

An Unusual Cause of Large Bowel Obstruction in a Patient With Ulcerative Colitis

Varun P. Moktan, MD¹, Andree H. Koop, MD², Matthew T. Olson, MD³, Michele D. Lewis, MD, MMSc², Victoria Gomez, MD², and Francis A. Farraye, MD, MSc²

¹Division of Community Internal Medicine, Mayo Clinic, Jacksonville, FL

²Division of Gastroenterology, Mayo Clinic, Jacksonville, FL

³Division of Laboratory Medicine and Pathology, Mayo Clinic, Jacksonville, FL

ABSTRACT

Endometriosis is a rare cause of large bowel obstruction and has been infrequently reported in patients with inflammatory bowel disease. We present an unusual case of a young woman with ulcerative colitis, who presented with a large bowel obstruction with colonic stricture and peripancreatic mass concerning for malignancy. The evaluation revealed endometriosis, and her large bowel obstruction was successfully managed with leuprolide and colonic stenting.

INTRODUCTION

Intestinal endometriosis can mimic several gastrointestinal (GI) diseases, including irritable bowel syndrome, diverticulitis, colitis, Crohn's disease, and malignancy; it has rarely been reported in patients with inflammatory bowel disease (IBD).^{1,2} We report a case of large bowel obstruction and peripancreatic mass because of endometriosis in a middle-aged woman with ulcerative colitis (UC) who was successfully treated with leuprolide and colonic stenting.

CASE REPORT

A 39-year-old African American woman presented with epigastric pain associated with nausea and anorexia for 5 days and no bowel movement or flatus for 1 day. She had been diagnosed with moderately severe UC on a flexible sigmoidoscopy 9 years earlier which showed discrete ulceration in the colon and pathology showing chronic inflammation. She had been taking prednisone and Asacol. She also had a hysterectomy for heavy menstrual bleeding and endometriosis 8 years earlier. A surveillance colonoscopy performed 3 months earlier was limited by an acute angulation at the hepatic flexure. Biopsy information was not available.

On physical examination, she was afebrile, with a heart rate of 52 beats per minute and blood pressure of 111/77 mm Hg. She had moderate tenderness in the epigastrium without rebound or guarding. Laboratory studies revealed a white blood cell count of 6.8×10^9 cells/L, hemoglobin 12.2 g/dL, platelet count 427×10^9 /L, and normal liver enzymes and lipase. C-reactive protein was <3.0 mg/L. Abdominal and pelvic computed tomography (CT) with contrast showed a stricture and wall thickening extending from the hepatic flexure into the transverse colon, with upstream dilatation consistent with large bowel obstruction (Figure 1). There was an infiltrative soft-tissue mass extending from the stricture and encasing the gastroepiploic vessels near the pancreatic head, measuring 33×29 mm in the greatest cross-section. Upper endoscopic ultrasound demonstrated an irregular 5-cm partially calcified hypoechoic and heterogeneous perigastric mass within the peritoneal space. CT-guided needle biopsy of the mass revealed endometrial type stroma and glands consistent with endometriosis (Figure 2).

After consultation with gynecology and colorectal surgery, the patient pursued conservative treatment with intramuscular leuprolide. One week later, she developed recurrent and was readmitted. CT imaging showed persistent obstruction at the hepatic flexure, and a colonic stent was placed to relieve the large bowel obstruction and to allow further time for treatment response to



Figure 1. Abdominal and pelvic computed tomography scan in the coronal plane demonstrating large bowel obstruction (inferior yellow arrow) in the ascending colon from a mass at the hepatic flexure (superior yellow arrow) with extension cranially to encase the gastropiploic vessels.

leuprolide while planning for surgery. Colonoscopy was notable for intrinsic, severe stenosis at the hepatic flexure, which could not be traversed with an adult colonoscope (Figure 3). A 22-mm diameter by 90-mm length uncovered self-expanding colonic metal stent (Wallflex stent; Boston Scientific Corporation,

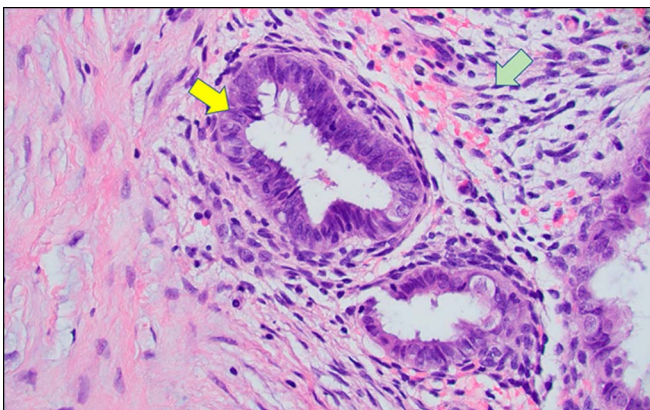


Figure 2. Hematoxylin and eosin stain at 10× magnification demonstrating endometrial glands (yellow arrow) and stroma (green arrow) consistent with endometriosis.

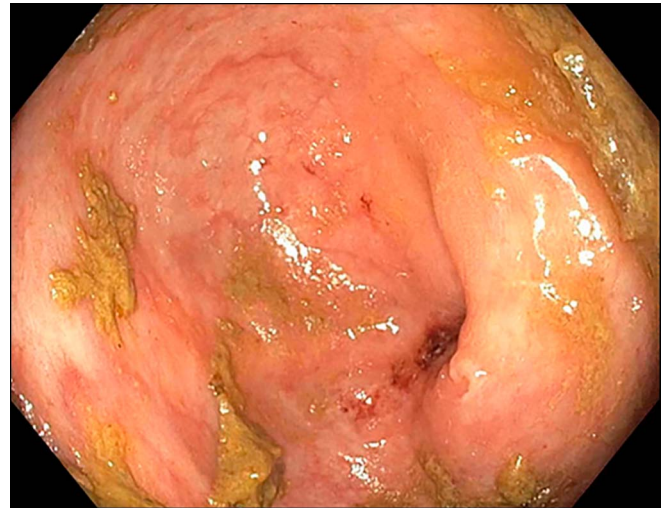


Figure 3. A benign-appearing, intrinsic moderate stenosis measuring 8 mm (inner diameter, length unclear) was found in the proximal transverse colon.

Boston, MA) was successfully placed through the stricture (Figure 4). No biopsies were collected.

Two months later, she underwent repeat abdominal imaging, which did not show any interval change in the pericolonc mass in response to the leuprolide. Given concern for external compression on the colon, she underwent a diagnostic laparoscopy with excision of the endometrioid nodules with peritoneal and omental biopsies. Pathology confirmed endometriosis and was negative for malignancy. She met again with colorectal surgery and was recommended total colectomy because she was at high risk of both large bowel and stent perforation. Surgical scheduling has not yet been completed.

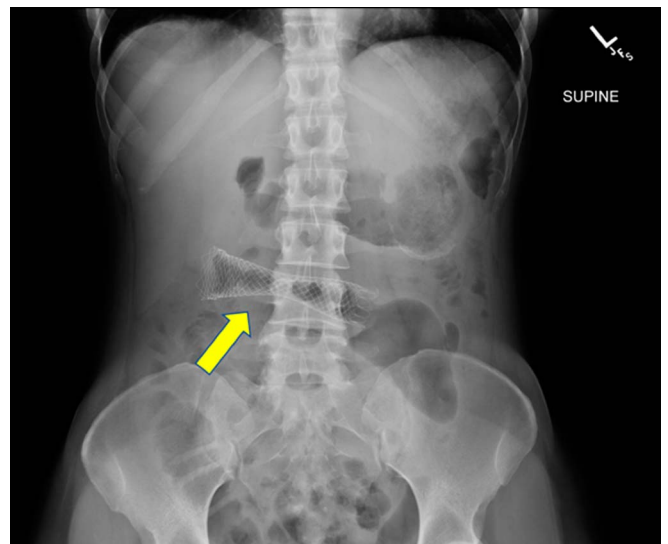


Figure 4. Abdominal x-ray demonstrating a 22 × 90-mm uncovered self-expanding metal stent (yellow arrow) placed through the stricture at the transverse colon.

DISCUSSION

The GI tract is the most common location of extrapelvic endometriosis, estimated to occur in 4%–37% of women with endometriosis, with the most common site of involvement being the sigmoid colon, followed by the proximal colon, small intestine, and appendix.³ Through an inflammatory reaction, endometriosis can lead to fibrosis and scarring, leading to narrowing of the lumen and obstruction.^{4,5}

As previously noted, endometriosis can mimic other GI diseases, including malignancy, irritable bowel syndrome, diverticulitis, and even mucosal changes suggestive of IBD.^{6,7} Endoscopic, histopathologic, and surgical analyses are required to otherwise differentiate between nonspecific symptoms. In addition, cyclical abdominal pain in relation to menstrual cycles cannot solely differentiate endometriosis from underlying GI symptoms in patients with IBD.⁸

Endometriosis and IBD can coexist and have been reported in patients with both UC and Crohn's disease.⁹ The literature discussing associations between IBD and endometriosis is scarce; however, 1 study suggests an increased incidence of IBD among women with endometriosis. The authors hypothesize that endometriosis should be classified as an autoimmune disorder because it both involves alterations in cell-mediated and humoral immunity.¹⁰ Another study found that women who use oral contraceptive pills, not necessarily for endometriosis, have an increased risk of developing Crohn's disease.¹¹

Intestinal endometriosis may be missed endoscopically because of the focality of lesions and involvement of the serosa and muscularis propria with sparing of the mucosa.^{2,12,13} Our patient had a stricture of the large intestine in continuity with a peripancreatic endometrial implant. Initially, this was concerning for malignancy, especially in the setting of UC which is associated with an increased risk of colorectal cancer.¹⁴ Providers should consider endometriosis among the differential diagnosis in premenopausal women with IBD and unexplained symptoms and/or findings including obstruction.

The treatment of choice for symptomatic intestinal endometriosis is generally surgery; however, hormonal therapy is also used to control symptoms.³ Large bowel obstruction from colonic endometriosis has been treated with colonic stenting previously as a bridge to surgery.^{15,16} For benign colonic obstruction, American guidelines recommend dilation with or without steroid injection, electroincision, and placement of either decompression tube or expandable stent.¹⁷ European guidelines support using stents as a bridge to elective surgery, specifically for left-sided obstructing colon cancer as an alternative to emergency resection.¹⁸ Our patient was treated with leuprolide, a gonadotropin-releasing hormone analog, which decreases steroidogenesis leading to atrophy of endometrial implants. Leuprolide has been used similarly in patients with endometriosis and ureteral obstruction.¹⁹

In conclusion, we present a rare case of a young woman with UC, found to have a large bowel obstruction from endometriosis and treated successfully with leuprolide and colonic stenting. Endometriosis should be considered on the differential diagnosis of young women with abdominal symptoms, including those with known IBD.

DISCLOSURES

Author contributions: All authors contributed equally to this manuscript. FA Farraye is the article guarantor.

Financial disclosure: V. Gómez conducts consulting work for Olympus Corporation of the Americas. All other authors have no reported conflicts.

Previous presentation: This case was accepted at the Digestive Disease Week; May 2-5, 2020; Virtual.

Informed consent was obtained for this case report.

Received August 19, 2020; Accepted March 30, 2021

REFERENCES

- Chapron C, Marcellin L, Borghese B, Santulli P. Rethinking mechanisms, diagnosis and management of endometriosis. *Nat Rev Endocrinol*. 2019; 15(11):666–82.
- 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(4):445–54.
- Charatsi D, Koukoura O, Ntavela IG, et al. Gastrointestinal and urinary tract endometriosis: A review on the commonest locations of extrapelvic endometriosis. *Adv Med*. 2018;2018:3461209.
- Molina GA, Ramos DR, Yu A, et al. Endometriosis mimicking a cecum mass with complete bowel obstruction: An infrequent cause of acute abdomen. *Case Rep Surg*. 2019;2019:7024172.
- Allan Z. A case of endometriosis causing acute large bowel obstruction. *Int J Surg Case Rep*. 2018;42:247–9.
- Rana R, Sharma S, Narula H, Madhok B. A case of recto-sigmoid endometriosis mimicking carcinoma. *Springerplus*. 2016;5:643.
- Langlois NE, Park KG, Keenan RA. Mucosal changes in the large bowel with endometriosis: A possible cause of misdiagnosis of colitis? *Hum Pathol*. 1994;25(10):1030–4.
- Lim SM, Nam CM, Kim YN, et al. The effect of the menstrual cycle on inflammatory bowel disease: A prospective study. *Gut Liver*. 2013;7(1):51–7.
- Lee KK, Jharap B, Maser EA, Colombel JF. Impact of concomitant endometriosis on phenotype and natural history of inflammatory bowel disease. *Inflamm Bowel Dis*. 2016;22(1):159–63.
- Jess T, Frisch M, Jorgensen KT, Pedersen BV, Nielsen NM. Increased risk of inflammatory bowel disease in women with endometriosis: A nationwide Danish cohort study. *Gut*. 2012;61(9):1279–83.
- Cornish J, Tan E, Simillis C, et al. The risk of oral contraceptives in the etiology of inflammatory bowel disease: A meta-analysis. *Am J Gastroenterol*. 2008;103(9):2394–400.
- Ong SY, Johnston M, Crowley P, Froome P. Education and imaging. Gastrointestinal: Refractory ulcerative colitis complicated by colonic stricturing endometriosis. *J Gastroenterol Hepatol*. 2012;27(1):181.
- Casiraghi S, Baggi P, Lanza P, et al. Simultaneous diagnosis of acute Crohn's disease and endometriosis in a patient Affects HIV. *Case Rep Gastrointest Med*. 2018;2018:1509167.
- Rubin DT, Ananthakrishnan AN, Siegel CA, Sauer BG, Long MD. ACG clinical guideline: Ulcerative colitis in adults. *Am J Gastroenterol*. 2019; 114(3):384–413.
- Whelton C, Bhowmick A. Acute endometrial bowel obstruction: A rare indication for colonic stenting. *Int J Surg Case Rep*. 2013;4(2):160–3.

16. Navajas-Laboa M, Orive-Calzada A, Landaluce A, et al. Colonic obstruction caused by endometriosis solved with a colonic stent as a bridge to surgery. *Arab J Gastroenterol*. 2015;16(1):33–5.
17. Harrison ME, Anderson MA, Appalaneni V, et al. The role of endoscopy in the management of patients with known and suspected colonic obstruction and pseudo-obstruction. *Gastrointest Endosc*. 2010;71(4):669–79.
18. van Hooft JE, Veld JV, Arnold D, et al. Self-expandable metal stents for obstructing colonic and extracolonic cancer: European Society of Gastrointestinal Endoscopy (ESGE) guideline—Update 2020. *Endoscopy*. 2020; 52(5):389–407.
19. Vilos GA, Marks-Adams JL, Vilos AG, Oraif A, Abu-Rafea B, Casper RF. Medical treatment of ureteral obstruction associated with ovarian remnants and/or endometriosis: Report of three cases and review of the literature. *J Minim Invasive Gynecol*. 2015;22(3):462–8.

Copyright: © 2021 The Author(s). Published by Wolters Kluwer Health, Inc. on behalf of The American College of Gastroenterology. This is an open access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.