# Ileocecal endometriosis: clinical and pathogenetic implications of an underdiagnosed condition

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**Objective:** To review our experience with surgical treatment of ileocecal endometriosis.
**Design:** Observational study.
**Setting:** Tertiary university hospital in Italy.
**Patient(s):** Eight consecutive patients with infiltrating ileocecal endometriosis operated on between 2003 and 2005.
**Intervention(s):** All of the women underwent laparotomic ileocecal or cecal resection and had radical treatment of rectovaginal endometriosis as well.
**Main Outcome Measure(s):** Long-term relief of pelvic pain, constipation, and dyschezia.
**Result(s):** There were no postoperative intestinal complications. At a mean ± SD follow-up of 106 ± 10 months, all of the patients reported significant improvement of pelvic pain and bowel symptoms.
**Conclusion(s):** Infiltrating ileocecal endometriosis requiring bowel resection was associated in all cases with infiltrating rectovaginal endometriosis, possibly reflecting a common pathogenesis. A thorough clinical evaluation of women with rectovaginal endometriosis might allow an improvement in the difficult preoperative diagnosis of ileocecal endometriosis. Our data support the long-term efficacy of the radical surgical resection of associated ileocecal and rectovaginal endometriotic lesions in reducing pelvic pain, constipation, and dyschezia. (Fertil Steril® 2014;101:750–3. ©2014 by American Society for Reproductive Medicine.)
**Key Words:** Bowel endometriosis, ileocecal endometriosis, pelvic pain, rectovaginal endometriosis

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Bowel endometriosis is estimated to be present in 5%–12% of women with genital endometriotic lesions (1). About 75% of intestinal lesions are located either in the rectum, the most common site, usually associated with vaginal endometriotic lesions, or in the sigmoid colon; the remaining 25% of intestinal endometriotic lesions, proximal to the sigmoid colon, are almost invariably located in the ileocecal and appendix area (2–4).

Symptoms of the different intestinal locations are different. Endometiosis of the rectum and sigmoid may be associated with specific symptoms allowing an early clinical suspicion, namely, deep dyspareunia, dyschezia, cathamenial diarrhea, and, in the most severe cases, ematochezia and narrowed stools. Conversely, ileocecal endometriosis may be asymptomatic or associated with aspecific symptoms, such as abdominal pain, nausea, vomiting, and diarrhea; therefore, it is a preoperatively underdiagnosed condition and the diagnosis is usually performed after an acute complication, such as appendicitis or acute bowel obstruction (5, 6).

A reliable diagnosis of rectosigmoid endometriosis can often be obtained by means of a simple rectovaginal examination and a transvaginal or transrectal ultrasound (7). Conversely, the diagnosis of ileocecal endometriosis requires more

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advanced diagnostic procedures, such as colonoscopy, double-contrast barium enema (8), magnetic resonance imaging, or multislice computerized tomographic enteroclysis (9).

Because the number of patients with infiltrating ileocecal endometriosis reported in published series is limited, we sought to critically review our experience with a series of eight consecutive patients affected by this condition, with the aim of gaining insight on the pathogenesis, diagnosis, and management of this uncommon location of endometriosis.

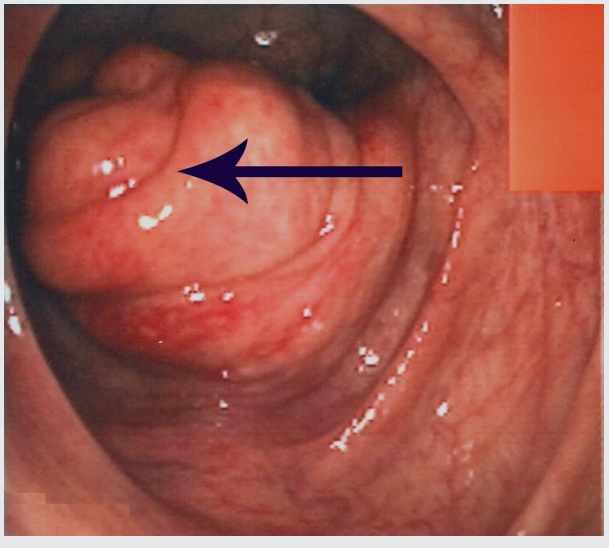
## MATERIALS AND METHODS

The charts of 241 consecutive patients operated on for endometriosis over a 3-year period from 2003 to 2005 at the Department of Obstetrics and Gynecology, San Paolo Hospital, University of Milan, were reviewed. Among them, eight patients (3.3%) with infiltrating ileocecal endometriosis were found and included in the present descriptive study. Patients with superficial ileocecal endometriosis or endometriosis limited to the appendix were excluded from the study. Another patient who was not included in the study underwent rectosigmoid resection and stripping of bilateral endometrioma in 2004 and was subsequently diagnosed with asymptomatic ileocecal endometriosis by a follow-up colonoscopy performed in 2006 (Fig. 1).

The preoperative work-up included rectovaginal examination as well as transvaginal and urinary tract ultrasonography in all patients; all patients underwent bowel evaluation with colonoscopy, rectosigmoidoscopy, or barium enema because of the diagnosis of rectovaginal endometriosis.

At surgery, a radical treatment of endometriosis was performed, including ablation of all endometriotic lesions and resection of stenotic intestinal segments. All anastomoses were performed manually in double layer by laparotomy. The ileocecal valve was spared when not directly involved by endometriosis.

**FIGURE 1**



Colonoscopy view of an intussusception of the appendix (*arrow*).

*Fedele. Surgery for ileocecal endometriosis. Fertil Steril 2014.*

The patients underwent a 1-month postoperative evaluation in our outpatient clinic and then were followed by their referring gynecologists. In May 2013, all of the patients were available for a telephone follow-up interview. Institutional Review Board approval and patients' informed consents were obtained.

## RESULTS

### Characteristics of the Patients and the Surgical Procedures

The eight patients were all premenopausal, ranging in age from 29 to 43 years, and were nulliparous; one patient had an ectopic pregnancy and one had previously undergone IVF-ET without success. Six patients had previous surgery for endometriosis: Five women had undergone at least one laparotomy, and one woman had undergone an operative laparoscopy. Primary indication for surgery in all patients was severe pelvic pain, in the form of dysmenorrhea, dyspareunia, or noncyclic pelvic pain. Six patients had symptoms related to bowel function, most frequently represented by constipation and dyschezia.

A preoperative diagnosis of ileocecal endometriosis was suspected in one of six patients (17%) who underwent colonoscopy, owing to a hyperemic and edematous appendix, and in one of the two patients (50%) who had barium enema because of a filling defect of the cecum.

Table 1 reports the intraoperative characteristics of the eight patients. All patients underwent radical treatment of endometriosis at laparotomy, including resection of cecal or ileocecal nodules. One patient required urgent laparotomy for acute bowel obstruction the day before the scheduled operation; this woman had an endometriotic nodule involving the ileocecal valve and underwent ileocecal resection. The remaining seven patients had nodules of the cecal fundus not involving the ileocecal valve and therefore underwent resection of the cecal fundus only. In addition, three of these patients required appendectomy and one required appendectomy and resection of terminal ileum. All patients had rectovaginal endometriosis as well: seven underwent resection of rectosigmoid, and one underwent excision of a rectovaginal nodule.

The operating time ranged from 135 to 265 minutes and hospital stay from 8 to 16 days. In one patient, who had undergone total hysterectomy and bilateral salpingo-oophorectomy, a microinfiltrating endometriotic ovarian carcinoma was observed at pathologic evaluation. This patient underwent a staging laparotomy a few months later with no signs of malignancies, and she was free of disease 7 years after the procedure. The same patient had a permanent lesion of the right femoral nerve and required blood transfusion. No other complications were observed.

### Follow-up

Table 2 shows the long-term follow up of the eight patients. All of the patients reported significant improvement of pelvic pain and bowel symptoms. Three patients had mild to moderate pain that was controlled by medical treatment, namely,