scale), defecation (8 on Vas scale), and sexual intercourse (6 on Vas scale). In the month before surgery, a piercing pain developed in the right iliac fossa, accompanied by diarrhea, and abdominal tension, improved with analgesic therapy. Before hospitalization, an abdominal ultrasound seemed to indicate possible intestinal invagination (double-ringed image) uterine fibromatosis. Magnetic resonance imaging (MRI) strongly suggested ileo-colic intussusception due to a 2-cm endometriotic nodule at the extremity of the tract of invaginated intestine. MRI also revealed the presence of intraabdominal fluid.

Given its intestinal location, painful symptoms, the patient's desire for pregnancy, and lack of signs of intestinal obstruction, the patient was scheduled for operative laparoscopy, also taking into consideration the possibility of carrying out extensive intestinal resection. Laparoscopy

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Figure 1. Cecal segment invaginated within the colon. Tumor-faction at cecum is evident, compatible with endometriotic nodule, macroscopically suspected from subserous blood accumulation. Remaining ileal and colic invagination described in the text was resolved for the most part after hemicolectomy.

revealed a fibromatous uterus and frozen pelvis due to the presence of multiple nodules within the recto-vaginal septum, on recto-sigmoid bowel wall as well as multiple endometriotic implants on the right pelvic salpinx, pelvic peritoneum (right lateral paracolic gutter, vesicouterine excavation, and left round ligament of uterus). The patient also had extensive ileo-colic and colonic invagination (**Figure 1**) as far as under the hepatic flexure with distension and cyanosis of the small intestine above the invaginated section. Laparoscopic debulking of the endometriosis was thus begun by excising the endometriotic pelvic nodules, the right tube, the recto-sigma, (which required opening of the posterior vaginal fornix, where an endometriotic nodule was found), followed by right hemicolectomy (**Figure 2**). Histological examination confirmed the presence of intestinal endometriosis with multiple localization in the recto-sigmoid, cecum, under the ileocecal valve, and of endometriosis in all the excised tissues. Microscopic examination revealed isolated areas of endometriotic tissue in the intestinal wall of the colon that did not involve the mucosa. Postoperatively, the patient presented with fever complicated by development of recto-vaginal fistula on day 15, because fecal material was drained from the pararectal drainage and the following day was also found within the vagina. Therefore, a temporary abdominal colostomy was made through the previous minilaparotomic section. Three months after the colostomy and following healing of the recto-vaginal fistula, the patient underwent surgery for terminal reanasto-

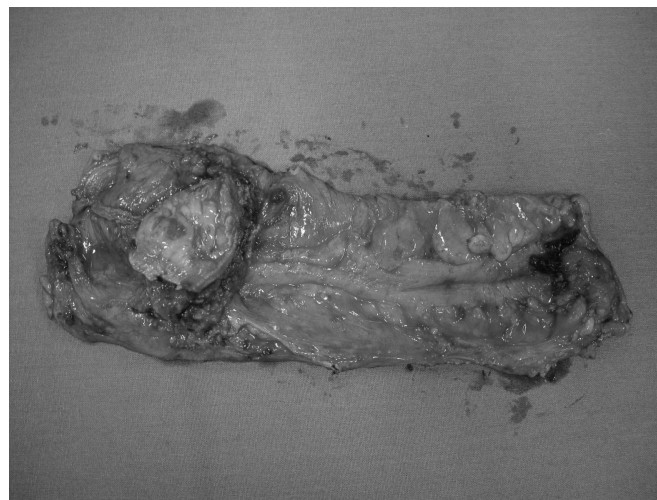


Figure 2. Ascending colon incised lengthwise. To the left, a large nodule of the intestinal wall at the cecum.

mosis of the recto-sigmoid and removal of the artificial anus. The patient is now in good health and reports improvement in pain symptoms.

DISCUSSION

According to a recent review,¹ endometriosis can involve the intestine with a highly variable frequency from 3.7% to 35% of patients with endometriosis. Intestinal localization of endometriosis is generally at the recto-sigmoid level; however, multiple nodules can be found, generally at the cecum and distal ileum.¹ In these cases, endometriosis can cause intestinal obstruction due to stenosis of the ileocecal valve² or to intussusception.³ Such a case can require emergency surgery, without the possibility of a precise surgical strategy. In addition, clinical and instrumental diagnosis of intestinal endometriosis is difficult. Endometriotic nodules of intestinal walls cannot easily be visualized in MRI T1- and T2-weighted images, presumably in relation to their activity level.^{4,5} Moreover, intestinal mobility makes their localization difficult.^{4,5}

There are few reported cases of ileocolic intussusception caused by endometriosis of the cecum in the recent literature,^{3,6-9} with a varying intestinal symptomatology and in some cases, bowel obstruction. Le Meaux et al⁶ report a preoperative diagnosis by ultrasound of intestinal intussusception due to the characteristic cocardiform appearance of the intestine within the invaginated tract. Denève et al⁷ report the case of an ileocolic intussusception without bowel obstruction, underlining the possibility to diagnose it sonographically and by computerized tomogra-

phy. Aronchick et al⁸ report such a diagnosis following barium enema, in a patient with gastrointestinal hemorrhage. Maltz et al,⁹ following MRI suggesting ileocecal mass compatible with Crohn's disease, report intestinal endometriosis and intussusception intraoperatively. Koutsourelakiss et al,³ on the other hand, diagnosed mechanical intestinal obstruction, and emergency surgery had to be carried out.

In general, imaging diagnosis of intestinal intussusception is fairly straightforward.¹⁰ In a patient diagnosed with endometriosis, intussusception is possible to identify in the presence of gastro-enteric symptomatology. Because intestinal localization of endometriosis is often multiple, with the possibility of involving the nearby intestinal tract up to the ileocecal valve^{1,11} and because such a diagnosis is difficult to make directly with imaging techniques,^{1,4,5} it would appear recommendable to search for indirect data indicating intestinal localization of endometriosis, among which are intestinal intussusception, before opting for intestinal resection surgery that could involve more than one intestinal segment. In particular, this should be considered important when planning laparoscopic surgery with intestinal resections, because the outcomes of this type of surgery are not well established with respect to the high frequency of complications.¹²

References:

1. Remorgida V, Ferrero S, Fulcheri E, Ragni N, Martin CD. Bowel endometriosis: presentation, diagnosis, and treatment. *Obstet Gynecol Surv.* 2007;62:461–470.
2. Famà R, Bonotto G, Baraglia E, et al. Intestinal obstruction due to endometriosis of ileocecal valve [in Italian]. *Minerva Chir.* 1994;49:1325–1328.
3. Koutsourelakiss I, Markakis H, Koulas S, Mparmpantonakis N, Perraki E, Christadoulou K. Ileocolic intussusception due to endometriosis. *JSLs.* 2007;11:131–135.
4. Balleyguier C. Imaging features of endometriosis [in French]. *J Gynecol Obstet Biol Reprod (Paris).* 2003;32(8 pt 2):S5–S10.
5. Kinkel K, Frei KA, Balleyguier C, Chapron C. Diagnosis of endometriosis with imaging: a review. *Eur Radiol.* 2006;16:285–298.
6. Le Meaux JP, Sangana G, Panel P, Raynal P. Digestive endometriosis of the caecum and intussusception: about one case [in French]. *Gynecol Obstet Fertil.* 2007;35:1232–1234.
7. Denève E, Maillet O, Blanc P, Fabre JM, Nocca D. Ileocecal intussusception due to a cecal endometriosis [in French]. *J Gynecol Obstet Biol Reprod (Paris).* 2008;37:796–798.
8. Aronchick CA, Brooks FP, Dyson WL, Baron R, Thompson JJ. Ileocecal endometriosis presenting with abdominal pain and gastrointestinal bleeding. *Dig Dis Sci.* 1983;28:566–572.
9. Maltz C, Sonoda T, Yantiss RK. Endometriosis causing ileocecal intussusception. *Gastrointest Endosc.* 2008;67:352–353.
10. Byrne AT, Goeghegan T, Govender P, Lyburn ID, Colhoun E, Torreggiani WC. The imaging of intussusception. *Clin Radiol.* 2005;60:39–46.
11. Yantiss RK, Clement PB, Young RH. Endometriosis of the intestinal tract: a study of 44 cases of a disease that may cause diverse challenges in clinical and pathologic evaluation. *Am J Surg Pathol.* 2001;25:445–454.
12. Daraï E, Bazot M, Rouzier R, Houry S, Dubernard G. Outcome of laparoscopic colorectal resection for endometriosis. *Curr Opin Obstet Gynecol.* 2007;19:308–313.