

Case Report

Endometriosis Inducing Complete Colon Obstruction Managed by One Stage Resection and Anastomosis

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Key Words

Endometriosis;
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The bowel tract is the most common place site for extra-pelvic endometriosis.¹ The symptoms of bloody stool and abdominal pain may correlate with the endometrial cycle; however, only 40% patients would present like this pattern. Among the etiology of complete obstruction of the left side colon, malignancy is usually the cause. Endometriosis is a rare cause of complete colon obstruction of the left side. Initially, treating acute left side colon obstruction with a stoma usually requires a two- or three- stage operation with a temporary diversion. However, one-stage resection and anastomosis is the operation of choice for acute obstruction of the left colon with a low leakage rate. This is a report of one-stage resection with anastomosis in a patient with endometriosis inducing complete colon obstruction.

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A 45 year-old female patient had received surgical enucleation of ovarian endometriosis at Chang Gung Memorial Hospital a few years previously. However, she was continuing to have intermittent problems of hemorrhoids and constipation. Pelvic examination revealed tenderness over the uterus area and adnexa, with a palpable nodule in the cul-de-sac. Double contrast colon series on October 29th, 2002 and April 4th, 2004 both revealed segmental narrowing of the sigmoid colon (Fig. 1). Although she had been taking danazol for two years, she still complained about abdominal pain and dysmenorrhea. She came to the emergency room on May 25th, 2005 because of severe abdominal pain and no stool passage for one week. Her LMP was on May 17th. Severe colonic dilatation was discovered on plain abdomen X-ray film (Fig. 2). NG decompression was started,

but the abdominal pain persisted. Abdominal ultrasonography showed an ill-defined mass in the cul-de-sac. Under the impression of endometriosis with



Fig. 1. Segmental narrowing of the colon at the recto-sigmoid junction, nearly total occlusion.

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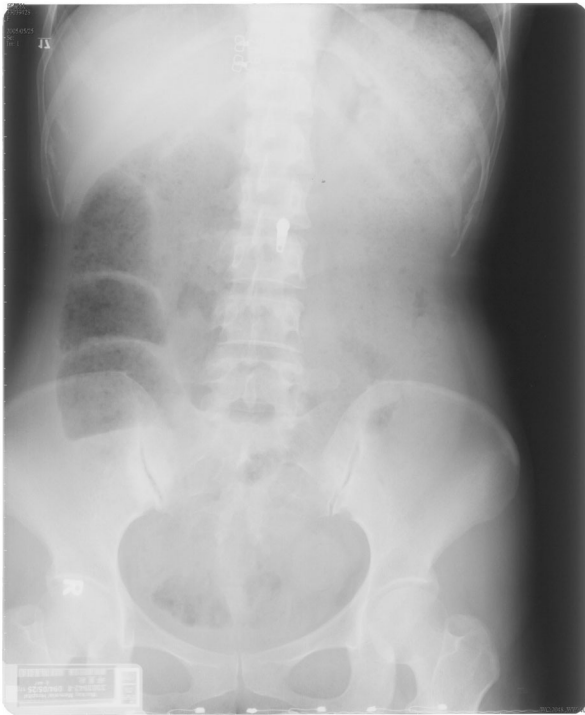


Fig. 2. The plain film revealed severe bowel dilatation with bowel gas in the right colon. A clear air-fluid level was discovered. No gas passage to the distal colon was noted.

complete colon obstruction, an operation was performed. Severe adhesion over the cul-de-sac with complete colon obstruction was discovered. There was a $3 \times 3 \times 2$ cm mass in the upper rectum (Fig. 3), and bilateral ovarian endometriosis was also noted. One stage low anterior resection with colorectal anastomosis and bilateral salpingo-oophorectomy following intraoperative decompression was performed. The final pathology showed congestive mucosa and multiple foci of endometrial glands in the stroma. There was also hemosiderin pigmentation in the lamina propria microscopically (Fig. 4). The findings all indicated the diagnosis of endometriosis inducing complete colon obstruction. She recovered uneventfully following surgery and has been in good health over the past few years without evidence of acute obstruction of the colon.

Discussion

Endometriosis is defined as the presence of func-

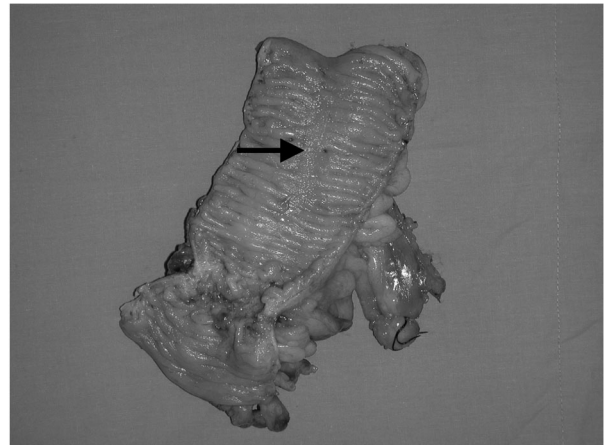


Fig. 3. The specimen revealed the mass site in the cul-de-sac. After incising the resected colon, the arrow indicates the severe adhesion inducing colon obstruction.

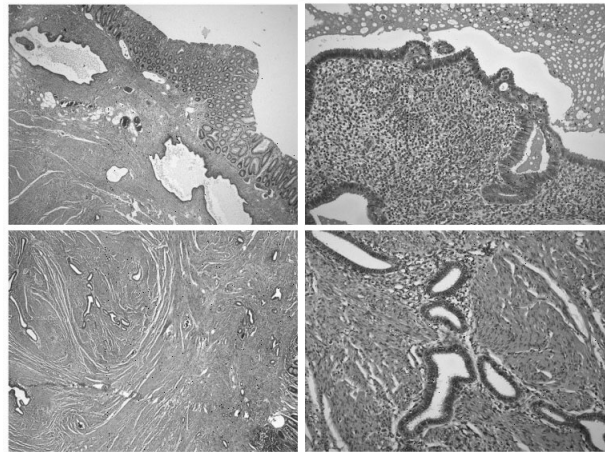


Fig. 4. There was severe hemosiderin pigmentation in the lamina propria microscopically. Foci of endometrial glands and stroma dispersed in the lamina propria and submucosa of the intestine were noted in the left upper (20x) and right upper (100x) picture. Also, foci of endometrial glands and stroma dispersed in the muscular layer were discovered in the left lower (20x) and right lower (100x) picture.

tioning ectopic endometrial tissue outside the uterus. The bowel tract, the third most common anatomic site of endometriosis, is the most common location for extra-pelvic endometriosis, representing 15-37% of all cases of endometriosis.¹ The rectosigmoid is the most common site of involvement in intestinal endometriosis. Diagnosis is often difficult due to non-specific symptoms. Abdominal pain, occult blood in stool, change of bowel habits (diarrhea in the small intestine

and constipation in the large bowel), decreased stool caliber, and rectal bleeding have been reported. However, only 40% patients experience the symptoms with the menstrual cycle. Some reports have also pointed out the association of the symptom of irritable bowel syndrome with the menstrual cycle.²

Imaging examinations are the most effective in pre-operative evaluation. However, colonic endometriosis often mimics colorectal cancer in colonoscopy and computed tomography (CT) imaging. Magnetic resonance imaging (MRI) is helpful for differential diagnosis due to hyperintensity on T1-weighted and hypointensity on T2-weighted images in endometrial tissue. However, the smooth muscle components can produce hypointensity in both T1- and T2- weighted images, resulting in images similar to cancer and other colorectal diseases.³ The specificity is as high as 97.9%, but sensitivity only 76.5%. Multislice CT combined with distension of the colon by rectal enteroclysis, which requires colon preparation, has a sensitivity of 98.7% and specificity of 100% in identifying colonic endometriosis. However, the colon obstruction is usually the contraindication for this procedure.⁴ Endoscopic ultrasonography is also useful in diagnosis with both sensitivity and specificity about 97%. Endoscopic ultrasonography with fine needle aspiration also gave an accurate diagnosis for intestinal neoplasm including endometriosis in one report.⁵

The treatment of endometriosis depends on the symptoms and invasiveness of the disease. In the absence of obstructive symptoms and severe pain, non-surgical treatments as progestagens, danazol, and GnRH agonists can be used to decrease estrogen-inducing symptoms of endometriosis. However, patients with bowel involvement frequently have a poor response to conservative treatment. Bowel resection, even though a radical procedure, is usually the most reasonable approach for invasive endometriosis. The activity of the disease can be decreased after conservative medical treatment, however, scarring of the bowel muscularis resulting from endometriotic fibrotic reaction often leads to persistent symptoms. Thus, surgical procedures, including shaving of the rectal wall or rectal segment resection, are usually indicated in patients with invasive bowel involvement.⁶

There have been several series of laparoscopic assisted surgery of the bowel involving endometriosis published in the literature, but there were no significant differences between laparoscopic surgery and laparotomy. However, Chapron et al.⁷ thought laparotomy is safer and more effective for patients with bowel involvement. The choice of surgical procedure depends on the extent of the disease. In Donnez's series of 500 cases, nearly all of the patients were treated by laparoscopic rectum-preserving procedures for those with only mucosa involvement. This was done by dissecting the endometriotic-involved rectum from the posterior vaginal wall. Only 4.9% of the patients had recurrent severe pain in the 2-year follow-up.⁸ In another study, lower anterior resection was preferred to segment excision in about 40% of patients with multiple intestinal infiltration.⁹

Total obstruction of the left colon usually results from colorectal cancer and metastatic disease. Although there are other causes, as diverticulitis and pancreatitis, endometriosis very rarely results in colon obstruction.¹⁰ When dealing with left colon obstruction, it is generally known that operating on an unprepared colon usually leads to more complications. One-stage resection and primary anastomosis is usually not recommended for acute obstructive colon lesions, especially for the left colon. Diverting the colon with a stoma is usually acceptable in patients with acute obstructive colon lesions, and a further second- or third- operation is usually necessary. However, there are still some advantages in one-stage resection and anastomosis surgery, such as: 1. Saving time and reducing hospital costs. 2. Avoidance of the risk of a second operation. 3. Elimination of a waiting period because of a second operation. 4. Avoidance of the troublesome and embarrassment resulting from a temporary colostomy. 5. Offering a better quality of the remaining life for patients with incurable malignancies.¹⁰ Although Thow and Terry preferred immediate resection and anastomosis for left obstructing colon,¹¹ others have chosen subtotal colectomy or intraoperative irrigation prior to anastomosis following resection of the colon obstruction. Dr. Hsu proposed that intraoperative decompression is better than antegrade and retrograde intraoperative irrigation due to: 1. A much shorter time than irrigation. 2. Less manipula-

tion and less chances of contamination. 3. Avoidance of troublesome tubes of intra-operative irrigation. The procedure also reduces post-operative diarrhea caused by subtotal colectomy. The most frequent complication of one-stage resection operations is wound infection. Of the 12.09% in Hsu's study, the anastomotic leakage was only 2%. There have been some advances in techniques for decreasing infection, such double clamping of the proximal bowel and meticulous cleansing of the bowel edge. According to Dr. Hsu's study, the anastomotic leakage rate in unprepared colons was not high. However, several factors should be taken into consideration with regards to a higher disruption rate of anastomosis: old age, malnutrition with low serum protein level, fixation of the bowel by a tumor mass, and insertion of drain.

One-stage resection and anastomosis for endometriotic complete left-side colon obstruction, according to a previous study,¹⁰ can still produce adequate results, even when operating on an unprepared colon.

Conclusion

Endometriosis is a rare cause of colon obstruction, it should be a differential diagnosis in the patients with colonic obstruction. One stage resection and anastomosis is feasible in most patients with acute obstruction of the left colon, with low anastomotic leakage and mortality.

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病例報告

以單次性腸切除及吻合手術治療子宮內膜異位所造成的完全腸阻塞

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腸道是子宮內膜異位最常見的骨盆腔外轉移的地方，而常見的症狀如血便及腹痛等可和月經的週期有相關，但是通常只有 40% 的病人會依此特性表現。當我們探討到左側大腸完全阻塞的病因時，惡性腫瘤是最常見的狀況。在處理這一類的病人時，往往會需要先施行一個暫時性的結腸造瘻分流，而後再接受兩到三階段的手術。然而，單一階段的結腸切除及吻合仍然是一種手術的選擇，也並不會增加急性阻塞術後吻合處滲漏的機率。本篇的病例報告說明一個子宮內膜異位所造成急性腸阻塞的病人，經由一階段的腸切除及腸吻合手術，完成病灶切除。

關鍵詞 子宮內膜異位、單次性切除、完全腸阻塞、吻合手術。