

CASE REPORT

DOI: 10.5336/jcog.2021-85436

A Rare Cause of Bowel Obstruction Mimicking Colon Cancer: Endometriosis

¹ Sami AÇAR^a, ² Erman ÇİFTÇİ^b, ³ Handan ÇETİNER^c, ⁴ Murat APİ^d

^aDepartment of General Surgery, University of Health Sciences Zeynep Kamil Maternity and Children Training and Research Hospital, İstanbul, Türkiye

^bDepartment of Obstetrics and Gynecology, University of Health Sciences Zeynep Kamil Maternity and Children Training and Research Hospital, İstanbul, Türkiye

^cDepartment of Pathology, University of Health Sciences Zeynep Kamil Maternity and Children Training and Research Hospital, İstanbul, Türkiye

^dDepartment of Obstetrics and Gynecology Oncology, University of Health Sciences Zeynep Kamil Maternity and Children Training and Research Hospital, İstanbul, Türkiye

ABSTRACT Intestinal involvement is observed in a significant portion of patients diagnosed with endometriosis. Involvement is often on the serosal surface of the sigmoid colon. Rarely, it takes place in the colonic mucosa and lymph nodes, causing lumen obstruction. Colonoscopic biopsies may be insufficient in the differential diagnosis of malignancy and diverticulitis. We report a case of a 41-year-old premenopausal female patient with endometriosis located in the ampulla recti causing complete intestinal obstruction. Although having a significant rectal mucosal mass, the diagnosis could not be made with tissue samples taken by endoscopy. During the examination, the patient developed ileus. With the preliminary diagnosis of rectal cancer, surgical intervention was applied with oncological principles, and its treatment was performed with opening a diverting ileostomy. Diagnosis of rectosigmoid endometriosis is difficult. In women of childbearing age, rectosigmoid endometriosis should be kept in mind in lower gastrointestinal tract obstructions.

Keywords: Endometriosis; pelvic pain; ileus; rectal neoplasms; colectomy

Endometriosis is an estrogen-dependent, inflammatory, and a benign disease that affects about 10% of women at reproductive age.¹ Pelvic endometriosis lesions are classified as peritoneal, ovarian, and infiltrative.²

Deep infiltrative endometriosis is characterized by invading the peritoneal tissue deeper than 5 mm.³ It is usually located in areas such as the rectovaginal septum, rectum, rectosigmoid colon, bladder, ureter, uterine ligaments, and vagina.⁴ Intestinal involvement of those diagnosed with infiltrative endometriosis is approximately 8-12%, and 90% of these cases are located in the colorectal segments that are thought to

cause complete intestinal obstruction in 1%. While 95% of the intestinal wall involvement occurs in the serosa and muscularis propria; the submucosa is affected in 38%, and the mucosa in 6%.⁴ In the choice of treatment, it is very important to consider the patient's predominant symptoms and preferences, side effect profile, age, the extent of the disease, location, previous treatment, and costs.⁵ Symptoms recur within 5 years in 50% of the cases, regardless of the treatment approach.⁶

In our study, we aim to present a case of intestinal endometriosis which leads to mechanical bowel obstruction by affecting the whole layer of the rectal walls.

Correspondence: Sami AÇAR

Department of General Surgery, University of Health Sciences Zeynep Kamil Maternity and Children Training and Research Hospital, İstanbul, Türkiye

E-mail: acarssami@yahoo.com



Peer review under responsibility of Journal of Clinical Obstetrics & Gynecology.

Received: 09 Jul 2021

Received in revised form: 14 Nov 2021

Accepted: 01 Feb 2022

Available online: 08 Feb 2022

2619-9467 / Copyright © 2022 by Türkiye Klinikleri. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

CASE REPORT

A 41-year-old gravida 0 patient presented with pain in the form of pressure in the pelvic area and difficulty in stooling. Three different colonoscopic examinations were performed at 3 different gastroenterology departments. In all these colonoscopic examinations, a mass lesion starting approximately 5 cm from the anal entrance was seen, and it extended along the rectal segment about 3-4 cm. According to the Paris classification, it was graded as Is+IIb. Due to the presence of a Kudo pit pattern V appearance in one area, it was not suitable for endoscopic resection (Figure 1). All pathological evaluations were compatible with the granulation tissue. In the pelvic area, a mass lesion 5x6 cm in diameter, with lobulated contoured internal small air loculations, located on the expanded floor of the Douglas pouch was observed. Diffuse thickening up to 15 mm in a circular fashion at the rectal wall and the presence of many lymph

nodes reaching 12 mm in diameter in the mesorectal plane were suspicious for cancer (Figure 2). A surgical treatment decision was made with oncological principles for a mass lesion located in the middle rectum with occlusive nature. Due to previous abdominal surgery, coloanal anastomosis following laparotomic mesocolic and mesorectal rectosigmoidal resection, and loop ileostomy was performed (Figure 3). In the definitive pathological evaluation, it was reported that the resection performed was close to complete, and reactive changes was determined in 18 lymph nodes which were surgically removed, and a mass lesion with a diameter of 5.5x5x4.5 cm was reported as endometriosis (Figure 4). Ectopic polypoid endometrial tissue in the rectum was located in the entire muscular, submucosal and mucosal layers, and a large polypoid mass could be seen protruding to the lumen and subsequently occluding it. The exulcerated surface of the polyp with wide granulation tissue was shown microscopically (Figure 5).

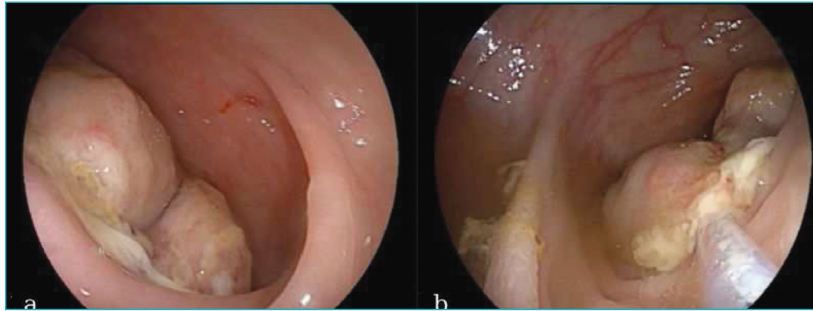


FIGURE 1: Rectosigmoidoscopic view, a mass lesion with the features of being firm and smooth surfaced, including hyperemic areas that almost completely obstructing the rectal wall.

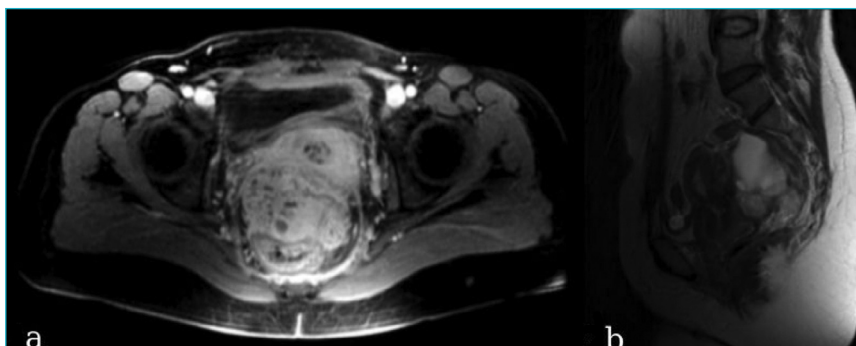


FIGURE 2: (A) Transverse and (B) sagittal plane of the pelvic magnetic resonance images, respectively. A mass lesion 5x6 cm in diameter with lobulated counter internal small air loculations on the expanded floor of the Douglas pouch.

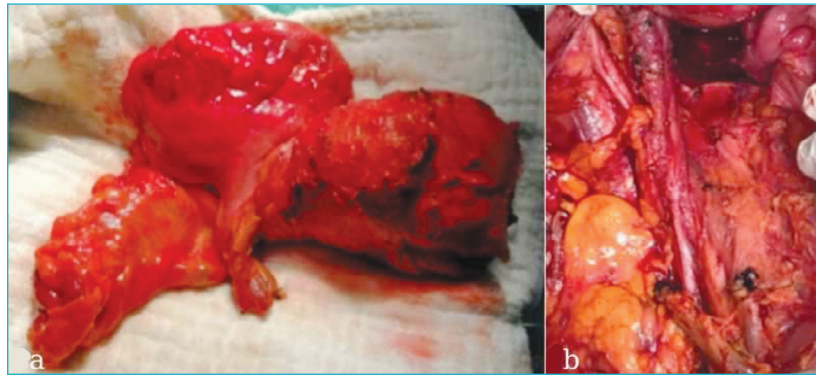


FIGURE 3: (A) Complete mesocolic and mesorectal excision specimen, (B) intra-abdominal view after resection.



FIGURE 4: (A) The image shows, a mass completely obstructing the rectal lumen, (B) the view of the mass lesion right after surgically opening of the posterior rectal wall. The mass is located on the ventral side of the rectum.

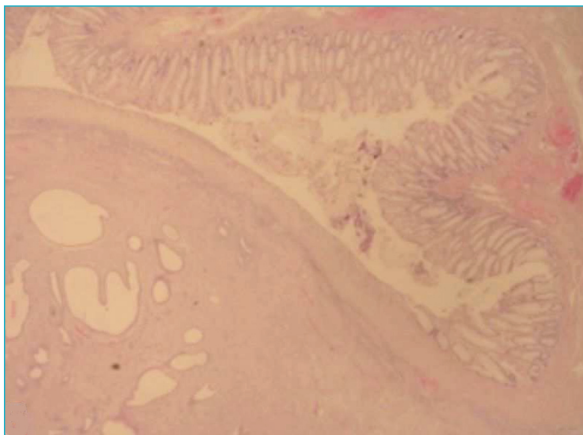


FIGURE 5: Endometriosis; replacing mucosa, submucosa and muscularis propria and protruding lumina of the rectum as a bulky mass (H&E, x20).

Immunohistochemistry technique for CD10, PAX8, estrogen alpha ($ER\alpha$) and progesterone (PR) receptor, was performed to confirm the presence of endometrial stroma and glandular tissue (Figure 6).

An informed consent was obtained from the patient for this case report.

DISCUSSION

The presence of intestinal endometriosis can be detected as a result of examinations performed for pelvic pain, presence of an unknown mass, and rectal bleeding. Mechanical bowel obstruction develops due to areas of endometriosis extending into the lumen in the rectosigmoid region and sigmoid colon.⁷ Similarly, endometriosis foci can cause plication and angulation of the intestinal segment around it.⁸ Intestinal obstruction with nodules extending from the Douglas pouch to the middle rectum is extremely rare. This is because the ampulla recti is large, calibrated and flexible, and also due to its anterior face being covered by the peritoneum. Ono et al. have reported that the development of obstruction in the rectal wall occur because of narrowing of the lumen, ultimately due to the location of the endometriosis. Since the diagnosis of malignancy could not be confirmed, proctectomy was performed.⁹ Lenz et al. also presented a case of endometriosis causing perforation.¹⁰

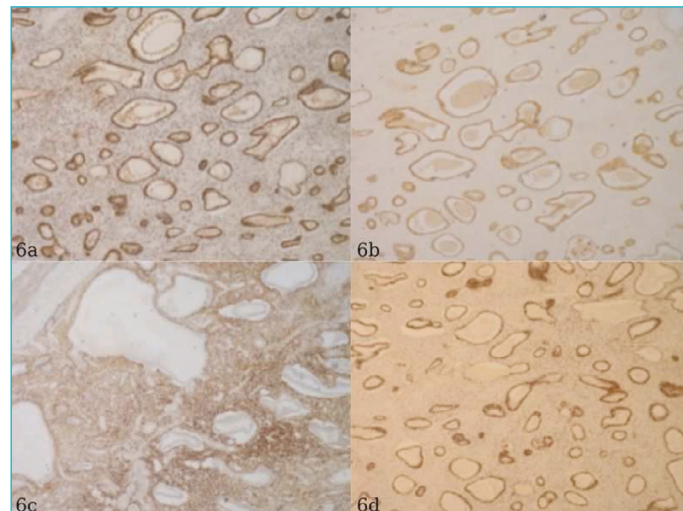


FIGURE 6: Positive (A) CD10, (B) PAX9, (C) ER, (D) PR immunohistochemical staining of endometriosis in rectum (IHC,x20).

Rectum-located endometriosis and rectal cancer cannot be differentiated frequently and therefore wide resections are performed.¹¹ The incidence of malignancy associated with endometriosis is 1%, and this probability is higher in foci with extraovarian location. Surgical treatment methods are erasion from intestinal surface, discoid excision, and segmental bowel resection. The method of choice depends on the location of intestinal involvement, the number of foci on the intestinal surface, the depth of the infiltration, and whether there is a stenosis in the gut lumen.⁷ Avoiding segmental bowel resection, especially in the presence of lesions close to the anal verge level, is important in terms of preventing possible complications. Even in bowel resection, the presence of microscopic endometriosis foci at the level of 15% at the resection limits requires a careful evaluation at the decision-making stage. Roman et al. have reported that the long-term results of radical surgery are not prognostically brighter than conservative treatment, and the complication rates seem to be higher.¹² Vlek et al. have defined the transanal minimally invasive surgical technique for rectal endometriosis with deep localization.¹³

Kazama et al. have stated that the rectal endometriosis area was prone to bleeding on endoscopic examination. They have defined the presence of pits with flat microvessels in magnified narrow band imaging, and avascular areas at the tip of the

papillary protrusions.¹⁴ As eutopic endometrium, ectopic glands express ER, PR, PAX-8 and stroma express CD10. On the other hand, colonic glands are well known to express CDX2 which was regarded a highly sensitive marker of intestinal epithelium whereas PAX-8 was reactive for organs derived from mullerian duct. In our case, although H+E stained slides were pretty clear about endometriotic nature of the polypoid mass with stroma and glands, we confirmed the diagnosis with the panel of above-mentioned immunohistochemical stains and CDX2 was negative whereas others were all positive.

Zondervan et al. have summarized the most important reasons for the delay in diagnosis of endometriosis. These are the absence of specific complaints and biological markers, insufficient awareness and occasional normalization of the findings.¹⁵ The uncertainty in diagnosis cannot clarify which surgical intervention should be at the decision-making stage. Because, in the presence of possible rectal cancer, mesorectal excision and neoadjuvant treatment plan comes to the fore. Failure to diagnose prevents further examination. Insufficient surgical treatment in the presence of cancer has a negative effect on possible local recurrence and survival. On the other hand, wide resection in the presence of a benign condition increases the complication rate. In case of stoma opening, quality of life deteriorates, and secondary surgical interventions are required for closure.

Despite the colonoscopic biopsies that were performed in different gastroenterology departments for 3 times; the endometriosis could not have been diagnosed and the patient underwent a surgical intervention. It should be kept in mind that endometriosis may be the cause of ileus in women of childbearing age and should be considered in the differential diagnosis of both malignancy and diverticulosis coli.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Sami Açar; **Design:** Sami Açar; **Control/Supervision:** Murat Api, Handan Çetiner; **Data Collection and/or Processing:** Sami Açar, Handan Çetiner, Erman Çiftçi; **Analysis and/or Interpretation:** Sami Açar, Murat Api; **Literature Review:** Sami Açar, Erman Çiftçi; **Writing the Article:** Sami Açar; **Critical Review:** Murat Api; **References and Fundings:** Sami Açar; **Materials:** Sami Açar.

REFERENCES

- Shafir AL, Farland LV, Shah DK, Harris HR, Kvaskoff M, Zondervan K, et al. Risk for and consequences of endometriosis: a critical epidemiologic review. *Best Pract Res Clin Obstet Gynaecol.* 2018;51:1-15. [Crossref] [PubMed]
- Vercellini P, Viganò P, Somigliana E, Fedele L. Endometriosis: pathogenesis and treatment. *Nat Rev Endocrinol.* 2014;10(5):261-75. [Crossref] [PubMed]
- De Cicco C, Corona R, Schonman R, Mailova K, Ussia A, Koninckx Pr. Bowel resection for deep endometriosis: a systematic review. *BJOG.* 2011;118(3):285-91. [Crossref] [PubMed]
- Meuleman C, Tomassetti C, D'Hoore A, van Cleynenbreugel BV, Penninckx F, Vergote I, et al. Surgical treatment of deeply infiltrating endometriosis with colorectal involvement. *Hum Reprod Update.* 2011;17(3):311-26. [Crossref] [PubMed]
- Johnson NP, Hummelshoj L, Adamson GD, Keckstein J, Taylor HS, Abrao MS, et al. World Endometriosis Society consensus on the classification of endometriosis. *Hum Reprod.* 2017;32(2):315-24. [Crossref] [PubMed]
- Becker CM, Gattrell WT, Gude K, Singh SS. Reevaluating response and failure of medical treatment of endometriosis: a systematic review. *Fertil Steril.* 2017;108(1):125-36. [Crossref] [PubMed] [PMC]
- Nezhat C, Li A, Falik R, Copeland D, Razavi G, Shakib A, et al. Bowel endometriosis: diagnosis and management. *Am J Obstet Gynecol.* 2018;218(6):549-62. [Crossref] [PubMed]
- Vercellini P, Sergenti G, Buggio L, Frattaruolo MP, Drudi D, Berlanda N. Advances in the medical management of bowel endometriosis. *Best Pract Res Clin Obstet Gynaecol.* 2021;71:78-99. [Crossref] [PubMed]
- Ono H, Honda S, Danjo Y, Nakamura K, Okabe M, Kimura T, et al. Rectal obstruction due to endometriosis: a case report and review of the Japanese literature. *Int J Surg Case Rep.* 2014;5(11):845-8. [Crossref] [PubMed] [PMC]
- Lenz J, Fiala L, Chvatal R, Tibon J, Uncapher L, Kavka M, et al. Rectal perforation caused by deep infiltrating endometriosis in non-pregnant woman: case report and short review of the literature. *Ann Ital Chir.* 2019;8:S2239253X19029360. [PubMed]
- Rana R, Sharma S, Narula H, Madhok M. A case of recto-sigmoid endometriosis mimicking carcinoma. *Springerplus.* 2016;5:643. [Crossref] [PubMed] [PMC]
- Roman H, Milles M, Vassilief M, Resch B, Tuech JJ, Huet E, et al. Long-term functional outcomes following colorectal resection versus shaving for rectal endometriosis. *Am J Obstet Gynecol.* 2016;215(6):762.e1-9. [Crossref] [PubMed]
- Vlek SL, Lier MCI, Koedam TWA, Melgers I, Dekker JJML, Bonjer JH, et al. Transanal minimally invasive rectal resection for deep endometriosis: a promising technique. *Colorectal Dis.* 2017;19(6):576-81. [Crossref] [PubMed]
- Kazama S, Hiramatsu T, Kuroda K, Hongo K, Watanabe Y, Tanaka T, et al. A case of unique endoscopic findings of intestinal endometriosis exposed to the mucosa: aggregation of papillary protruded bulges from the submucosal elevation of the rectum. *Clin J Gastroenterol.* 2019;12(2):166-70. [Crossref] [PubMed]
- Zondervan KT, Becker CM, Missmer SA. Endometriosis. *N Engl J Med.* 2020;382(13):1244-56. [Crossref] [PubMed]