

Intestinal Endometriosis Mimicking Carcinoma of Rectum and Sigmoid Colon: A Report of Five Cases

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Among women with intestinal endometriosis, the sigmoid colon and rectum are the most commonly involved areas. Sometimes, the differential diagnosis of colorectal endometriosis from carcinoma of the colon and rectum is difficult due to similar colonoscopic and radiologic findings. From October 2002 to September 2007, we performed five operations with curative intent for rectal and sigmoid colon cancer that revealed intestinal endometriosis. Colonoscopic and radiologic findings were suggestive of carcinoma of rectum and sigmoid colon, such as rectal cancer, sigmoid colon cancer and gastrointestinal stromal tumor (GIST). Anterior resection was performed in two patients, low anterior resection was performed in one patient and laparoscopic low anterior resection was done in two patients. We suggest to consider also intestinal endometriosis in reproductive women presenting with gastrointestinal symptoms and an intestinal mass of unknown origin.

Key Words : Intestinal endometriosis, endometriosis, colorectal neoplasm

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INTRODUCTION

Endometriosis is defined as the presence of endometrial glands and stroma outside the uterine cavity and musculature.¹ It is a common benign disease among women of reproductive age, and affects the intestinal tract in 3-37% of all patients with pelvic endometriosis.² The sigmoid colon and rectum are the most commonly involved areas in women with intestinal endometriosis.³ Sometimes, the differential diagnosis of colorectal endometriosis from other malignancies of the colon and rectum is difficult due to similar colonoscopic and radiologic findings.

In this report, we present five cases involving patients with intestinal endometriosis, in which the initial diagnostic work-up suggested carcinoma of rectum and sigmoid colon [i.e., rectal cancer, sigmoid colon cancer or gastrointestinal stromal tumor (GIST)].

CASE REPORT

From October 2002 to September 2007, five patients were admitted for the surgical resection of rectal and sigmoid colon tumors, which were subsequently revealed to be intestinal endometriosis. The average age of the patients was 39.8 years (range, 27-47 years). There was one nullipara who had been explored for infertility. Two patients were asymptomatic, two patients complained of hematochezia, and one patient had obstipation revealed by colonoscopy. None of the symptomatic patients had symptoms related to menstruation. Colonoscopy was performed

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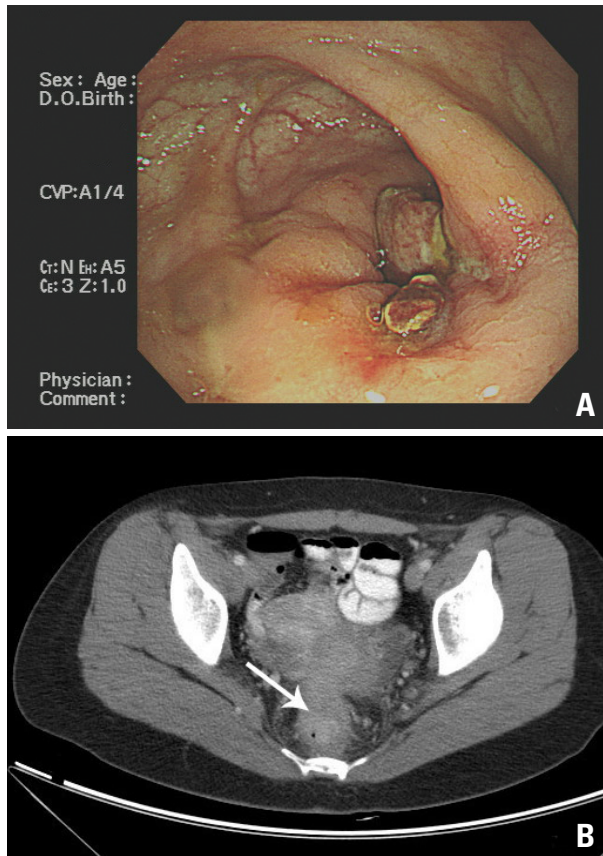


Fig. 1. (A) Colonoscopic finding. Ulcerofungating mass 8 cm above the anal verge is suspicious for rectal cancer. (B) CT scan of the pelvis shows rectal mass with perirectal tumor infiltration (Case 2).

in all five patients and revealed an ulcerofungating mass in two cases (Fig. 1), mucosal protrusion without mucosal abnormality in one case, luminal narrowing with extrinsic compression in one case and a polypoid mass in one case. Colonoscopic biopsy was performed in three out of the five patients. The biopsies showed chronic inflammation in two cases and a normal finding in one case. A computed tomography (CT) scan was also performed in all patients, and revealed colonic and rectal wall thickening in two cases and submucosal tumor suggesting GIST in one case. However, no masses were identified in two cases (Table 1). Magnetic resonance imaging (MRI) was performed in cases with rectal involvement, and the findings were not different from those of CT. PET scan was performed in case 5 and suggested malignant uptake in the rectum (not documented in Table 1).

All patients underwent dissection of paracolic and intermediate lymph nodes, as well as lymph nodes in the root of the inferior mesenteric artery. The laparotomy was done by low midline incision in three patients and by laparoscopic surgery in two patients. Two anterior resections and three low anterior resections were performed. We did not perform a frozen section at the time of the

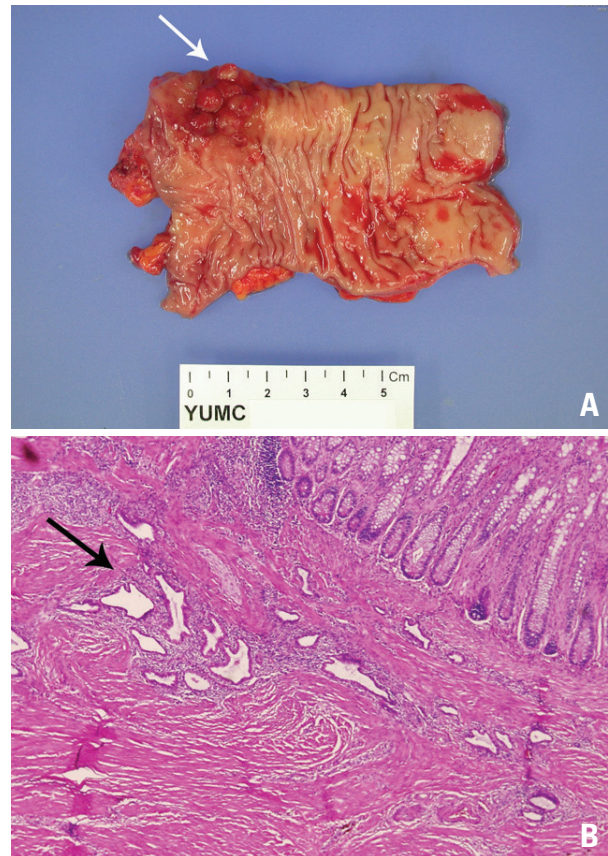


Fig. 2. (A) Gross specimen. The polypoid mass is seen on the laparoscopically resected rectum. (B) The mass was revealed as endometriosis, which is composed of stroma and glands of endometrium, upon microscopic analysis (Hematoxylin Eosin $\times 100$) (Case 5).

operation because the operative finding seemed to be a malignant tumor, even though a previous colonoscopic biopsy did not reveal malignancy. However, all surgical specimens were indicated endometriosis according to final pathology reports (Fig. 2).

DISCUSSION

The symptoms of intestinal endometriosis vary according to the site of involvement.⁴ Rectosigmoid endometriosis can cause alterations in bowel habit and bleeding that resemble symptoms of colorectal cancer. Colonic endometriosis may manifest as an acute abdomen resulting from perforation and associated peritonitis. Small bowel involvement may produce non-specific symptoms such as recurrent abdominal pain and bloating, but terminal ileal involvement frequently results in the development of acute or chronic small bowel obstruction.

The gold standard diagnostic procedure for intestinal endometriosis is laparoscopy or laparotomy. The laparoscopic procedure is more useful for a complete and accurate evaluation of both the genital and intestinal tracts. More-

Table 1. Clinical Characteristics of Five Patients with Intestinal Endometriosis Mimicking Carcinoma of Rectum and Sigmoid Colon

Case	Age	Presenting symptom & sign	Parity	Colonoscopic finding/biopsy	CT finding	Involved intestine	Preoperative impression	Operative treatment	Pelvic organ involvement
1	41	Hematochezia	G3P2	Ulcer-fungating mass / chronic inflammation	Colonic wall thickening	Sigmoid colon	Sigmoid colon cancer	AR	Lt. ovary
2	27	Hematochezia	G1P0	Ulcer-fungating mass / within normal	Rectal wall thickening	Rectum	Rectal cancer	LAR	None
3	46	None	G2P1	Mucosal protrusion / not performed	Submucosal tumor	Rectum	GIST	Laparoscopic LAR	None
4	47	Abdominal pain, obstipation	G2P2	Luminal narrowing / not performed	NED	Sigmoid colon	Sigmoid colon cancer	AR	None
5	38	None	G0	Polypoid mass / chronic inflammation	NED	Rectum	Rectal cancer	Laparoscopic LAR	None

AR, anterior resection; LAR, low anterior resection; GIST, gastrointestinal stromal tumor; NED, no evidence of disease.

over, surgical intervention of genital endometriosis may be performed during laparoscopy. Thus, diagnostic laparoscopy is indicated in patients with suspicion of intestinal endometriosis.

Intestinal endometriosis often presents as a submucosal tumor or luminal stenosis because it mainly involves the muscularis propria and subserosa or mesentery.⁵ In the case of mucosal involvement, a bleeding, polypoid mass may be present. These clinical manifestations are sometimes difficult to distinguish from malignancy, inflammatory bowel disease, or ischemic colitis.^{5,6} Radiologic and endoscopic examinations are essential for the diagnosis of intestinal endometriosis, which may be confused with malignancy, based on colonoscopy and CT scan, particularly in patients with mucosal involvement.⁷ MRI seems to be the most sensitive imaging technique for intestinal endometriosis.⁸ However, these evaluations are not diagnostic.

The purpose of treatment of intestinal endometriosis is elimination of symptoms, removal of as much endometrial tissue as possible and cessation of disease progression. Physicians should consider the patient's age and desire to maintain fertility and the severity and complications of the disease.⁷ Treatment options consist of medical and surgical treatment. In severe cases, combined treatment may be considered. The medications used in the treatment of endometriosis are danazol, high-dose progestins, and GnRH agonists, all of which have equivalent efficacy.⁹

Most decisions for surgical intervention depend on the severity of symptoms and response to medical treatment. Infertility is one of the most important symptoms to consider for operative intervention. Intestinal endometriosis may be encountered unexpectedly during abdominal exploration. If the diagnosis of endometriosis can be confirmed by frozen biopsy and there is no significant obstruction, the optimal treatment choice is to close the abdomen and consider definitive treatment of the patient after bowel preparation and possible medical therapy. Recently, treatment outcomes for endometriosis have improved with the development of laparoscopic surgical skills and medical hormonal therapy.¹⁰

We report five cases of intestinal endometriosis misdiagnosed as colorectal cancer. The symptoms of hematochezia and abdominal pain in combination with colonoscopic and radiologic findings were suggestive of malignancy although the colonoscopic biopsies were not confirmative. We admit that preoperative evaluations were not fully examined, and close follow-up may be helpful to avoid false positives. The addition of diagnostic laparoscopy may be a reasonable option. However, surgical treatment should be considered when the differential diagnosis of malignancy is not determined or medically intractable symptoms are present. In the current case report, gastrointestinal symptoms or colonoscopic and radiologic findings resulted in the decision for surgery, and subsequent surgical specimens revealed intestinal endometriosis.

In conclusion, intestinal endometriosis is a relatively rare disease and is difficult to differentiate from malignancy, when based on clinical symptoms, endoscopic procedure, and radiologic findings. We suggest to consider also intestinal endometriosis in reproductive women presenting with gastrointestinal symptoms and an intestinal mass of unknown origin.

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