

## Case Report

# Appendiceal and bowel endometriosis mimicking acute appendicitis with small bowel obstruction: case report and brief review of the literature

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## ABSTRACT

Endometriosis is defined as the presence of endometrium-like tissue outside the uterine cavity. This disease can have a variable presentation with symptoms that range from asymptomatic to non-menstrual pelvic pain, dysmenorrhea, dyspareunia, bowel symptoms, infertility, among others. We hereby present the case of a 39-year old female that presented to emergency room complaining of abdominal pain in right iliac fossa. Acute appendicitis was suspected, even though CT scan was inconclusive. Diagnostic laparoscopy was scheduled and laparoscopic appendectomy was performed and pathology examination reported acute appendicitis due to appendiceal endometriosis.

**Keywords:** Acute appendicitis, Secondary acute appendicitis, Small bowel obstruction, Endometriosis, Acute abdominal pain

## INTRODUCTION

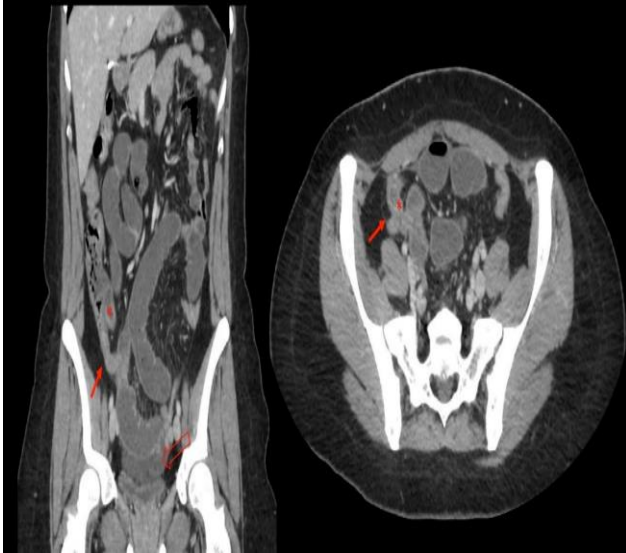
Endometriosis is common cause of pelvic pain among women of reproductive age, it consists of presence of endometrium like tissue outside uterine cavity.<sup>1,2</sup> Its prevalence varies depending on population studied, endometriosis is estimated to affect between 6-10% of reproductive age women worldwide, although true prevalence uncertain because definitive diagnosis requires surgical visualization with histologic verification.<sup>3</sup>

## CASE REPORT

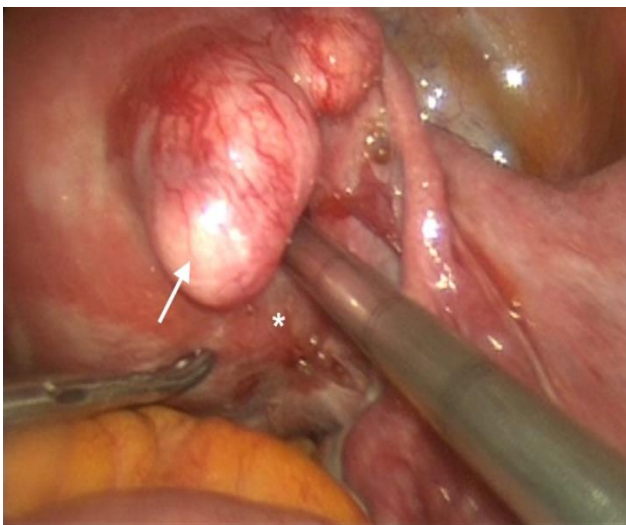
A 39-year old Mexican female without any relevant past medical history, presented to the emergency department

complaining of a 12-hour abdominal pain, located in the right iliac fossa and nausea. Physical examination showed a distended abdomen, with tenderness in right iliac fossa, and positive McBurney and Blumberg sign. CBC revealed leukocytosis with a shift to the left. CT scan (Figure 1) was inconclusive for diagnosis of acute appendicitis, and a diagnostic laparoscopy was scheduled. A 3-port approach was decided, given the suspected diagnosis of acute appendicitis and diagnostic laparoscopy was performed were several lesions suggestive of endometriosis were found (Figure 2). A right iliac fossa mass was found. Blunt dissection of the mass revealed intestinal loops enclosed with the inflamed appendix without evidence of abscess or perforation. Laparoscopic appendectomy was performed and pathology examination revealed focal endometriosis of

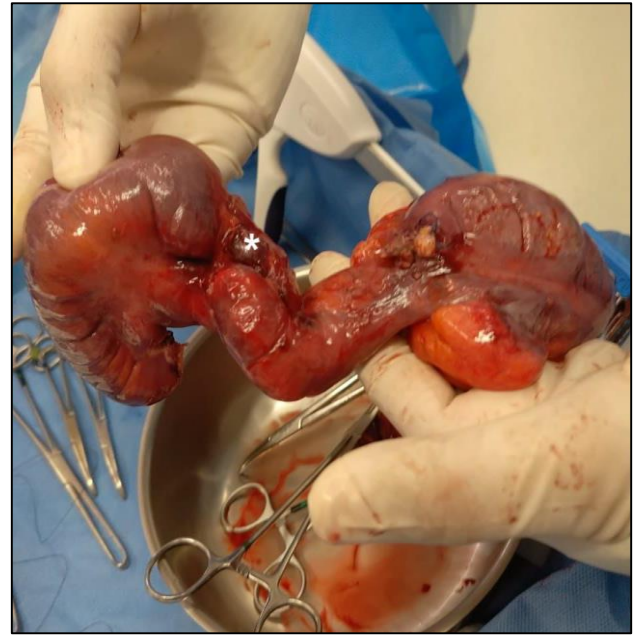
the appendix. At PO day 4, the patient presented nausea and vomiting and referred abdominal distension and right iliac fossa pain. Another CT was performed showing signs of small bowel occlusion, due to terminal ileum and ascending colon stenosis. A laparotomy was performed, revealing severe distension of the small bowel and ascending colon stenosis associated with an endometriotic lesion. A right colectomy was performed without further complications (Figure 3).



**Figure 1: Multi slice CT scan with intravenous contrast (Iopromide 370 mg/100 ml) in venous phase, observing in both coronal (left) and axial (right) reconstruction an image suggestive of the cecal appendix (arrows) posterior to the distal ileum (\*) which shows increased wall thickness and loss of its anatomical relationship, associated with free fluid with hematic densities in the pelvic cavity (open arrow)**



**Figure 2: Intraabdominal findings suggestive of endometriotic lesions in the uterus (\*), as well as serosal uterine myomas (open arrow).**



**Figure 3: Right colectomy specimen with endometriotic lesions (\*).**

## RESULTS

The pathologic examination showed ascending colon endometriosis associated with a zone of luminal stenosis 3 cm distally from the ileocecal valve. Patient postoperative course went uneventful, and the patient was discharged on postoperative day 5.

## DISCUSSION

Endometriosis is defined as the presence of endometrium-like tissue (endometrial glands and stroma) outside the uterus.<sup>1,4</sup> The development of endometriosis involves interacting, endocrine, immunologic, proinflammatory, and proangiogenic processes. There are several theories regarding the pathogenesis of endometriotic tissue such as retrograde menstruation, coelomic metaplasia, and lymphatic and vascular metastasis.<sup>5</sup>

The presentations of endometriosis range from superficial peritoneal lesions, to cysts in the ovaries also known as endometrioma, to deep endometriosis nodules, to extra-pelvic lesions.<sup>1</sup> Endometriosis lesions are predominantly intraabdominal with bowel involvement estimated to be present in up to 8-12% of patients with endometriosis, of which around 80-90% of cases correspond to rectum and sigmoid colon. The prevalence of appendiceal involvement with endometriosis varies widely in the literature, from 0.2%-36%, however the presence of acute appendicitis with small bowel obstruction due to endometriosis was not reported in the literature.<sup>4,6</sup>

Women with appendiceal endometriosis may complain of acute or chronic pelvic pain, fever, intussusception, or

lower GI bleeding, although no pathognomonic symptoms have been described.<sup>6</sup> These variety of clinical scenarios in addition to the absence of specific biomarkers to detect or rule out endometriosis represent a medical challenge.

Endometriosis represents a difficult diagnosis, since no biomarkers detect or rule out the disease and the clinical presentation may be highly variable, diagnosis is usually established through surgical visualization, ideally by laparoscopic approach.<sup>1,3,7</sup> Laparoscopy allows magnification, high definition and illumination to better visualize the disease and also treatment of the disease by removal of the visible lesions.<sup>7</sup>

The medical management of endometriosis is focused on pain relief with short trial of paracetamol or a non-steroidal anti-inflammatory drug. In addition, hormonal treatment can reduce pain and has no permanent negative effect on subsequent fertility.<sup>1,8</sup> However, the surgical decision with laparoscopy excision or ablation of lesions, is the gold standard of the management of peritoneal endometriosis and uncomplicated ovarian endometriomas in fertile women.<sup>7,8</sup> Although there is no consensus regarding the management of isolated appendiceal endometriosis, incidental appendectomy could allow complete disease eradication with full symptom relief.<sup>6</sup>

## CONCLUSION

There is a complex diagnostic challenge surrounding endometriosis. The average between the onset of symptoms and diagnosis is 7 years. A better understanding of the pathogenesis of endometriosis is necessary for the development of specific medical and surgical approaches. There are no references to clinical manifestations or specific symptoms that suggest intestinal involvement of endometriosis. Although symptoms may vary widely, a strong clinical suspicion of endometriosis with bowel involvement should be considered in women with pelvic pain, fever, and constipation.

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