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CASE REPORT

Rectosigmoid Endometriosis Causing Large Bowel Obstruction

Sridhar Dharmavaram[1], Sudhakar Unnam[2], Moses Amarjothi Joacquim[3,*]

[1]United Lincolnshire Hospitals NHS Trust, Lincoln, UK
[2]Ayrshire and Arran Primary Care Trust: NHS Ayrshire and Arran Kilmarnock, Scotland, UK
[3]Imperial College Healthcare NHS Trust, London, UK
*Correspondence: drmosesvikramamarjothi@hotmail.com (Moses Amarjothi Joacquim)

Abstract

Large bowel obstruction is most commonly due to colorectal carcinoma, diverticular disease or volvulus. Rare causes of large bowel obstruction like endometriosis may occur in premenopausal women and diagnosis of large bowel endometriosis can be challenging to confirm preoperatively. Hence, clinicians should maintain a high index of suspicion for rare causes of large bowel obstruction like endometriosis. This may require complete surgical resection of the involved bowel to eliminate the risk of local recurrence.

Key words: endometriosis; bowel obstruction; surgical resection; premenopausal women; hormone therapy

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Introduction

Endometriosis may affect up to one tenth of all women of reproductive age though the bowel can be involved in up to one third of these patients (Allaire et al, 2023). Endometriosis involving the bowel may present very rarely as small or large bowel obstruction in the emergency setting where an accurate pre operative diagnosis may not often be possible. It is thought that these endometrial nodules constrict the bowel lumen mechanically in addition to infiltrating the Cajal cell pacemaker of the intestinal plexus and cause bowel obstruction (Ferrero et al, 2011). Decompression of bowel obstruction may be necessary upfront in the emergency setting before endoscopy and radiological investigations can be done to establish causality which can also be nonconfirmatory as seen in our case. A definite diagnosis is then obtained only on histopathological examination after complete surgical resection.

Case Presentation

41-year-old female patient with no previous history of endometriosis presented with features of obstipation and vomiting for about a week. The patient complained of gradual distension of the abdomen for the past six months. She was previously investigated with an ultrasound of the abdomen which was reported as normal. Her previous menstrual cycles were regular. She is mother to a 12-year-old girl and had

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no history of infertility treatments or conception difficulties. On physical examination at presentation, the abdomen was distended and tympanitic. Computerised tomography (CT) scan showed soft tissue mass in the distal sigmoid colon with upstream dilation of the large and small bowel (Fig. 1A,B).

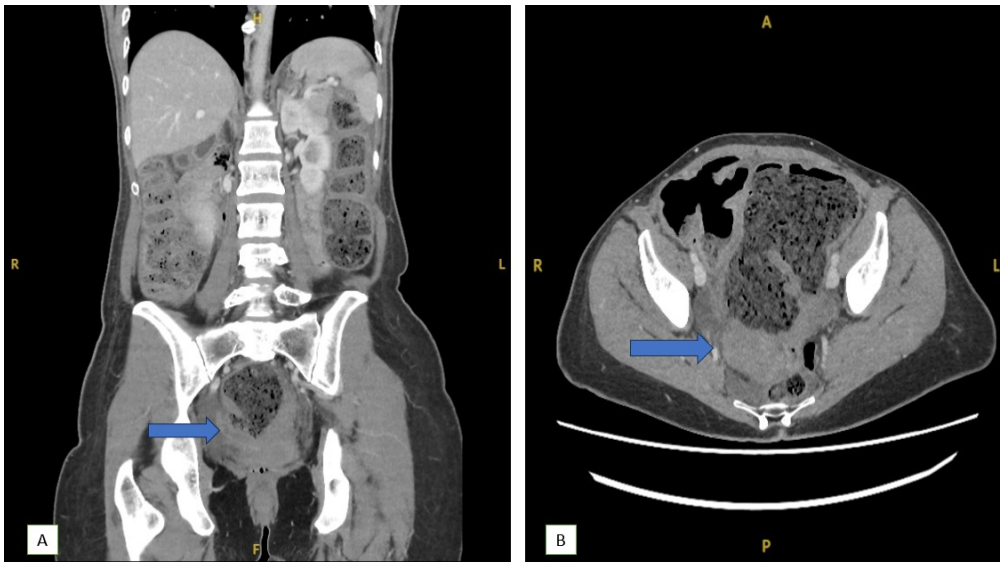

Fig. 1. Computerised tomography (CT) showing soft tissue mass (blue arrow) with upstream large bowel obstruction in (A) Coronal and (B) Axial sections. H, head; F, foot; L, left; R, right; A; anterior; P, posterior.

Emergency laparotomy was performed due to this presentation with acute obstipation. Intraoperatively, there was marked small and large bowel obstruction due to the eccentric soft tissue mass at the rectosigmoid distally without obvious metastasis. Due to the unknown nature of the soft tissue mass and acute presentation, decision was made to perform a defunctioning loop colostomy. The colostomy was planned as per surgeon preference and need for a proper work up before tackling the mass per se. Subsequent colonoscopy was inconclusive as the soft tissue mass was not clearly visualized intraluminally and biopsies from the rectosigmoid area were normal. Further Magnetic Resonance Imaging (MRI) showed an eccentric mass involving the distal sigmoid, suggestive of malignancy.

The differentials in this case included colorectal carcinoma and inflammatory bowel disease. Colorectal carcinoma was considered less likely in our patient as the patient did not have typical features of long-standing malignancy like weight loss, cachexia, or metastasis on imaging. Inflammatory bowel disease was also unlikely as our patient was middle-aged and had no characteristic history of inflammatory bowel disease, including fever, bowel disturbances like diarrhea, constipation, rectal bleeding, blood stained stools or a family history of the same. Also, radiological features of inflammation typically seen in inflammatory bowel disease like perienteric fat stranding, or areas of stricturing, fistulae, abscess were not seen.

A further definitive operation was performed four weeks after the emergency diversion and above investigations to remove the involved bowel completely as the diagnosis was still unclear. Surgery consisted of rectosigmoid resection with

removal of all visible tumour tissue and removal of the previous loop colostomy with primary colorectal anastomosis of remaining proximal colon and distal rectum to maintain bowel continuity with stapler. This was done without a covering ileostomy. The above surgery entailed complete removal of the constriction like endometrial tumour mass at the rectosigmoid in toto and the patient made an uneventful recovery (Fig. 2).

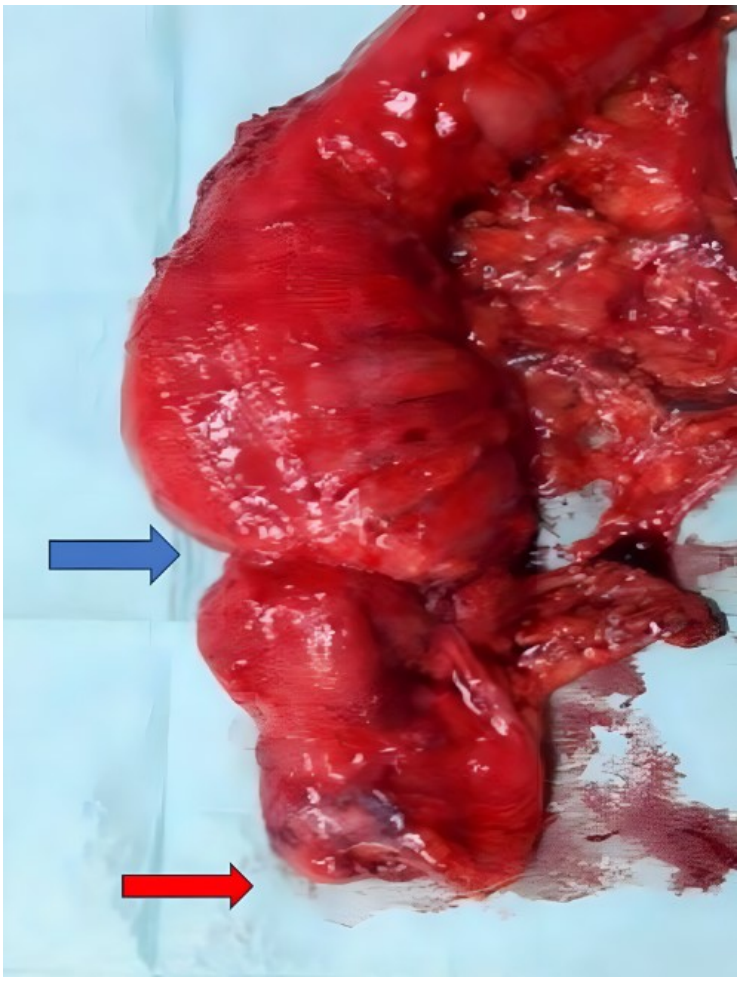

Fig. 2. Post operative specimen showing constriction at the rectosigmoid (blue arrow) with distal end (red arrow).

Histopathology showed extensive endometriosis infiltrating into the muscularis propria of the sigmoid colon wall with no evidence of neoplasia (Fig. 3). She has annual CT and endoscopic surveillance and has been asymptomatic for over a year. The patient did not receive any hormonal treatment due to patient preference and she attained menopause in a year after surgery.

Discussion

Endometriosis is a common disease which affects one in ten women. The bowel is involved in about a third (3–37%) of all women with endometriosis (Ferrero et al, 2011). It is a rare cause of large bowel obstruction with a reported in-

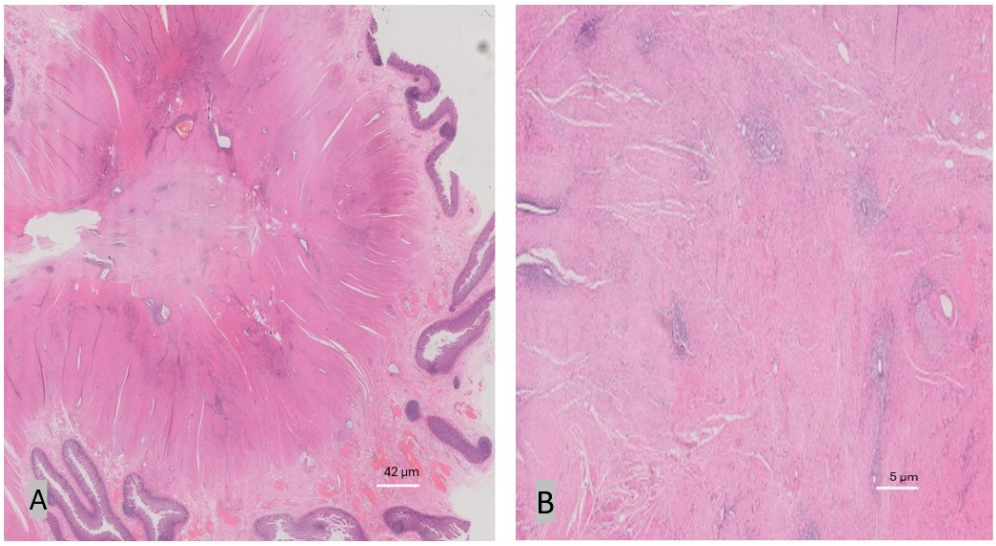

Fig. 3. Histopathology on Hematoxylin and Eosin stain (H&E stain) showing sigmoid colon with serosal infiltration of endometrial glands and stroma on (A) Light Microscopy (×2) and (B) Light Microscopy (×20).

cidence of 0.1–0.7% of all large bowel obstruction cases implying on the rarity of endometrial disease presenting with bowel obstruction (Allan, 2018). The pathogenesis of endometriosis is unknown though retrograde menstruation is contributory. Large bowel obstruction due to endometriosis has only been seen in a few case reports only with colorectal carcinoma (50%) and diverticular disease accounting for most cases of large bowel obstruction (Alexandrino et al, 2018).

Symptoms of endometriosis can be vague and include cyclical abdominal pain, difficulty and pain on menstruation or sexual activity. There is no correlation between symptoms and endometrial nodule size, as evaluated by imaging (Thomassin et al, 2004). This implies that any lesion, no matter how small could potentially be symptomatic and therefore necessitate localization and treatment.

Differential Diagnosis

Advanced endometriosis may mimic obstruction due to colorectal carcinoma.

Crohns disease may also mimic endometriosis and can co-exist with endometriosis (Torralba-Morón et al, 2016).

Investigations

Investigations to diagnose endometriosis can be quite challenging. Digital vaginal examination for palpable nodules is an initial test and transvaginal ultrasound (TVUS) is investigation of choice with over 90% sensitivity for bowel endometriosis (Abrao et al, 2007). However, TVUS is dependent on operator availability and experience. Colonoscopy is of some value in advanced disease only as only large endometrial nodules infiltrate through the bowel wall into the mucosa.

Treatment for Colonic Endometriosis

Medical Management

First-line medical therapy for non-obstructive endometriosis include non-steroidal anti-inflammatory drugs (NSAIDs) and oral contraceptive pills (OCPs) (ESHRE, 2022). Young females with bowel obstruction and those wishing to conceive are not candidates for medical treatment.

Endoscopic Decompression

Endoscopic decompression and stenting with plastic stents can be used as a bridge before surgery for acute colonic obstruction due to endometriosis.

Surgical Management

Surgical treatment of bowel endometriosis can involve lysis of bowel adhesions caused by endometrial nodules, removal of the endometrial nodules by shaving or complete removal of obstructed bowel involved by endometrial disease. Adhesiolysis can be done by laparoscopy with minimal morbidity. Rectal shaving may be considered for small nodules less than 3 cm in diameter, with a depth of involvement less than 7 mm, or those involving less than 50% of the bowel circumference (Remorgida et al, 2005). In cases of total obstruction, all visible colorectal endometrial tissue must be removed by segmental (rectosigmoid) resection with primary anastomosis to restore bowel continuity or Abdominoperineal Resection (APR). Post operative hormonal therapy must be individualized to the patient and when initiated within six months after surgery prevents local recurrence and helps in pain relief after ovary preserving surgery (Zakhari et al, 2021).

Conclusion

Endometrial disease involving the bowel is rare and endometriosis causing bowel obstruction is even rarer still. This can be difficult to diagnose preoperatively in many cases. Complete surgical resection is necessary in such cases of suspected endometriosis to remove all macroscopic disease and prevent local recurrence.

Learning Points

- The diagnosis of extraovarian bowel involvement with endometriosis should be considered in premenopausal women who complain of cyclical gastrointestinal symptoms, especially in those with a history of previous endometriosis or infertility.
- Endometriosis causing acute bowel obstruction is rare and challenging as diagnosis is difficult to obtain even with a detailed history, comprehensive examination or extensive endoscopic evaluation.
- Definitive diagnosis is required as this benign condition may mimic malignancy.
- Suspected endometrial disease with bowel involvement needs to be evaluated ideally with transvaginal ultrasound. Suspicious bowel lesions can then be biopsied to reveal a preoperative diagnosis.
- Non-obstructive endometrial bowel disease can be treated with long term hormonal or anti-inflammatory therapy without reoperation.
- Ideal treatment for endometriosis with bowel obstruction in the emergency setting needs to be in sequence with acute decompression (either endoscopic or surgical) followed by investigations to confirm the diagnosis and then adequate surgical resection to remove all visible endometrial tissue and prevent local recurrence.

Availability of Data and Materials

The authors confirm the data supporting the findings of the study are accurate and available within the article.

Author Contributions

SD made substantial contributions to conception and design. SU made substantial contributions to acquisition of data. MJ was responsible for analysis and interpretation of data. SD, SU and MJ have been involved in drafting the manuscript or revising it critically for important intellectual content. All authors (SD, SU, MJ) have given final approval of the version to be published. Each author participated sufficiently in the work to take public responsibility for appropriate portions of the content. All authors (SD, SU, MJ) are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Ethics Approval and Consent to Participate

Informed consent obtained to publish from patient.

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Conflict of Interest

The authors declare no conflict of interest.

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