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Bowel Endometriosis Presenting as a Pseudo-Ileal Mass: A Diagnostic and Therapeutic Challenge

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Abstract | **Case Report**

Bowel endometriosis is an underrecognized extra-pelvic manifestation of endometriosis that poses significant diagnostic challenges due to its clinical overlap with inflammatory bowel diseases and other gastrointestinal disorders. We report the case of a 38-year-old woman with a five-year history of chronic dysmenorrhea who presented with right iliac fossa pain, an intermittent bowel habit disturbance, and a palpable abdominal mass. Laboratory investigations revealed a mildly elevated C-reactive protein (18 mg/L), while ileocolonoscopy demonstrated a completely normal mucosa. Magnetic resonance enterography (MRE) was instrumental in establishing the diagnosis, revealing an irregular thickening of the broad ligament with agglutinated ileal loops forming a pseudo-mass of 47 × 38 mm, associated with post-stenotic bowel dilatation and ipsilateral ovarian traction. Following multidisciplinary discussion and in accordance with the patient's preference for conservative management, hormonal therapy was initiated, resulting in favorable clinical improvement. This case underscores the critical role of advanced cross-sectional imaging when endoscopic findings are non-contributory and highlights the value of a patient-centered, multidisciplinary approach in managing bowel endometriosis.

Keywords: Bowel endometriosis; ileal endometriosis; pseudo-mass; magnetic resonance enterography; dysmenorrhea; hormonal therapy; differential diagnosis.

INTRODUCTION

Endometriosis is a chronic, estrogen-dependent inflammatory condition defined by the presence and proliferation of endometrial-like glands and stroma outside the uterine cavity [1]. Affecting an estimated 10–15% of women of reproductive age, it constitutes a major cause of dysmenorrhea, chronic pelvic pain, and infertility [2]. The disease spectrum is broad, ranging from subtle peritoneal deposits to deep infiltrating nodules involving the rectovaginal septum, bladder, and bowel.

Extra-pelvic manifestations, although less common, are increasingly recognized and encompass bowel, urinary tract, abdominal wall, thoracic, and even central nervous system involvement [3]. Intestinal endometriosis, occurring in 3–12% of patients with confirmed endometriosis, most frequently affects the rectosigmoid colon; small bowel involvement, particularly of the terminal ileum, is considerably rarer and is estimated to account for fewer than 1–7% of all bowel endometriosis cases [4-5].

The clinical presentation of ileal endometriosis is notoriously nonspecific, often mimicking Crohn's disease, intestinal tuberculosis, or primary ileal neoplasms — conditions with which it shares symptoms of abdominal pain, altered bowel habits, and obstructive features. This diagnostic ambiguity, compounded by the limitations of conventional endoscopic evaluation, frequently results in delayed or erroneous diagnosis [6-7]. Herein, we report a case that illustrates the diagnostic complexities of ileal endometriosis presenting as a pseudo-ileal mass, and we discuss the role of advanced imaging modalities and the principles guiding individualized management.

CASE PRESENTATION

A 38-year-old woman with no significant past medical or surgical history presented to our department with a chief complaint of right iliac fossa (RIF) pain. She

reported a five-year history of chronic dysmenorrhea with progressive intensity, and described a cyclic exacerbation of her RIF pain in temporal correlation with menstruation. Associated symptoms included alternating episodes of diarrhea and constipation, intermittent nausea, and occasional vomiting. There was no history of hematochezia, melena, or unintentional weight loss.

On physical examination, the patient was alert, oriented, and hemodynamically stable (blood pressure 118/76 mmHg, heart rate 74 beats per minute, temperature 37.2°C). Abdominal palpation revealed a firm, non-tender, fixed mass in the right iliac fossa without peritoneal signs, overlying skin changes, or lymphadenopathy. Gynecological examination was unremarkable.

Laboratory investigations demonstrated a normal complete blood count and a mildly elevated C-reactive protein of 18 mg/L. Tumor markers (CA-125, CEA, CA 19-9), renal and hepatic function tests, and urinalysis were all within normal limits. Fecal calprotectin was not obtained at the time of initial assessment.

Abdominal ultrasound revealed a heterogeneous mass at the terminal ileum with a small volume of free fluid in the pouch of Douglas, raising initial concern for an inflammatory or neoplastic process of the terminal ileum. Given the imaging findings and the clinical differential of Crohn's disease or intestinal tuberculosis, ileocolonoscopy was performed and demonstrated entirely normal ileal and colonic mucosa (Figure 1).

Magnetic resonance enterography (MRE) was subsequently obtained and proved to be the key diagnostic investigation. It demonstrated irregular thickening of the broad ligament with extension to the adjacent terminal ileal loops, which appeared fixed and agglutinated, forming a pseudo-mass in the right iliac fossa measuring 47 × 38 mm. Significant luminal narrowing with post-stenotic upstream dilatation was identified. Notably, the right ovary appeared retracted toward the ileal loops (Figures 2–4). The constellation of these findings was highly consistent with deep infiltrating ileal endometriosis.

Figure 1: Ileocolonoscopy demonstrating normal terminal ileal mucosa, with no ulceration, erythema, or stricturing

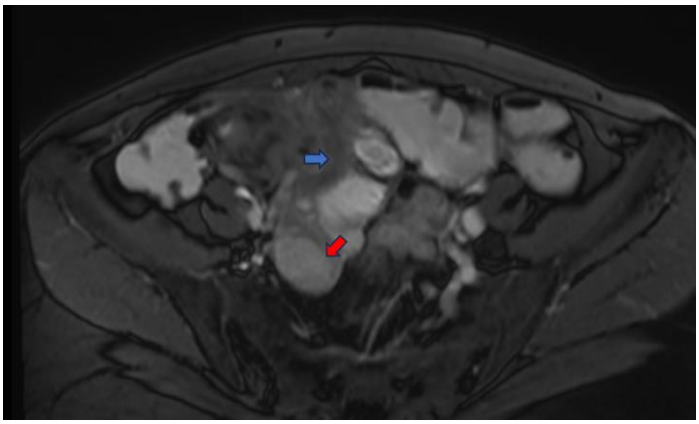

Figure 2: Axial T2-weighted TRUFI sequence showing the endometrial pseudo-mass (blue arrow) and traction of the right ovary toward the ileal loops (red arrow)

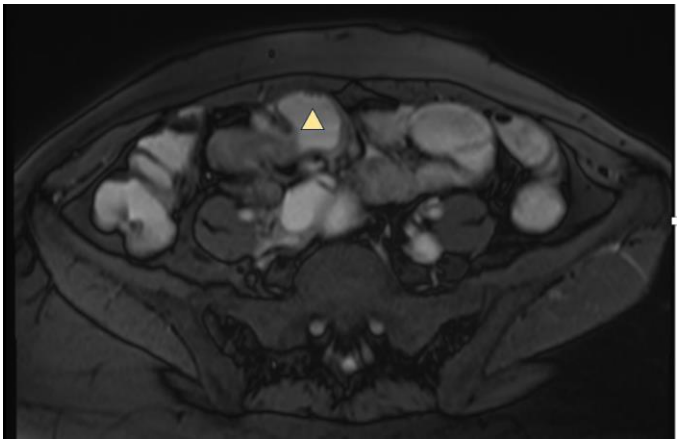

Figure 3: Axial T2-weighted TRUFI image demonstrating post-stenotic bowel dilatation proximal to the ileal pseudo-mass

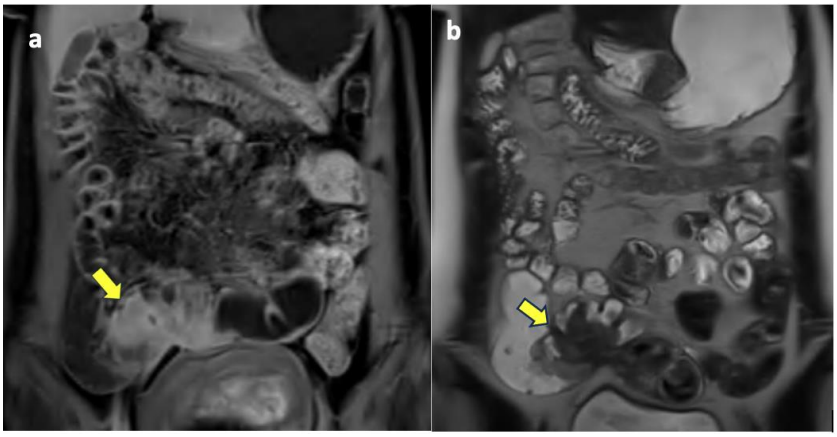

Figure 4: Coronal MRE images — (a) T1 fat-saturated and (b) T2-weighted sequences — showing the endometrial pseudo-mass in the right iliac fossa

The case was discussed at a multidisciplinary team (MDT) meeting involving gastroenterology, gynecology, and colorectal surgery. In light of the radiological diagnosis, the patient's cyclic symptomatology, and her explicit preference to avoid surgical intervention, a conservative management strategy was adopted. Hormonal therapy was initiated, and the patient was referred to the gynecology department for ongoing surveillance. At clinical follow-up, she reported a significant reduction in pain severity and improvement in bowel function.

DISCUSSION

Endometriosis, despite its high prevalence, remains one of the most diagnostically elusive conditions in clinical practice. The average diagnostic delay is reported to range from 7 to 10 years from symptom onset to definitive diagnosis [8]. Small bowel involvement, as in the present case, is a particularly uncommon and underappreciated localization that further compounds diagnostic difficulty.

The pathogenesis of bowel endometriosis is multifactorial. The most widely accepted theory involves retrograde menstruation with peritoneal implantation of viable endometrial cells, which subsequently invade the bowel wall under the influence of estrogen-driven inflammatory signaling. This leads to progressive fibrosis, smooth muscle hypertrophy, and transmural infiltration, culminating in luminal narrowing and adhesion formation [6-9]. In our patient, the agglutination of ileal loops around an endometriotic focus of the broad ligament, with traction of the adjacent ovary, exemplifies this fibroinflammatory cascade.

The clinical presentation of ileal endometriosis overlaps significantly with Crohn's disease and intestinal tuberculosis — two entities that should be excluded in patients presenting with RIF mass, altered bowel habits, and elevated inflammatory markers, particularly in endemic regions [7-9]. Key differentiating features include the cyclic nature of symptoms correlating with the menstrual cycle, which was prominently present in our patient and should serve as a major clinical clue in women of reproductive age presenting with otherwise unexplained gastrointestinal complaints.

Endoscopic evaluation, while essential to exclude mucosal pathology, has inherent limitations in bowel endometriosis. Since the disease predominantly involves the serosa and muscularis propria with relative sparing of the mucosa, ileocolonoscopy typically yields normal or non-specific findings, as observed in our case. Biopsy samples from endoscopic evaluation are rarely

diagnostic. In contrast, MRE has emerged as the imaging modality of choice for small bowel endometriosis, offering reported sensitivities of up to 93% for detecting pelvic and bowel lesions [9]. Its multiplanar capability and superior soft-tissue resolution allow delineation of disease extent, adhesions, post-stenotic dilatation, and ovarian involvement — all of which were elegantly demonstrated in this case.

The management of bowel endometriosis requires individualization based on disease severity, symptom burden, fertility desires, and patient preference. Medical therapy with combined oral contraceptives, progestins, or GnRH agonists suppresses ovarian estrogen production and alleviates symptoms, but does not achieve anatomical resolution and is associated with recurrence upon cessation. Surgical management — preferably laparoscopic — remains the gold standard for definitive treatment and histological confirmation, with complete excision of lesions associated with significantly lower recurrence rates compared to ablative techniques [11-12]. In our case, the patient declined surgical intervention due to concerns about operative risk and morbidity. The favorable clinical response to hormonal therapy, in the context of typical MRE findings, provided sufficient diagnostic confidence without requiring tissue confirmation — a pragmatic approach supported by current evidence-based guidelines in selected cases [9].

Beyond pharmacological and surgical strategies, a holistic management framework incorporating patient education, psychological support, and where appropriate, integrative approaches, is increasingly recognized as integral to optimizing outcomes in endometriosis [13-14]. The multidisciplinary model, as applied in this case, ensures that therapeutic decisions align with both the clinical complexity and the patient's values and preferences.

CONCLUSIONS

This case illustrates that ileal endometriosis presenting as a pseudo-ileal mass is a diagnostic challenge that requires a high index of clinical suspicion, particularly in women of reproductive age with cyclic gastrointestinal symptoms. When ileocolonoscopy fails to reveal a mucosal cause for abdominal symptoms and a palpable mass, MRE should be pursued as the investigation of choice given its high sensitivity for detecting deep infiltrating endometriosis. A multidisciplinary, patient-centered approach to management — incorporating both medical and surgical options — is essential to tailoring treatment to the individual patient's needs and achieving optimal outcomes. Heightened awareness of this rare extra-pelvic manifestation among gastroenterologists and general surgeons is crucial to reducing diagnostic delay and avoiding unnecessary invasive procedures.

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