



Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Rectal obstruction due to endometriosis: A case report and review of the Japanese literature



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ARTICLE INFO

Article history:

Received 23 July 2012

Received in revised form 8 April 2014

Accepted 8 April 2014

Available online 14 October 2014

Keywords:

Hormonal therapy

Rectal endometriosis

Rectal obstruction

Surgery

ABSTRACT

INTRODUCTION: Colorectal obstructive endometriosis is relatively rare in Japan and its differentiation from malignancy is often difficult. We report a case of rectal obstructive endometriosis.

PRESENTATION OF CASE: A 37-year-old woman was referred to our hospital with a suspected ileus. Her chief symptoms were left lower abdominal pain and vomiting. Colonoscopy showed an intraluminal mass of redness in the upper rectum. A proctectomy was performed because of the bowel obstruction. The rectum was filled with an intraluminal mass measuring 5 cm × 4 cm, and endometriosis was diagnosed pathologically.

DISCUSSION: A preoperative diagnosis of colorectal obstructive endometriosis is often difficult because of the lack of definite diagnostic, clinical, sonographic, or radiological findings that are characteristic of this disease. Medical treatment is not always effective for colorectal obstructive endometriosis, and surgery is often performed.

CONCLUSION: Colorectal obstructive endometriosis should be considered as a differential diagnosis in cases of various gastrointestinal symptoms in women who are of reproductive age.

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1. Introduction

Bowel endometriosis occurs in approximately 10% of all cases of endometriosis^{1,2} and usually arises in the rectum and sigmoid colon in 80% of these.³ It is usually asymptomatic, but may cause non-specific symptoms, such as abdominal colic-like pain, nausea, vomiting, and general symptoms of intestinal obstruction.^{4,5} Circumferential endometriosis of the rectum should be differentiated from inflammatory or malignant diseases,⁶ but because obstructive bowel endometriosis is often difficult to diagnose preoperatively, postoperative histopathological examination may be used to establish a definitive diagnosis. Obstructive endometriosis involving the colon or rectum is relatively rare, and a search on the Ichushi Web, a Japanese medical database, revealed that only 49 Japanese patients were diagnosed as having colorectal obstructive endometriosis during the 16 years from 1995 to 2010 (Table 1). We report a case of rectal obstructive endometriosis.

2. Presentation of case

A 37-year-old Japanese woman was referred to our hospital on February, 2011 with a suspected ileus. During the 7 days before admission, she had experienced left lower abdominal pain and vomiting. She was 153 cm in height and weighed 46 kg. Physical examination revealed left lower abdominal tenderness. Her body temperature was 36.5 °C, white blood cell count was 16,900/μL, and cancer antigen 125 level was 70.8 U/mL. She had a history of an endometriosis at 36 years of age.

Abdominal supine X-ray showed dilatation of large bowel segments (Fig. 1). A contrast-enhanced abdominal computed tomography scan revealed a swelling of the rectal wall and colonic dilatation, and colonoscopy showed an intraluminal mass of redness in the upper rectum, which was peculiarly shaped (Fig. 2) and the scope could not pass through the mass. Endoscopic biopsies were taken and histopathological examination revealed non-specific inflammatory changes. It was thought that this mass had caused the colorectal obstruction, but this one could not be diagnosed as being differentiated from benign or malignant diseases.

A proctectomy was performed to relieve the bowel obstruction after informed consent was obtained. Macroscopically, the mucosa

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Table 1
Japanese cases of colorectal obstructive endometriosis from 1995 to 2010 based on a search of Ichushi Web (Japanese database).

Case numbers	49
Age (years) (range)	39.6 ± 6.3 (18–54)
Chief complaint	
Abdominal pain	36 (42)
Abdominal fullness	17 (20)
Vomiting	17 (20)
Constipation	8 (9.3)
Hematochezia	2 (2.3)
Others	6 (6.4)
CA125 (U/mL) (range)	135.8 ± 108.6 (13.3–323)
Regions of obstruction	
Rectum	19 (39)
Sigmoid colon	18 (37)
Cecum	5 (10)
Rectosigmoid colon	4 (8)
Descending colon	2 (4)
Ascending colon	1 (2)
Hormone therapy before operation	15 (31)
Diagnosis of pre-operation	
Endometriosis	25 (51)
Colorectal cancer	19 (39)
Ovarian tumor	3 (6)
Others	2 (4)
Type of surgery	
Proctectomy	16 (33)
Sigmoidectomy	13 (27)
Colostomy	6 (12)
Cecectomy	5 (10)
Hartmann op.	4 (8)
Right hemi-colectomy	2 (4)
Others	3 (6)
Endometrial regions excluding colorectum	
Ovary	9 (39)
Uterus	5 (21)
Peritoneum	3 (13)
Ureter	2 (9)
Lymph node	2 (9)
Others	2 (9)
Pathology post-operation	
Colorectal endometriosis	47 (96)
Endometrioid adenocarcinoma	2 (4)
Prognosis (range)	
Dead	1 (638 days) (due to PC)
Alive	48 (217.8 ± 354.1; 12–1460 days)

Data on age, CA125 and prognosis are demonstrated as mean ± SD; numbers in parenthesis on chief complaint, regions of obstruction, hormone therapy before operation, diagnosis of pre-operation, type of surgery, endometrial regions excluding colorectum and pathology post-operation are shown as percentage; PC, peritoneal carcinomatosis.

of the resected specimen was intact. The rectum was filled with an intraluminal mass measuring 5 cm × 4 cm (Fig. 3a and b), specimens of which demonstrated near complete luminal obstruction at the site of the mass and extraluminal fibrotic adhesion (Fig. 4).



Fig. 1. Abdominal supine X-ray showed dilatation of large bowel segments.

Microscopic examination revealed that the rectal muscularis propria and submucosa included endometrial glands and stroma, and a diagnosis of rectal endometriosis was made in the absence of malignancy (Fig. 5).

She left the hospital 33 days after surgery and was doing well at the 16 months follow up with no recurrence of bowel endometriosis.

3. Discussion

Endometriosis was first described as the presence of functioning endometrial glands and stroma outside the uterine cavity.^{7,8} Endometriosis occurs in 6–10% of the general female population, who are of reproductive age and affects 50–60% of women and teenage girls causing pelvic pain and infertility.^{9,10} Abdominal pain is the most frequent symptom in Japanese patients with colorectal obstructive endometriosis (Table 1). Bowel endometriosis occurs in 10% of all cases of endometriosis,^{1,2} and affects the ileum, appendix, sigmoid colon, and rectum, but

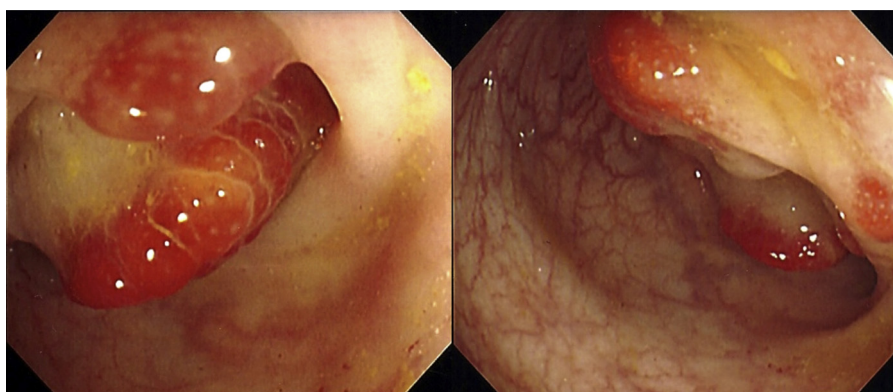


Fig. 2. Colonoscopy showed a red, intraluminal mass in the upper rectum.

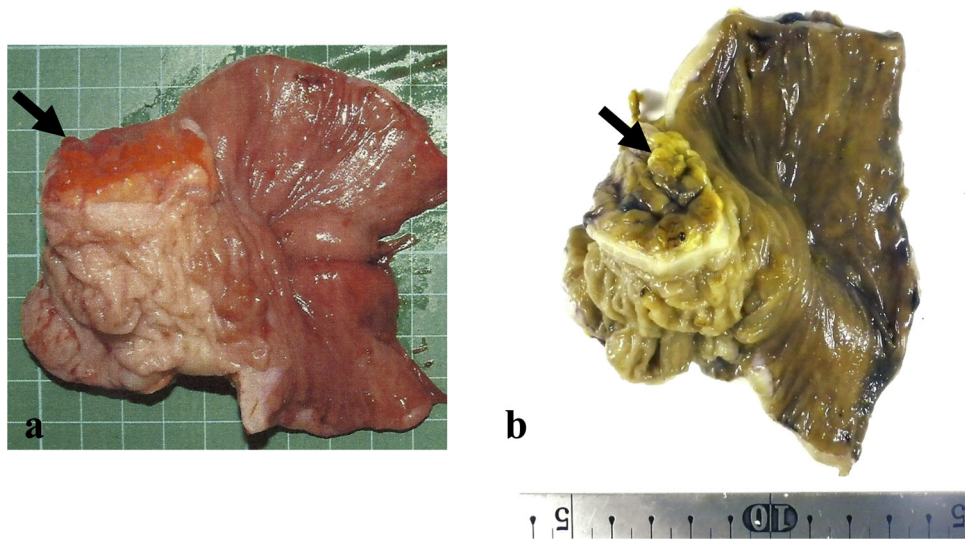


Fig. 3. (a) Macroscopically, the rectum was filled with an intraluminal mass (arrow). (b) The resected specimen after fixation in formalin.

is more frequently located in the rectosigmoid (80%).³ Of the recorded Japanese cases, the sigmoid colon and rectum were involved in 41 (84%) of 49 patients (Table 1). Colorectal obstructive endometriosis with involvement of the colon or rectum is relatively rare. Graham et al. reported colonic obstruction in only two of 32 cases of endometriosis with colonic or rectal involvement,¹¹ and Williams et al. noted only one case of intestinal obstruction among 178 patients with gastrointestinal involvement.¹²

Many theories have attempted to explain the pathogenesis of endometriosis, such as Sampson’s theory of retrograde spread, vascular dissemination, colonic metaplasia, and autoimmune disease among others.¹³ In intestinal endometriosis, aberrant endometrial tissue adheres to the peritoneum and bowel wall under the influence of ovarian hormones. As a result of cyclic bleeding, sloughing, and proliferation, inflammation and fibrosis are found around the lesion, which can progress and surround the bowel or grow into the lumen, leading to obstruction.^{14,15}

A preoperative diagnosis of colorectal obstructive endometriosis is often difficult because of the lack of definite diagnostic,

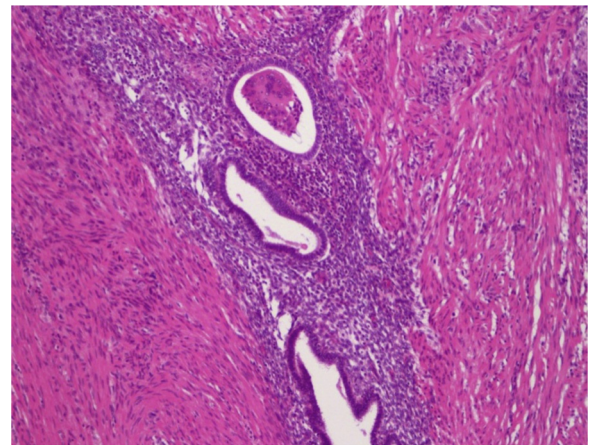


Fig. 5. Microscopic examination of the tumor with hematoxylin and eosin staining ($\times 100$) revealed that the rectal muscularis propria included endometrial glands and stroma.

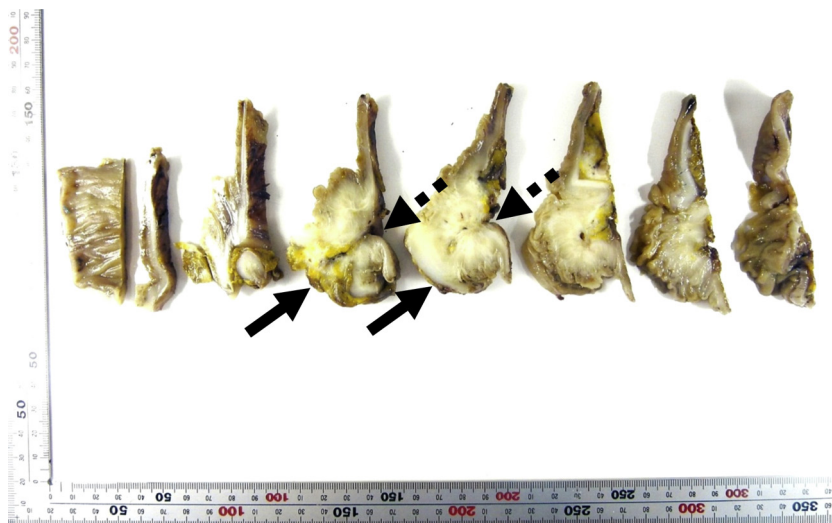


Fig. 4. Cut resection specimens showed near luminal obstruction at the site of the mass (arrow) and extraluminal fibrotic adhesion (dotted arrow).

clinical, sonographic, or radiological findings that are characteristic of this disease; in addition, bowel symptoms can mimic a wide spectrum of diseases, including irritable bowel syndrome, infectious disease, ischemic colitis, inflammatory bowel disease, and malignancy.^{16,17} Of the recorded Japanese cases, colorectal carcinoma was diagnosed preoperatively in 39% of 49 patients (Table 1). Magnetic resonance imaging appears to be the most sensitive technique for colorectal endometriosis with a positive predictive value of approximately 89%.^{18,19} Endoscopy, even with mucosal involvement, cannot usually provide a diagnosis although the endoscopic diagnosis of colonic endometriosis has been reported.²⁰ Colonic disease may be manifested as an annular lesion or as an intraluminal polypoid mass.^{11,15} In our case, the lesion found in the upper rectum was polypoid type. The gold standard diagnostic procedure for intestinal endometriosis is laparoscopy, which gives a more complete and accurate evaluation of both the genital and intestinal tracts.⁴

The treatment of colorectal endometriosis should remove the endometrial stimulus, improve symptoms, and comprise medical and surgical options.²¹ Medical treatment, e.g., danazol, gonadotropin-releasing hormones, and prostaglandin inhibitors, is contraindicated for patients who desire to become pregnant and is not always effective for colorectal obstructive endometriosis. Of the recorded Japanese cases, hormonal therapies were prescribed for 15 (31%) of 49 cases, although they subsequently underwent surgery (Table 1), and a pill was also prescribed for our patient. Therefore, surgery is necessary for patients with colorectal obstructive endometriosis. Bailey et al. reported that the pregnancy rate following surgery was 49%, which strongly supports the surgical treatment of colorectal endometriosis.²² The use of laparoscopic colorectal resection in colorectal endometriosis has also been reported with complete relief of pelvic symptoms in 71% of patients.²³

4. Conclusion

Colorectal obstructive endometriosis is relatively rare in Japan and its differentiation from malignancy is often difficult. Colorectal obstructive endometriosis should be considered as a differential diagnosis in cases of various gastrointestinal symptoms in women who are of reproductive age.

Conflict of interest

None.

Funding

None.

Ethical approval

Obtained.

Author contributions

All authors contributed equally to this work.

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