

CASE IMAGE

Repetitive abdominal pain in a reproductive-aged woman

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Key Clinical Message

We report a young woman with ileocecal endometriosis who presented with repeated abdominal pain. Under hormonal effects, the endometrium may proliferate and cause bleeding in the bowel wall, leading to cyclical abdominal pain. When recurring abdominal pain is observed in reproductive-aged women, physicians should always be aware of gastrointestinal endometriosis.

KEYWORDS

estrogen receptor, ileocecal endometriosis, repetitive abdominal pain, reproductive-aged women

1 | CASE

A 38-year-old woman (gravida 2 para 2, both vaginal deliveries) without any surgical/medical history visited the emergency department with recurrent abdominal pain, nausea, and vomiting. These symptoms initially occurred monthly, but later occurred continuously, and gradually increased in severity. On admission, the patient had no fever, and her other vital signs were normal. A physical examination showed tenderness in the right lower quadrant, but no peritoneal signs were observed.

Contrast-enhanced computed tomography showed bowel wall thickening with heterogeneous enhancement at the terminal ileum and proximal bowel dilation (Figure 1A). A transabdominal ultrasound examination revealed a 2×1 cm hypoechoic and hypovascular mass near the terminal ileum (Figure 1B). A double-balloon enteroscopic examination showed an irregular mass with normal mucosa narrowing the lumen of the ileum (Figure 1C). Laboratory tests indicated a slightly elevated

C-reactive protein concentration (1.28 mg/dL), with no other abnormalities including high CEA, CA19-9, and CA125 concentrations. The patient underwent a laparotomy owing to the bowel obstruction, and a solid ileocecal mass and luminal stricture in the distal ileum were observed (Figure 1D).

2 | QUESTION

What is the most likely diagnosis?

3 | ANSWER

Ileocecal endometriosis.

Histopathology showed glandular structures surrounded by the stroma in the muscularis propria and submucosa (Figure 2A). Bleeding and hemosiderin granules were present in interstitial tissue of the

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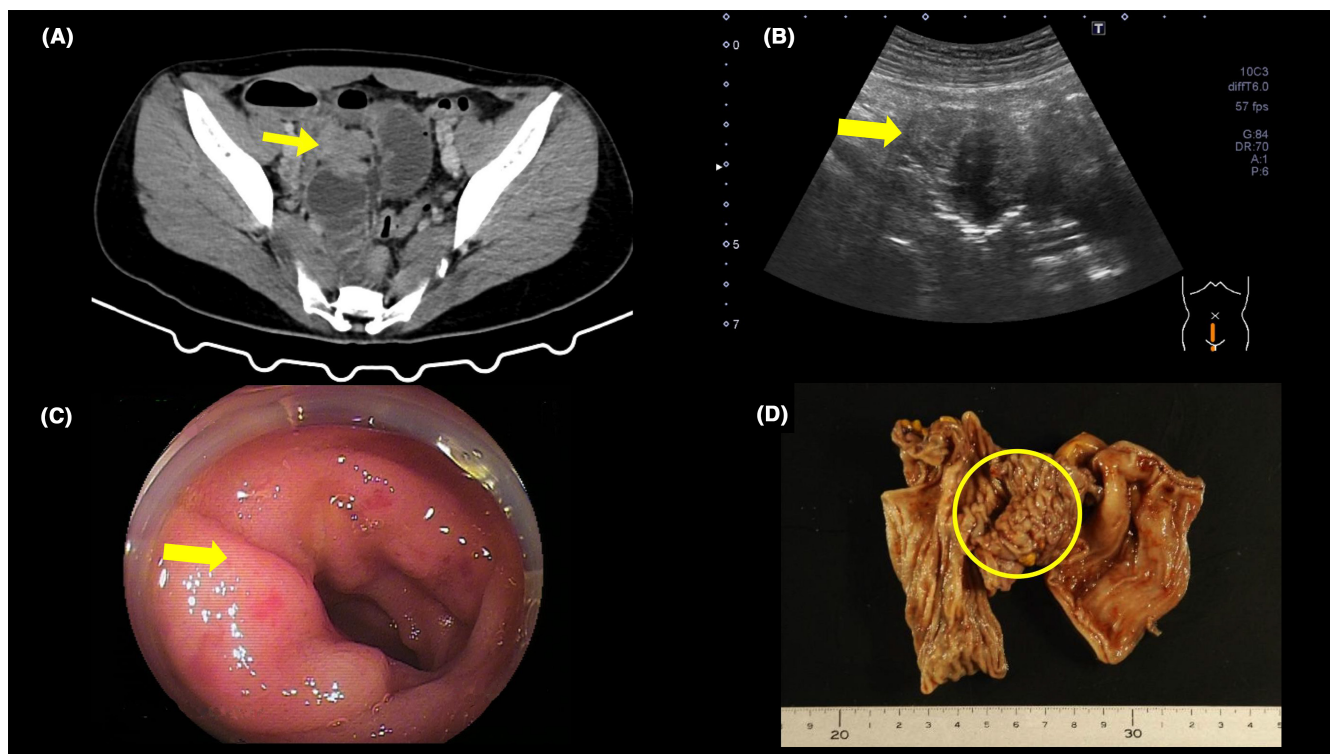


FIGURE 1 Endometriosis causing ileal obstructions. (A) A contrast-enhanced computed tomography image shows heterogeneous enhancement on the thickened bowel wall at the terminal ileum (arrow) with proximal bowel dilation. (B) A transabdominal ultrasound image shows a hypoechoic and hypovascular mass close to the terminal ileum with a size of 2×1 cm (arrow). (C) Double-balloon enteroscopy shows a normal mucosa with a narrowed ileum (arrow). (D) An excised specimen with a thickened intestinal wall forming a solid mass can be seen (circle).

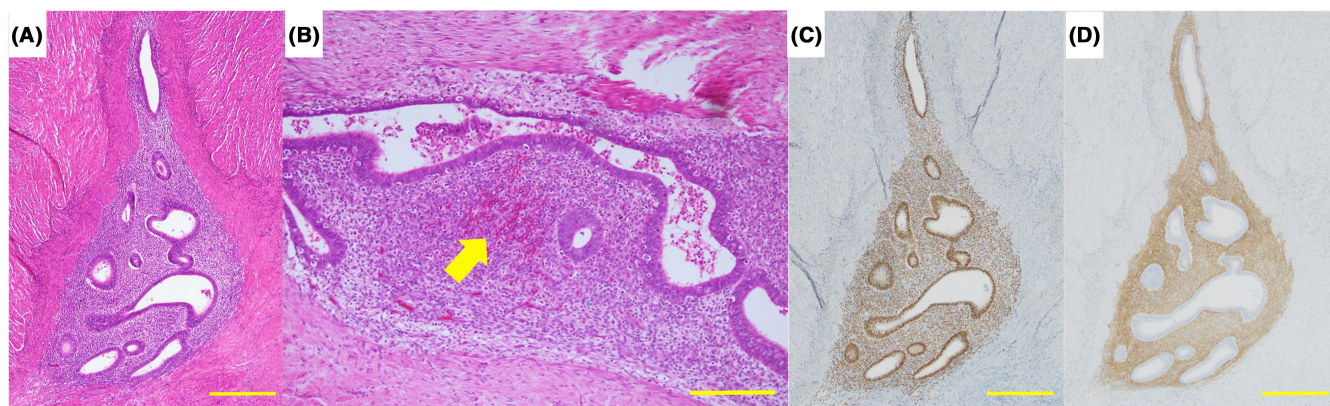


FIGURE 2 Histopathological findings. (A) Hematoxylin and eosin staining shows glandular structures surrounded by the stroma in the muscularis propria and submucosa. Scale bar = 500 μm. (B) Hematoxylin and eosin staining shows bleeding and hemosiderin granules (arrow) in interstitial tissue of the glandular lesion. Scale bar = 200 μm. (C) Both glands and stromal cells are strongly stained for the estrogen receptor. Scale bar = 500 μm. (D) CD10 immunostaining highlights stromal cells. Scale bar = 500 μm.

glandular lesion (Figure 2B). Immunohistochemical staining showed that the lesion was positive for estrogen receptor (Figure 2C) and CD10 (Figure 2D) in the glands and stroma. These findings are compatible with ileal endometriosis. The patient was administered hormonal treatment, and no recurrence was observed 18 months after surgery.

4 | DISCUSSION

Endometriosis is characterized by the presence of functional endometrial tissue, consisting of glands and stroma positive for estrogen receptor and CD10, outside the uterus. The ovaries, uterosacral ligaments, fallopian tubes, pouch of Douglas, and pelvic peritoneum are common sites of

endometriosis, whereas the gastrointestinal (GI) tract is less frequently involved. Involvement of the terminal ileum is rare, comprising <7% of all GI tract endometriosis.¹

Approximately half of the patients with ileocecal endometriosis have episodes of pseudo-obstruction during menstruation.² Under cyclical hormonal influences, the endometrium may proliferate and cause bleeding in the bowel wall, thus leading to fibrosis of the submucosa, muscular wall layer, and serosa.³ Fibrosis in the intestinal wall can result in continuous GI symptoms. In the present patient, recurrent abdominal pain, nausea, and vomiting initially occurred monthly, but later occurred continuously. Careful monitoring of these repeated symptoms and their association with menstruation can support the diagnosis of endometriosis.

A definitive diagnosis of intestinal endometriosis is difficult because histological confirmation is required with a biopsy sample. However, a combination of the history, symptoms, and imaging findings can be useful to make a presumptive diagnosis. The present patient was a woman of reproductive age with no history of inflammatory bowel disease, previous surgery, or cesarean section. A lack of fever suggested that infectious colitis was unlikely. When recurring abdominal pain occurs in reproductive-aged women, GI endometriosis should always be considered as a differential diagnosis.

AUTHOR CONTRIBUTIONS

Minnie Chan: Writing – original draft. **Yuko Ono:** Visualization; writing – review and editing. **Joji Kotani:** Validation; writing – review and editing. **Takashi Itou:** Visualization; writing – review and editing. **Yoshikazu Kinoshita:** Supervision; validation; writing – review and editing.

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CONFLICT OF INTEREST STATEMENT

The authors declare that there is no conflict of interest.

DATA AVAILABILITY STATEMENT

The data supporting the findings of this study are available upon reasonable request from the corresponding author

ETHICS STATEMENT

No ethical approval was required.

CONSENT

The patient gave written informed consent to publication of details of her case.

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