

Intestinal Obstruction Due to Rectal Endometriosis

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Abstract

We report a case of a premenopausal woman with severe constipation causing intermittent obstruction. Colonoscopy revealed a tight rectal stricture; however, mucosal biopsies were normal. Exploratory surgery revealed an intense fibrotic reaction involving the rectum and uterus, necessitating a simultaneous low anterior resection and hysterectomy. Pathology established a diagnosis of endometriosis.

Preoperative diagnosis of rectal endometriosis can be difficult to establish. Endometrial deposits do not invade the mucosa; therefore, colonoscopy with biopsies are frequently non-diagnostic.

Surgery may be the only definitive way to obtain a certain diagnosis. In cases involving rectal strictures of unknown etiology in premenopausal women, rectal endometriosis must be included in the differential diagnosis.

Key Words: Rectal endometriosis, intestinal obstruction, surgery.

Introduction

ENDOMETRIOSIS IS DEFINED AS an ectopic proliferation of endometrial tissue outside the uterine cavity. Two causative mechanisms have been proposed: (a) canalicular transport of endometrium shed during menstruation and (b) growth of celomic epithelium into the myometrium of contiguous organs (1, 2).

Bowel involvement in endometriosis is usually localized to the rectosigmoid, sigmoid or upper part of the rectum, and less frequently to the cecum and right side of the colon. Endometriosis rarely affects the rectum circumferentially (3, 4). Colorectal endometriosis may cause obstructing symptoms difficult to distinguish from malignant or inflammatory disease (5, 6). We report a case of rectal endometriosis in a patient suffering from constipation; the condition was discovered only after the appearance of intestinal obstruction.

Case Report

A 36-year-old gravida 1, para 1, premenopausal woman was admitted to our hospital complaining of constipation, small stools, lower abdominal pain, and intermittent rectal bleeding over a 1-year period. She had previously been well, with a good appetite and no weight loss. Her basic blood tests were normal. She underwent a barium enema, which demonstrated a suspicious narrowing at 9 cm from the anal verge. Colonoscopy revealed almost complete stenosis of the rectum, which did not allow further passage of the scope. Biopsy specimens at the stenosis demonstrated histologically normal mucosa.

Pelvic computed tomography (CT) showed a 2×1.5 cm mass at the anterior portion of the rectum (Fig. 1). The patient underwent laparotomy for rectal stricture of unknown etiology. The rectum was circumferentially firm with tumor-like consistency. There was an intense fibrotic reaction involving the posterior wall of the uterus and the rectum, but the ovaries and Fallopian tubes were intact. Because a dissection could not be carried out safely, a low anterior resection and hysterectomy were performed. Grossly, the opened rectal specimen had polypoid projections protruding into the lumen and irregular mucosa beneath this area (Fig. 2). Microscopic evaluation revealed hyperplastic

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Fig. 1. Axial CT section with intravenous and rectal contrast section shows a 2×15 cm mass at the anterior portion of the rectum. Note the small nodular density in the right perirectal fat.



Fig. 2. Marked thickening of the rectal wall, with polypoid projections in the mucosa (arrows show hyperplastic polyps).

polyps and pseudopolyp formations together with typical endometrial glands, surrounded by some stroma infiltrating all layers of the rectum wall from serosa up to submucosa (Fig. 3). There was no sign of malignancy and no involvement of the lymph nodes. These findings led to the diagnosis of rectal endometriosis. On the 12th postoperative day, a rectovaginal fistula developed. Pelvic examination revealed a 0.5 cm fistula. The patient was restricted to a clear liquid diet with conservative management. The fistula closed spontaneously by postoperative day 26. At 4-year follow-up, she remains well without complaints.

Discussion

It has been estimated that 4–17% of all menstruating women have endometriosis (7, 8); 3–34% of these cases involve the gastrointestinal



Fig. 3. Endometriotic glands and stroma within the submucosa and muscularis mucosa (arrows). (H&E × 100).

tract. The rectum and rectosigmoid junction together account for 70–93% of all intestinal endometriosis (3, 4).

The pathogenesis of endometriosis is unknown; however, the most widely accepted theory proposes retrograde menstruation and subsequent implantation on the peritoneum and pelvic viscera. Implants adhere to the intestinal serosal surface and may invade through to the submucosa (9). Colonoscopy and barium enema typically only show a stenotic lesion with intact mucosa, which is occasionally exacerbated during menstruation (5, 6).

Conventional biopsy forceps, especially those in use with fiberoptic instruments, take only superficial samples. The absence of mucosal involvement prevents an exact diagnosis by means of biopsy. This explains the difficulties of establishing the diagnosis preoperatively (10, 11). Pelvic or abdominal CT may visualize a thickened bowel wall, which often adheres to the uterus or uterine adnexa (5).

Although most gastrointestinal endometriosis is thought to be asymptomatic, symptoms may include crampy abdominal pain, dyschezia, tenesmus, abdominal distention, vomiting, diarrhea, constipation, melena or hematochezia, and may vary depending on the site(s) of involvement (3, 4).

Patients may also experience the classic pelvic endometriosis triad of dysmenorrhea, dyspareunia and dyschezia, as well as impaired fertility (12). As many as 40% of patients experience symptoms in a cyclic manner (13, 14); the symptoms can occur on a chronic or intermittent basis and may be unrelated to menstrual cycles (15, 16).

Endometriosis of the gastrointestinal tract may mimic a wide spectrum of diseases, including infectious etiologies, ischemic enteritis/colitis, inflammatory bowel disease and neoplasm (17).

Colonic endometriosis may manifest as an acute abdomen resulting from perforation and associated peritonitis (18). Small intestinal endometriosis may produce vague symptoms such as abdominal pain and bloating. Involvement of the ileum frequently results in the development of small bowel obstruction (19). The true incidence of endometriosis causing bowel obstruction is unknown, although complete bowel obstruction is particularly rare in cases of large bowel endometriosis (16).

Patients with endometriosis in the muscularis propria are more likely to have obstructive symptoms resulting from adhesions, masses and strictures rather than symptoms suggestive of colitis. Serosal endometriosis may elicit a marked acute and chronic inflammatory infiltrate and an organizing serositis with adhesions (17).

Malignancy can arise in any extragonadal site of endometriosis. Hyperestrogenism, either endogenous or exogenous, has been implicated as a risk factor for the development of cancer from endometriosis (20–22). The most common sites are in the pelvic peritoneum, rectovaginal septum, vagina and colorectal serosa. Among endometriosis-associated intestinal tumors, the rectosigmoid colon is the most common site (17, 22). Endometrioid intestinal tumor has symptoms similar to those of intestinal adenocarcinomas, such as abdominal and/or pelvic pain and pelvic mass, especially if the patient has been treated with hormone replacement therapy (23).

Preoperatively, this patient gave no history of menstrual irregularity, nor did she describe any relationship between the pain, hemorrhage, and menstrual cycle. However, when she was questioned again postoperatively, she agreed that the pain was more severe at the time of her periods. Furthermore, it was discovered that she had previously undergone diagnostic laparotomy for infertility.

As mucosal invasion by endometrioma is quite rare, an accurate diagnosis is often difficult to make without surgery. For our patient the stenosis could not be diagnosed correctly by barium enema, colonoscopy, biopsy or CT.

In this case, there was no dissection plane between the rectum and uterus, since all layers of the rectal wall from serosa to submucosa were infiltrated. Another case involving simultaneous low anterior resection and hysterectomy for rectal stenosis in a premenopausal woman has been reported. Similarly, this diagnosis of endometriosis was made postoperatively on histology (24).

Conclusion

Rectal endometriosis may present as a severe stricture leading to obstructive symptoms. The di-

agnosis can be difficult to establish preoperatively due to the submucosal location of the lesion. Surgical intervention may be the only definitive way to obtain a certain diagnosis. In cases involving rectal strictures of unknown etiology in premenopausal women, rectal endometriosis must be in the differential diagnosis.

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