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Case Report

Endometriosis of rectosigmoid colon mimicking gastrointestinal stromal tumor

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ABSTRACT

Endometriosis is defined as the growth of functional endometriotic gland and stroma outside uterine cavity. Although it is common in women of reproductive age, extragenital endometriosis is considerably rare. Due to the frequent localization at the rectosigmoid junction in the gastrointestinal system, endometriosis may manifest with abdominal pain, constipation, and rectal bleeding. Gastrointestinal stromal tumor is the most common mesenchymal tumor of the gastrointestinal system and develops from muscularis propria. Its extraluminal component is prominent. In this study, we report a rare case of a 37-year-old patient who was operated with laparoscopic colon resection for a malignant-appearing submucosal mass with indistinct borders at the rectosigmoid junction that received the final diagnosis in histopathological examination. Endometriosis should be considered in the differential diagnosis of non-specific gastrointestinal symptoms in female subjects of reproductive age as the one reported here.

Keywords: Endometriosis, rectosigmoid, malignancy, laparoscopic resection

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INTRODUCTION

Endometriosis is defined as the presence of endometrial glands and stroma outside uterine cavity (1). Its prevalence among women of reproductive age is 15%-50% among infertile women. The diagnosis of extrapelvic endometriosis is challenging and clinicians usually fail to consider it in the differential diagnosis owing to variable symptoms depending on the site of localization. Despite its characteristic pathological appearance being independent of its localization, it may be radiologically confused with tumors originating from tissues where it is located (2). In this study, we report a case of endometriosis that mimicked a gastrointestinal stromal tumor (GIST) in the rectosigmoid region.

CASE PRESENTATION

A 37-year-old nulliparous woman presented to the obstetrics and gynecology outpatient clinic with pelvic pain and abdominal bloating for 2 days. Her history was not remarkable for any chronic disorder, regular use of medications, or previous surgery. On physical examination, she had tenderness upon palpation, guarding, and rebound in the left lower quadrant and suprapubic region. Rectal examination revealed no palpable mass. Laboratory findings included leukocytosis and elevated CRP and CA-125 levels; other laboratory results were normal. She underwent a transvaginal ultrasonography for an initially suspected ovarian cyst rupture or pelvic abscess, which showed a hypoechoic lesion located adjacent to the left ovary that had a diameter of 3 cm with dense content. To rule out a hemorrhagic cyst or abscess formation, a multislice computed tomography (CT) was obtained, which demonstrated a mass lesion with a size of 4×3.5 cm in the rectosigmoid region. The mass was indiscernible from intestinal wall, it was mildly enhanced by an I.V. contrast agent, and it caused no obstruction (Figure 1). The lesion was initially considered to be a GIST or an endometriotic lesion. A subsequent rectosigmoidoscopic examination showed a submucosal mass in the rectosigmoid region. With these findings, the patient was taken to the operating theater to be operated jointly with the Obstetrics and Gynecology Department. Upon exploration, a firm mass with irregular borders was spotted in the rectosigmoid junction, which was suspected to be a malignancy; frozen section examination was performed and the diagnosis of endometriosis was confirmed. Laparoscopic anterior resection+end-to-end anastomosis using staplers was performed. No postoperative complication was observed and the patient was discharged with full recovery on the postoperative day 7. The definitive histopathological diagnosis of the patient was reported to be foci of endometriosis interspersed in-between submucosa and muscularis propria muscle fibers in the rectosigmoid colon (Figure 2). Informed consent was obtained from the patient who participated in this case.

DISCUSSION

The most accepted theory about the development of endometriosis is the retrograde extension theory put forth by Sampson, which theorizes the migration of endometrial cells into the peritoneal cavity and various other sites via Fallopian tubes during menstrual cycles (3). Endometriosis typically involves

genital organs and pelvic peritoneum, but it also rarely affects gastrointestinal system (GIS), lungs, mesentery, urinary bladder, greater omentum, surgical scars, skin, kidneys, and nasal cavity. In the GIS, endometriosis usually involves the rectosigmoid junction (74%) followed by ileum and appendix (4). Intestinal endometriosis is usually asymptomatic but may lead to gastrointestinal bleeding, abdominal cramps, nausea, vomiting, diarrhea, constipation, and intussusception. Symptoms alone are not diagnostic (5). Our patient had severe abdominal pain and bloating.

Gastrointestinal stromal tumor is the most common mesenchymal tumor of the GIS. It originates from Cajal interstitial cells found in myenteric plexus and smooth muscle cells of the GIS. It usually affects people older than 40 years of age. It may appear anywhere in the GIS, although it frequently involves the stomach (39%-70%) and small intestine (20%-32%), but albeit rarely, colon, rectum (5%), esophagus (2%), and appendix. GIST is usually asymptomatic in its early stages. In advanced cases, it most commonly gives rise to abdominal pain (50%-70%), gastrointestinal bleeding (20%-30%), and a palpable abdominal mass. Its diagnosis is usually achieved by CT and magnetic resonance imaging (MRI). Also, a submucosal mass may be revealed by GIST endoscopy or colonoscopy, a regular-border filling defect by double-contrast colonic X-Ray, or a hypoechoic lesion originating from muscularis propria by endoscopic ultrasonography (6).

Endometriosis usually involves serosa or subserosa, although it may involve all layers of colon simultaneously. It may rarely appear as a nodular mass infiltrating the intestinal wall. In the presence of a deep invasion by lesions, it may falsely be interpreted as colon cancer, Crohn disease, or carcinoid tumor. Furthermore, it may incite inflammation and fibrosis within the intestine, leading to luminal narrowing and obstruction in time. As a result, intestinal obstruction and perforation may occur (7). As for GIST, diagnosis can be achieved by ultrasonography, CT, MRI, and colonoscopy, depending on the localization of the lesion. Although radiological imaging techniques cannot always provide a definitive diagnosis, they can still inform about a lesion's size, localization, and depth. Submucosal mass lesions protruding into the lumen and covered by normal mucosa seen in colonoscopy may be of intramural or extramural origin. Lipoma, lymphangioma, carcinoid tumor, GIST, and leiomyoma are examples of intramural lesions, whereas peritoneal carcinomatosis and extracolonic tumor invasions are examples of extramural neoplasms. Non-neoplastic intramural lesions include lymphoid hyperplasia, hematoma, vascular lesions, pneumatosis cystoides coli, whereas extramural lesions include endometriosis (8). Because the clinical presentation of patients with intestinal endometriosis may be confused with many disorders including malignant conditions, diagnosis may be delayed and difficult. Fine-needle biopsy is helpful for making the diagnosis, although surgery and histopathological examination of the surgical excision material are usually required for a definitive diagnosis and to rule out a malignancy. Most intestinal endometriosis cases are diagnosed at laparoscopy or laparotomy (9). Our case could similarly not be diagnosed in preoperative phase. Despite the lesion's resemblance to a GIST for its rectosigmoid involvement pattern, tomographic findings, and rectosigmoidoscopic appearance, it received a definitive diagnosis after a pathological examination of the laparoscopically excised lesion from the rectosigmoid junction.

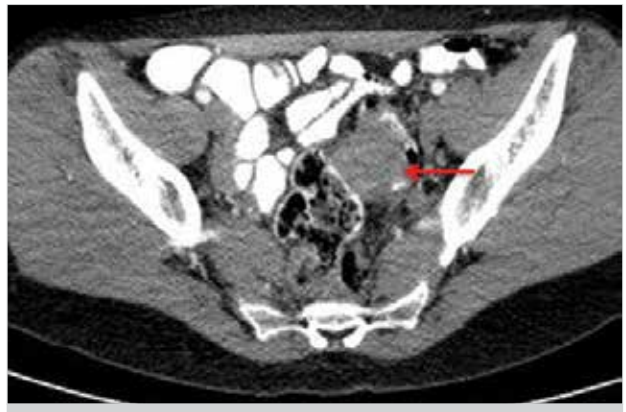

Figure 1. Axial contrast-enhanced CT shows a mass lesion in the rectosigmoid region. The mass is indiscernible from intestinal wall, it is mildly enhanced by I.V. contrast agent, and it causes no obstruction

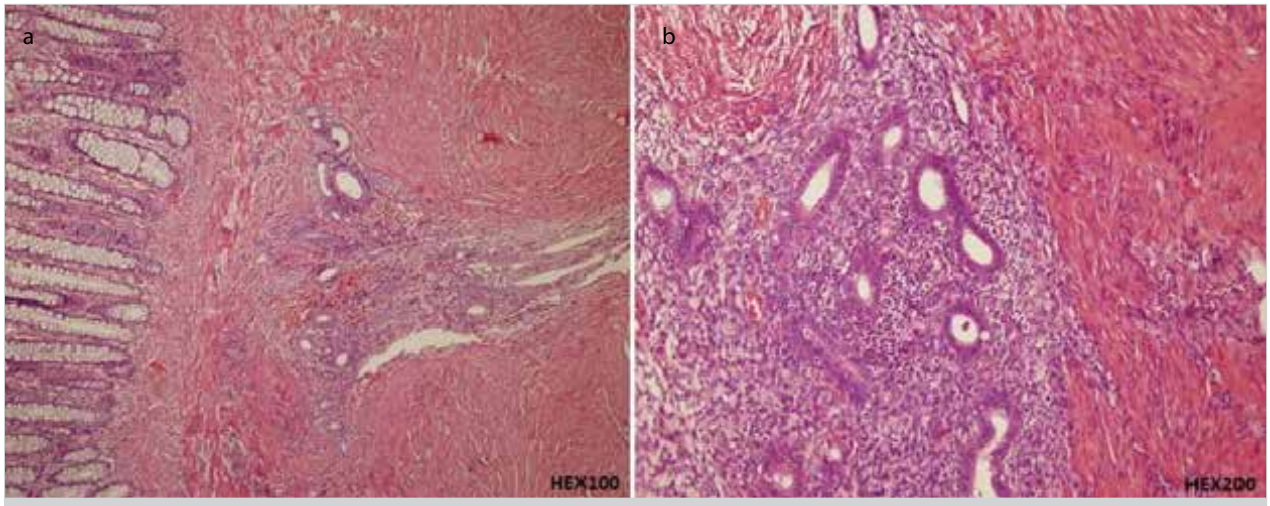

Figure 2. a, b. Endometrial stroma and endometrial glands between submucosa and muscle fibers of muscularis propria (a, b) (H&E:100x, H&E:200x)

Various hormone suppression therapies previously applied for intestinal endometriosis usually proved unhelpful. Patients who cannot be operated for any reason can be medically managed by non-steroidal anti-inflammatory drugs, danazol, gonadotropin-releasing hormone, and oral contraceptives. The majority of patients with this condition display significant improvement, although recurrences are common when therapy is stopped. Hence, surgery should particularly be the first option in younger patients and those with severe symptoms. Resection of the affected intestinal segment and re-anastomosis of the intact parts is the best accepted approach for intestinal endometriosis. Recurrence rates remain low after total excision (10).

CONCLUSION

In women of reproductive age, intestinal endometriosis, even if asymptomatic, should be included in the differential diagnosis of submucosal lesions of the rectosigmoid colon in addition to GISTs and carcinoid tumors. This rare condition may mimic many other disorders. Definitive diagnosis is only possible through surgical resection and histopathological examination of lesions.

Informed Consent: Written informed consent was obtained from patient who participated in this study.

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