



Colon resection for endometriosis

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ABSTRACT

Endometriosis affects women during the reproductive period and can cause functional disorders. Sometimes general surgical intervention is necessary owing to disease boundary. The sigmoid colon and rectum are particularly affected because of their close relationship. In this case, treatment must be individualized according to the patient and symptoms. If the lesion penetrated the entire bowel wall, bowel resection may be inevitable. Laparoscopic resection of the sigmoid colon or rectum can be performed safely in this situation. When laparoscopic resection is not possible because of technical difficulties, open resection may be performed as a mode of treatment.

Keywords: Endometriosis, colon resection, hysterectomy

INTRODUCTION

Endometriosis, which is the presence of the endometrial cells outside of the uterine cavity, is a benign condition affecting women during the reproductive period (1). This disease affects approximately 10% of the general population, and 25%–50% of infertile women suffer from this condition (2, 3). Treatment must be individualized according to the patient's age, fertility status, and symptoms and extensity of the disease. Full-thickness excision, shaving, and resection are treatment choices in case of bowel involvement. Here we present two cases of deeply infiltrative endometriosis treated by hysterectomy, oophorectomy, and anterior resection owing to bowel involvement, causing luminal narrowing.

CASE PRESENTATION

Case 1

A 39-year-old woman was admitted to the gynecology clinic with complaints of menstrual pelvic pain and constipation. Her medical history includes medical treatment and four times open surgery for deeply infiltrative endometriosis (DIE). Pelvic magnetic resonance imaging (MRI) revealed multiloculated cystic mass that has a close relationship with the sigmoid colon (Figure 1, 2).

As the patient stated that she completed childbearing and desired voluntary sterility, total abdominal hysterectomy, bilateral salpingo-oophorectomy, and anterior resection were performed. Patient's postoperative course was uneventful, and she was discharged from the hospital on postoperative day 6. The pathology report was compatible with endometriosis that invades the serosa, subserosa, and muscular layers of the colon. Colonic mucosa was intact. One year after surgery, the patient has no complaint.

Case 2

A 42-year-old woman was admitted to the gynecology clinic because of a recently diagnosed right ovarian cyst. Laparoscopic right oophorectomy and bilateral salpingectomy were performed. Her pathology result was endometriotic cyst for all specimens. Six months later, colonoscopy was performed due to constipation and bowel habit changes, and luminal restriction due to extrinsic compression was diagnosed. Colonoscopy could not pass this restricted segment (Figure 3).

Magnetic resonance imaging showed loculated endometriosis focus that pushes the uterus anteriorly close to the colon (Figure 4, 5).

As the patient stated that she completed childbearing and desired voluntary sterility, laparoscopic hysterectomy, left oophorectomy, and anterior resection were performed. Patient's postoperative course was uneventful, and she was discharged from the hospital 6 days after surgery. Eight months later, the patient was operated for acute cholecystitis because of a recently diagnosed gall bladder stone. During laparoscopic exploration, no endometriosis foci were present. She has no complaint 2 years after surgery. Patient's pathology reported endometriosis that restricts the colon lumen at two different points.

Informed consent was obtained from both of the patients.

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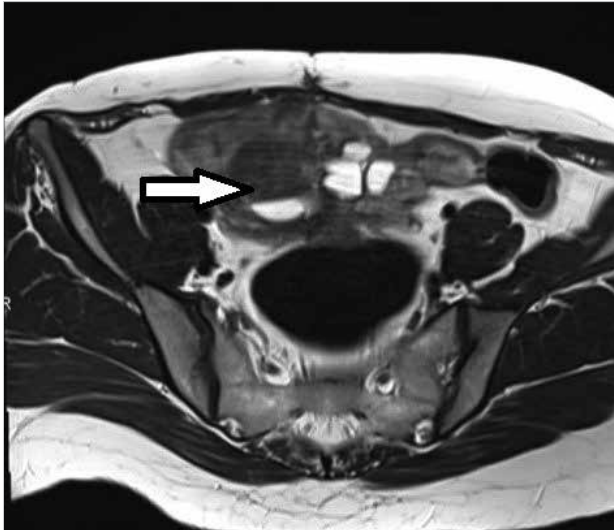


Figure 1. Ax T2: Heterogeneous, hyperintense, multiloculated complex cystic mass is present. The fat plane is affected between the cyst and the neighboring sigmoid colon and uterus

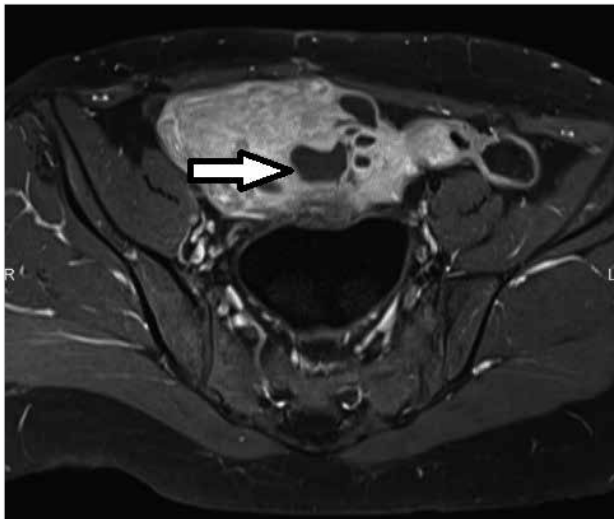


Figure 2. Ax T1, postcontrast FS T1: Image shows the linear enhancement of the walls of the multiloculated cystic mass



Figure 3. Appearance of colonic compression due to deeply invasive endometriosis during colonoscopy

DISCUSSION

Endometriosis has three clinical forms, namely peritoneal endometriosis, endometriotic ovarian cysts (endometriomas), and deeply infiltrative form. Among these forms, DIE is the most aggressive and problematic.

Deeply infiltrative endometriosis is defined as infiltration of the peritoneum >5 mm (4). The pelvis is the most common location, and approximately 24% of patients have sigmoid colon or rectum involvement (5). This disease can cause different symptoms, and treatment must be individualized according to symptoms, clinical condition, and fertility status (6). Menstrual irregularities, dysmenorrhea, dyspareunia, chronic pelvic pain, mictalgia, and dyschezia are the main symptoms of DIE. In conjunction with these symptoms, involvement of the colon or rectum can cause functional disorders. Constipation, tenesmus, rectal bleeding, and intestinal obstruction are some of these disorders that are associated with bowel involvement (1, 7, 8).

Surgery is a suppressive treatment for endometriosis if the ovaries are left to produce estrogen. Estrogen is the fuel of en-

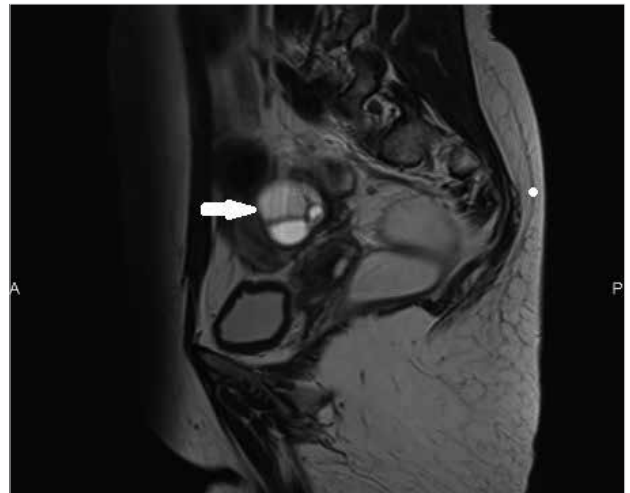


Figure 4. Sag. T2 WI: Cystic mass has T1 hyperintense, T2 mild hyperintense, and dense content at some locations

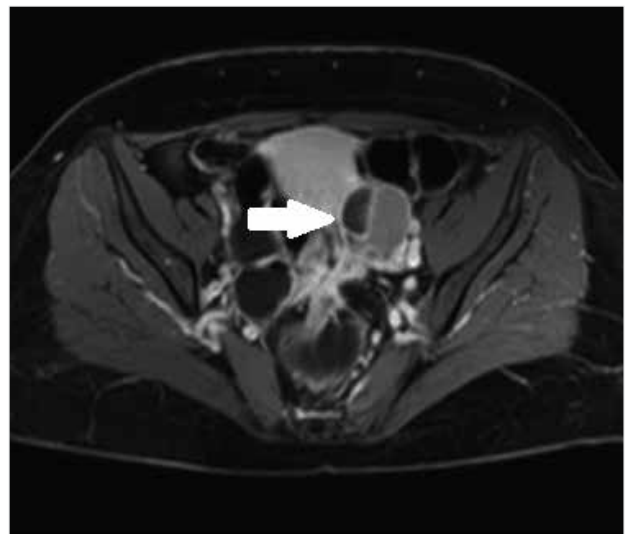


Figure 5. Ax, postcontrast T1 FS image: Linear wall enhancement at the dense loculated component. The mass pushes the uterus anteriorly

dometriotic focus. During the reproductive period, endometriosis tissue continues to grow if no hormonal treatment is applied. Its hormonal suppression using continuous dienogest or cyclic combined drospirenone and ethinylestradiol is another option for treatment, also supporting surgical therapy.

Endometriosis disease has four stages that produce obliterated cul-de-sac at stage 4. Endometriotic tissue at the rectovaginal septum is responsible for dyspareunia during intercourse. The probability of colonic involvement is high during stage 4 disease.

Stage 4 endometriosis may also affect the urinary tract in addition to bowel involvement, supporting the multidisciplinary approach for deep endometriosis surgery including gynecologist, general surgeon, and urologist.

Decision to perform surgery for DIE is mainly clinical (4). Relief from pain and maintaining fertility with low recurrence rates are the main goals of endometriosis surgery for women during the reproductive period. However, for patients who completed childbearing, hysterectomy with or without bilateral salpingo-oophorectomy can be considered as treatment option (9). Although there is no guideline for patient selection or optimal treatment for DIE with colonic involvement, full-thickness excision, shaving, and bowel resection are possible treatment modalities to remove endometrioid foci and to improve the clinical outcome of functional disorders (10-12). Performing shaving or resection surgery is a matter of debate for centers of excellence that studies endometriosis surgery. Although complication rates of bowel resection especially for lower rectal resections are higher, bowel resection can be suitable for lesions >30 mm, causing obstruction or involving >1/3 of the intestinal circumference (13). Laparoscopic sigmoid colon or rectal resection is possible and can be combined with gynecologic procedures safely.

CONCLUSION

Treatment of DIE with colonic or rectal invasion may be problematic. There is no existing guideline for patient selection or treatment options in case of colonic or rectal invasion. Colon, laparoscopic, or open resection may be performed in conjunction with hysterectomy and bilateral salpingo-oophorectomy for selected patients who complete childbearing.

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

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