

CASE REPORT*Volume 9 Issue 2****Severe Pelvic Endometriosis Involving the Rectum with Near Complete Bowel Obstruction*****Shelby Naegele¹, Stephen Bush, MD², Paul Bown, MD¹, Nadim Bou Zgheib, MD¹****ABSTRACT**

Endometriosis is a common gynecological disease among reproductive-age women that can result in chronic pain, severely decreased quality of life, and infertility. We present a case of a 44-year-old female with a known history of endometriosis who presented with constipation, decreased appetite, iron deficiency anemia, and unintentional weight loss for 6 months. Investigation with colonoscopy discovered a partially obstructing mass in her proximal rectum and no evidence of malignancy on biopsy. The mass was subsequently removed during a combined robotic-assisted total hysterectomy with bilateral salpingo-oophorectomy and low anterior resection with reanastomosis. Surgical pathology determined that the mass was consistent with endometriosis and no malignancy was identified. This case calls attention to a unique manifestation of endometriosis and highlights the importance of maintaining a broad differential diagnosis and utilizing a multidisciplinary team in the management of a rectal mass in reproductive age women.

Author affiliations are listed at the end of this article.

Corresponding Author:

Shelby Naegele
Marshall University
Joan C. Edwards
School of Medicine
naegele6@marshall.edu

KEYWORDS

Rectal endometriosis, rectal mass, pelvic mass

INTRODUCTION

Endometriosis is a common gynecological disease among reproductive age women. It is estimated that 1 in 10 reproductive age women suffer from the disease, an equivalent of around 200 million women globally.¹ Endometriosis is defined as the presence of endometrial tissue outside the uterine cavity.² Endometriosis is now viewed as a complex clinical syndrome characterized by a chronic inflammatory process that mainly impacts pelvic tissues and is estrogen-dependent.¹ The exact pathogenesis is still undetermined, but environmental, epigenetic, immune, and congenital factors all seem to have a role.^{1,2} There are 3 main theories for the mechanism. The first is that endometrial fragments travel retrograde through the fallopian tubes during menstruation and implant on peritoneal structures.¹ The second proposes that the peritoneum, a derivative of the coelomic epithelium, differentiates into isolated sites of endometriosis in the peritoneal cavity through a metaplastic process.¹ The last

postulates that the endometrial tissue spreads to the pelvis via hematogenous and lymphatic channels.¹ Common symptoms of endometriosis include dysmenorrhea, menorrhagia, chronic pelvic pain, dyspareunia, and infertility.^{1,2} These symptoms often interfere with a woman's social, educational, professional, and economic potential and result in decreased quality of life.^{1,2} Endometriosis located in the gastrointestinal tract affects approximately 3.8% of all endometriosis patients.³ We report a case of endometriosis that involved near complete bowel obstruction.

CASE PRESENTATION

A 44-year-old Gravida 1 Para 1 (G1P1) Caucasian woman presented to her primary care provider with a 6-month history of constipation, decreased appetite, iron deficiency anemia, and a 15 kg unintentional weight loss. She also reported a long history of dysmenorrhea and diarrhea during her menstrual



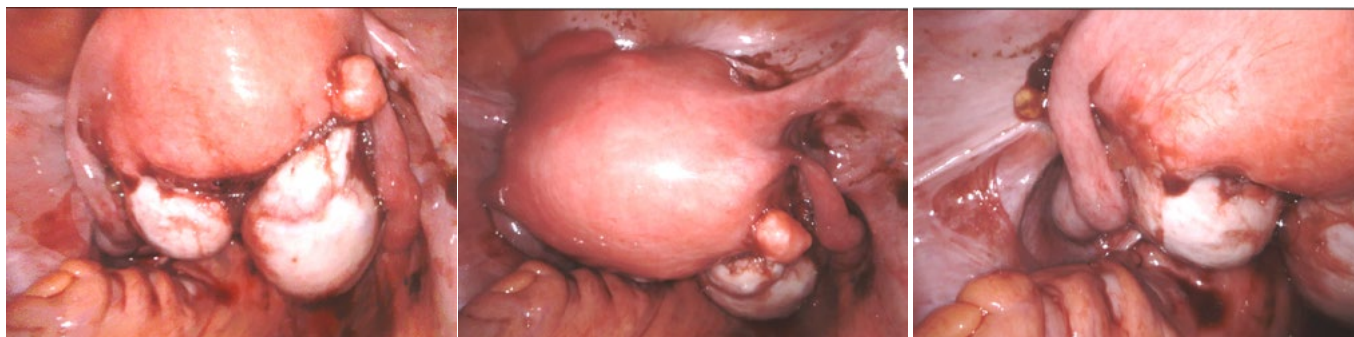
cycles. Her past medical history was significant for hypertension and severe endometriosis diagnosed by laparoscopy 7 years ago. She was referred to a gastroenterologist for evaluation. During colonoscopy an ulcerated partially obstructing proximal rectal mass was discovered. The mass was biopsied with cold forceps and tattooed. Random biopsies were obtained from the entire colon. The retroflexed view of the distal rectum and anal verge was normal. A T2-weighted magnetic resonance imaging (MRI) of her pelvis with and without contrast was obtained secondary to concern for malignancy. MRI findings of a rectal mass measuring approximately 4.5 cm in size located 9 cm from the anal verge were confirmed. Five suspicious locoregional lymph nodes, a mildly enlarged right common iliac lymph node, multiple uterine fibroids, and bilateral endometriomas were also noted on MRI. The pathology report of the biopsies from the rectal mass revealed colonic mucosa with ulceration underlying inflammation and reactive changes, no high-grade dysplasia or malignancy. The random biopsies of the colon showed mild nonspecific chronic inflammation. Given the benign pathology report, it was speculated that endometriosis could be contributing to the rectal mass, but concern for malignancy remained.

The patient was still experiencing menstrual bleeding lasting up to 2 weeks, pelvic pain, and dyspareunia. She had no desire for future fertility and wanted to discuss a hysterectomy. Her gynecologist agreed that a hysterectomy was indicated and

referred her to a gynecologic oncologist due to the complexity of the surgery. A robotic-assisted total laparoscopic hysterectomy with bilateral salpingo-oophorectomy was discussed for treatment. Before proceeding with surgery, the patient was referred to a general surgeon for further evaluation of her rectal mass. A flexible sigmoidoscopy with multiple biopsies was performed. The procedure confirmed a large rectal mass 9-10 cm from the anal verge that had been previously inked. The pathology report of the biopsy specimens showed colonic mucosa with stromal fibrosis and focally dilated crypts with no evidence of dysplasia or malignancy. Suspicion for malignancy remained, and a robotic low anterior resection was recommended.

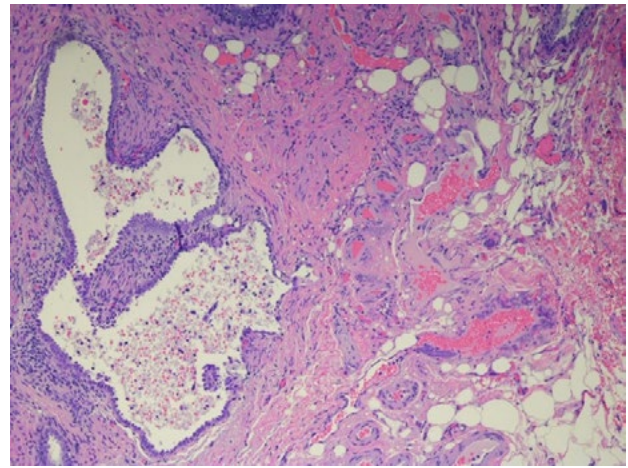
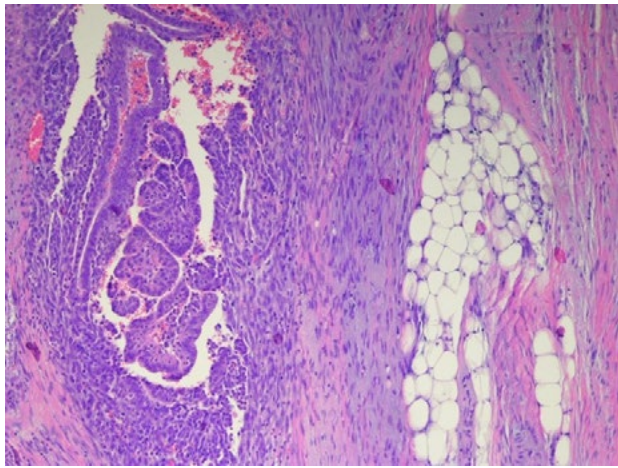
The gynecologic oncologist and general surgeon coordinated a combined robotic-assisted total laparoscopic hysterectomy with bilateral salpingo-oophorectomy and low anterior rectal resection. Surgical findings included an enlarged bilateral endometrioma with extensive adhesions. The posterior cul-de-sac was obliterated with adhesions, and the pelvis contained multiple endometriosis implants. There was a hard mass in the mesentery posterior to the proximal rectum that was subsequently resected (Figures 1, 2, and 3).

Surgical pathology found benign colonic mucosa with extensive serosal, mural, and peri-rectal adipose involvement by endometrial deposits (Figures 4 and 5). They confirmed endometriosis was present at mucosal, serosal, and mesenteric margins.



FIGURES 1, 2, AND 3. Intraoperative pelvic images showing severe pelvic endometriosis causing obliteration of the posterior cul de sac and adhesions to the rectosigmoid.





FIGURES 4 AND 5. Benign endometrial stroma and glands involving rectal muscularis propria and adjacent peri-rectal adipose tissue. (20x)

Twenty-five lymph nodes were all found to be negative for metastatic carcinoma, but several had pericapsular endometriosis. At her 6-week follow-up appointment, the patient was still having occasional left-sided pelvic and rectal pain, but otherwise recovering well and reported normal bowel and bladder function.

DISCUSSION

0.1-0.7% of all patients with endometriosis present with an intestinal obstruction.³ Those with gastrointestinal endometriosis may experience nonspecific symptoms such as cyclic abdominal pain, nausea, vomiting, diarrhea, and/or constipation.³ Interestingly, some patients are asymptomatic. This makes it difficult to identify endometriosis as a cause. Our patient had chronic pain from her endometriosis for years, but only recently began experiencing significant changes in her bowel movements. Obstructive endometriosis can prove difficult to distinguish from malignant disease.³ Colorectal cancer is a much more common etiology. An endometriosis rectal mass can appear comparable to a neoplasm on imaging and can be responsible for similar symptomatology. Even though our patient was known to have an established diagnosis of endometriosis, repeat benign biopsies from the mass were not enough to preoperatively convince the medical team that the mass did not have a malignant component. This case highlights the importance

of maintaining a broad differential when assessing women of reproductive age found to have a mass in their rectum.

Although endometriosis is benign, surgical resection of the rectal mass is still vital. Rectal endometriosis can progress to complete obstruction, toxic megacolon, or perforation.^{3,4} A systematic review of randomized controlled trials and observational studies on the surgical techniques for treatment of rectal endometriosis by Popoutchi, Marques Junior, P. Averbach, Cardoso Filho, and M. Averbach found that the support of a multidisciplinary team was a crucial part of success.⁵ It was of great benefit that at our institution, the gyn-oncology and general surgery teams coordinated and worked together. Our patient was evaluated for her suspicious rectal mass while pursuing a radical hysterectomy for her endometriosis. This saved the patient from having to undergo 2 separate procedures for treatment and all the associated risks. We would encourage a multimodal approach in future complex endometriosis cases.

CONCLUSION

Endometriosis presenting with a near-complete bowel obstruction is rare. However, this case highlights that the presentation of endometriosis is varied and can be complicated to recognize. Physicians should maintain a broad differential



diagnosis when evaluating a rectal mass in reproductive-age women. They should also strive to utilize a multidisciplinary team in the treatment and management of complex endometriosis cases whenever possible.

AUTHOR AFFILIATIONS

1. Marshall University Joan C. Edwards School of Medicine, Huntington, West Virginia
2. West Virginia University - Charleston Campus, Charleston, West Virginia

REFERENCES

1. Bulun SE, Yilmaz BD, Sison C, Miyazaki K, Bernardi L, Liu S, Kohlmeier A, Yin P, Milad M, Wei J. Endometriosis. *Endocr Rev.* 2019;40(4):1048-1079. doi: 10.1210/er.2018-00242.
2. Smolarz B, Szyłło K, Romanowicz H. Endometriosis: Epidemiology, Classification, Pathogenesis, Treatment and Genetics (Review of Literature). *Int J Mol Sci.* 2021;22(19):10554. doi: 10.3390/ijms221910554.
3. Alvarado LER, Bahmad H, Mejia O, Hollembeak H, Poppiti R, Howard L, Muddasani K. Rectal endometriosis presenting as toxic megacolon. *Autops Case Rep.* 2021;11:e2021319. doi: 10.4322/acr.2021.319.
4. Kuriyama N, Ando K, Hu Q, Miyashita Y, Fujimoto Y, Jogo T, Hokonohara K, Nakanishi R, Hisamatsu Y, Kimura Y, Tsurumaru D, Kohashi K, Oda Y, Oki E, Nishimura M, Mori M. Obstructive rectal endometriosis treated by robot-assisted laparoscopic surgery: a case report. *Surg Case Rep.* 2020;6(1):211. doi: 10.1186/s40792-020-00977-9.
5. Popoutchi P, Marques Junior OW, Averbach P, Cardoso Filho CAM, Averbach M. Surgical techniques for the treatment of rectal endometriosis: a systematic review of randomized controlled trials and observational studies. *Arq Gastroenterol.* 2021;58(4):548-559. doi: 10.1590/S0004-2803.202100000-97.

