

# Extrapelvic Endometriosis Complicated with Colonic Obstruction

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Endometriosis is often seen in gynecology practice and is treated medically. However, intestinal involvement of endometriosis causing obstruction is relatively uncommon and is hard to differentiate from malignancy before surgery. Herein, we present a case of acute colonic obstruction caused by rectal endometriosis. Repeat colonoscopic biopsy and imaging studies could not differentiate the lesion from malignancy. Segmental resection with anastomosis was performed to relieve the symptom and confirm the diagnosis. We present this unusual disease in general surgical practice and also review the literature. The incidence, symptoms, diagnosis, treatment, and risk of malignancy of intestinal endometriosis are discussed. [*J Chin Med Assoc* 2006;69(1):47–50]

**Key Words:** colon, endometriosis, intestinal obstruction

## Introduction

Endometriosis is defined as the presence of endometrial glands and stroma outside the uterine cavity and musculature.<sup>1</sup> It is a frequent problem in gynecology practice with a prevalence of approximately 5–10% among women of childbearing age.<sup>1,2</sup> In general, endometriosis can be divided into pelvic and extrapelvic sites. Pelvic endometriosis is defined as lesions of the fallopian tubes, ovaries, and pelvic peritoneum. Extrapelvic endometriosis refers to endometriotic implants found in other areas of the body, which may involve the gastrointestinal tract, pulmonary structures, the urinary system, abdominal wall, skin, and even the central nervous system.

The gastrointestinal tract is the most common site of extrapelvic endometriosis disease and most implants are found in the rectum and sigmoid colon. Symptoms include crampy abdominal pain, tenesmus, abdominal distension, constipation, or hematochezia; acute partial or complete bowel obstruction is relatively rare. Hormonal treatment should be given, especially in

younger women, if the symptoms of bowel obstruction are not too severe. Surgical resection has been shown to be necessary only in cases of complete bowel obstruction or suspected malignancy.

## Case Report

A 33-year-old woman (gravida 0, para 0, abortus 0) was admitted because of abdominal fullness, nausea, vomiting, and no stool passage for 1 week. She had undergone a left salpingo-oophorectomy for pelvic endometriosis in 1993 followed by 6 months of hormone therapy. This time, she had a 4-month history of change in bowel habits. She had loose stool passage 3–4 times per day during menstruation but constipation on the other days. Laxatives improved the condition but the constipation recurred without the medication. She also had dysmenorrhea and dyspareunia. Abdominal computed tomography (CT) showed a suspicious lesion in the recto-sigmoid junction of the colon with regional ascites. A lower gastrointestinal

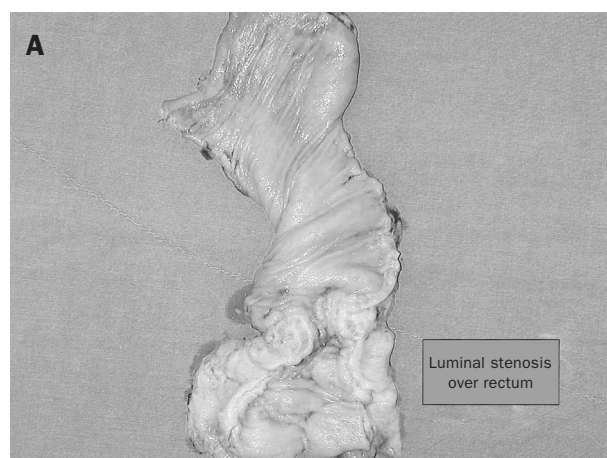
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series revealed a stricture 10 cm above the anal verge (Figure 1). She developed obstructive signs after the examination and was admitted for evaluation.

After admission, NPO and nasogastric decompression were prescribed. Colonoscopy revealed irregular mucosal swelling with stricture 10 cm above the anal verge, which impeded the scope for further advance. Biopsy was done and pathology revealed no evidence of malignancy or endometriosis. Pelvic magnetic resonance imaging (MRI) showed irregular thickening of the wall of the sigmoid colon about 6 cm in length with regional lymphadenopathy. Dilatation of the small and large bowels was also noted. A diverting transverse colostomy was performed because of persistent symptoms of intestinal obstruction. Repeat colonoscopic biopsy performed 2 weeks after surgery still could not confirm the diagnosis of endometriosis.



**Figure 1.** Lower gastrointestinal series study reveals stricture over 10 cm from the anal verge with proximal bowel loop dilatation.

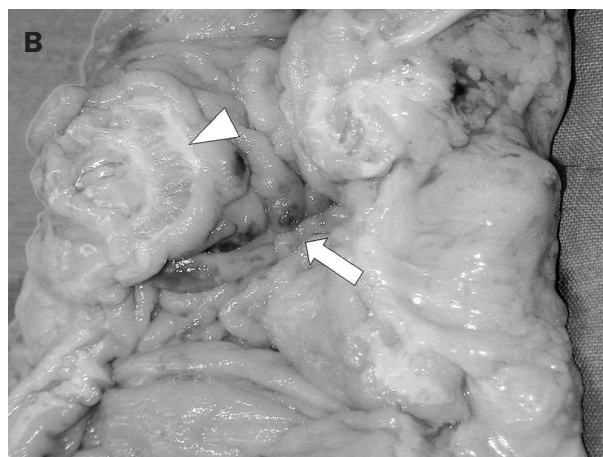


The CA-125 level was 52.2 U/mL and carcinoembryonic antigen level was 0.8 ng/mL. Although endometriosis with intestinal obstruction was highly suspected by history, colonic malignancy still could not be ruled out, so a laparotomy was performed 1 month later. During the operation, severe fibrosis over the Douglas pouch and pelvic cavity was noted. There was an endometrioma of the right-side ovary. The upper rectum was anteriorly entrapped by dense fibrotic tissue to make distorted and stenosed lumen. Enlarged inferior mesenteric lymph nodes were retrieved and sent for frozen section, which revealed no malignancy. Segmental resection of the colon (Figures 2A and B) with colorectal anastomosis and localized excision of the endometrioma from the right ovary were performed. Pathology revealed endometrial glands and stroma embedded in the submucosa, muscle layer, subserosal adipose tissue, and the serosal surface (Figure 3). The patient had a smooth recovery and the colostomy was closed 3 months later.

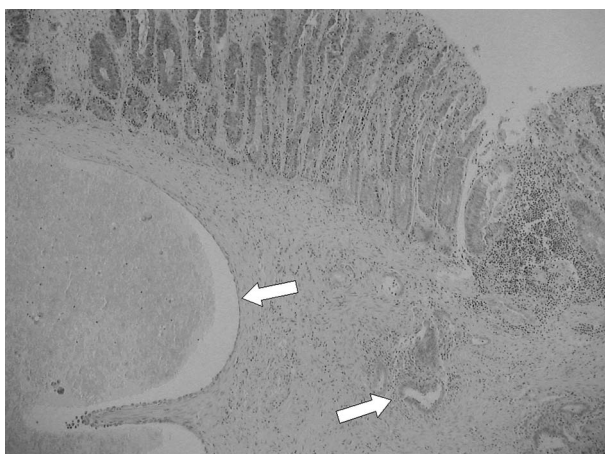
## Discussion

Endometriosis is defined as the presence of endometrial tissue at an extrauterine site, which is generally divided into pelvic and extrapelvic based on location. The reported incidence in premenopausal women is between 8% and 15%. Bowel involvement is the most frequent extrapelvic presentation occurring in approximately 5.4% of patients with endometriosis.<sup>3,4</sup> About 60–70% of intestinal endometriosis was located primarily on the recto-sigmoid colon.<sup>4</sup>

Intestinal endometriosis usually takes the form of asymptomatic small serosal implants.<sup>5</sup> However, under



**Figure 2.** (A) Specimen shows luminal stenosis over upper rectum. (B) Close-up view. Hypertrophy over muscularis propria layer due to chronic obstruction (arrowhead). Endometriosis with several submucosal hemorrhagic spots (arrow).



**Figure 3.** Endometrial glands and stroma embedded in the submucosal layer with hemorrhage in the background (arrows) (hematoxylin and eosin,  $\times 40$ ).

the influence of hormones, these implants may proliferate and bleed cyclically, causing symptoms such as crampy abdominal pains, intermittent constipation and diarrhea, flatulence, painful tenesmus, and small-caliber stools.<sup>6</sup> Localized fibrosis in the bowel wall, stricture formation, and intestinal obstruction are the long-term result. The reported incidence of rectal bleeding varies widely. Cyclic occurrence of the symptoms is specifically related to the diagnosis of endometriosis.

The diagnosis of intestinal endometriosis should be considered in any premenopausal woman who complains of gastrointestinal symptoms, especially when there are cyclic symptoms and a history of endometriosis.<sup>5-7</sup> However, most cases are found accidentally from surgery. Imaging studies such as CT and MRI are not sensitive enough for definite diagnosis, with only about 70% sensitivity and specificity.<sup>8</sup> Colonoscopic biopsy rarely yields the diagnosis, since the endometriosis is usually located subserosally.<sup>7</sup> Laparoscopy remains the only investigation able to confirm the presence of intestinal endometriosis prior to laparotomy.<sup>5</sup>

For the treatment of intestinal endometriosis, either surgical therapy or hormone therapy could be chosen according to age, pain, hormone status, desire for childbearing, infertility, or the degree of intestinal obstruction. Hormone therapy alone is unable to reverse stricture formation of the bowel wall, so bowel resection is indicated for symptomatic disease, or when malignancy cannot be excluded.<sup>7</sup> Surgical resection of the moderately to severely obstructed endometriotic bowel has been shown in a previous study to be safe and to provide long-term symptomatic relief.<sup>4</sup> Localized excision of the endometrioma from

the bowel wall is sometimes considered. However, perioperative frozen section biopsy is suggested in the case of inadequate resection of a carcinoma, which accounts for 1% overall.<sup>5,9</sup>

Laparoscopic surgery has been proposed for the diagnosis and even treatment of intestinal endometriosis.<sup>10</sup> It allows the operator to thoroughly evaluate both the genital and intestinal tracts. Biopsy of the lesion through laparoscopy could easily differentiate malignancy from endometriosis. Resection of the bowel is safe and easy with auto-suture material. Furthermore, recovery from laparoscopic surgery is much better than from traditional laparotomy.

Although endometriosis is a relatively benign disease in nature, it acts as a malignant process by invading adjacent or even distant tissues or organs. More than 30% of cases will have disease recurrence after medical or surgical treatment. Some investigators proposed that postsurgical administration of gonadotropin-releasing hormone (GnRH) analogs had lengthened the pain-free interval and decreased symptom recurrence rates in patients following surgery with severe endometriosis,<sup>11</sup> but the real effect, as well as administration duration, still needs further investigation in large prospective studies.

For the accidental finding of intestinal endometriosis with absent or mild symptoms of obstruction, hormone therapy with danazol or GnRH analogs may be considered. As Prystowsky et al<sup>4</sup> suggest, the absence of symptoms appears to predict the absence of clinically significant intestinal endometriosis, and bowel resection seems unnecessary. However, a recent study has suggested endometriosis to be a neoplastic process.<sup>12</sup> According to Stern et al's<sup>12</sup> review of 1,000 cases of surgically proven endometriosis, the frequency of malignancy was 3–10% in general and 1% when endometriosis was extraovarian. Another report from the M.D. Anderson Cancer Center showed that women with extraovarian cancers arising in endometriosis were more likely to be menopausal and use hormone replacement.<sup>10</sup> Therefore, for those who have intestinal endometriosis, a history of hormone replacement therapy and a postmenopausal status suggest a higher risk of malignancy and may need more aggressive treatment or intensive follow-up.

In conclusion, it is difficult to make a definite diagnosis of endometriosis with bowel involvement before surgery. It should be considered in any premenopausal woman who complains of gastrointestinal symptoms, especially when the patient has cyclic symptoms with a history of endometriosis. The severity of an obstructive symptom could be helpful for the choice of surgery or hormone therapy.

Those with a history of hormonal replacement therapy or a postmenopausal status should be treated more carefully against the higher possibility of malignancy. Laparoscopy should be used for the diagnosis of endometriosis and may be considered for treatment by skilled surgeons.

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