



International Journal of Case Reports in Surgery

E-ISSN: 2708-1508

P-ISSN: 2708-1494

IJCRRS 2024; 6(1): 27-29

www.casereportsofsurgery.com

Received: 16-10-2023

Accepted: 20-12-2023

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Appendectomy during surgery for ovarian endometrioma: A case report and review of literature

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DOI: <https://doi.org/10.22271/27081494.2024.v6.i1a.96>

Abstract

Endometriosis is a widespread disease involving multiple pelvic and abdominal organs. Appendiceal endometriosis is considered a rare finding and its prevalence varies from 0.8% to 39%. It can be symptomatic and can mimic appendicitis. That's why surgical treatment of endometriosis requires incidental appendectomy. We present a case of appendicular endometriosis in a young woman with pelvic and abdominal pain for several months. She had no significant pathologic history. Blood tests were normal and pelvic ultrasound showed findings suggestive of bilateral large endometriomas. Diagnostic laparoscopy was performed, which revealed severe stage 4 endometriosis. Therefore, we couldn't perform surgery. The patient was discharged on the second day. She was given medical treatment based on GnRH agonists to reduce the severity of the endometriosis so that she could undergo surgery again under better conditions.

Keywords: Laparoscopy, endometriosis, Appendectomy, management

Introduction

Endometriosis is a common disease affecting 10 to 15 percent of women of reproductive age. It often leads to chronic pain, infertility and repeated surgeries. The pelvic organs and peritoneum are most commonly affected.

It can also occur in the gastrointestinal tract, in surgical scars, and rarely in the lungs, skin, and kidneys [1]. The prevalence of intestinal endometriosis is estimated to be between 8% and 12% in patients with endometriosis. The rectum and sigmoid colon are the most commonly affected sites, accounting for 90% of all bowel involvement. [2]. Appendiceal endometriosis is rare and its prevalence varies in the literature from 0.8% to 39% [3]. The diagnosis of endometriosis is histologic and requires clinical and surgical decisions, but its management is still controversial. Furthermore, there is a large difference between laparoscopic visual diagnosis of endometriosis and histologically proven endometriosis [4].

The role of appendectomy in the surgical management of women with chronic pelvic pain or endometriosis has not been clearly defined by consensus guidelines [5]. Appendiceal endometriosis may be asymptomatic or present as acute or chronic appendicitis, lower gastrointestinal bleeding, bowel perforation, or bowel intussusception [6]. Therefore, several studies have argued that incidental appendectomy is necessary for the surgical treatment of endometriosis. We present the case of a patient in whom appendiceal endometriosis was diagnosed at the time of laparoscopy.

Case presentation

A 30-year-old woman presented with a history of several months of moderate abdominal pain cyclically associated with menstrual bleeding. There were no associated genitourinary or gastrointestinal symptoms. The pain was not relieved by common analgesics. Her menstrual cycle was irregular and dysmenorrheic, and her last menstrual period was 10 days before admission. Her medical and surgical history was unremarkable.

She was in good general condition and her vital signs were normal. The abdomen was soft, palpable but painful to deep palpation with no obvious signs of peritoneal irritation, pelvic examination was not performed as the patient was a virgin.

White blood cell count and neutrophil percentage were 7900 mm³ and 64%, respectively, serum C-reactive protein was 8 mg/L, and pregnancy test was negative. Pelvic ultrasound showed a normal uterus and two laterouterine views at the expense of each ovary with

hypoechogetic content of 7 cm and 6 cm, suggesting bilateral endometriomas.

The patient underwent a diagnostic laparoscopy for chronic pelvic pain with bilateral endometriomas, in which we found severe stage 4 endometriosis with multiple pelvic adhesions preventing access to the pelvic organs, some nodules of peritoneal endometriosis on the anterior wall as well as on the appendix, which was congested (Figure 1), so we couldn't perform any surgical procedure. The patient was discharged on the second day. And she was put on medical treatment based on GnRH agonist to reduce the severity of endometriosis in order to re-operate her under better conditions. The patient was started on a GnRH agonist and returned in 3 months for clinical and ultrasound follow-up. After 3 months, the medical treatment helped to relieve the pain caused by the endometriosis and to reduce the size of the endometriomas. Therefore, we decided to continue the medical treatment for a total of 6 months and to schedule another laparoscopy in the meantime.

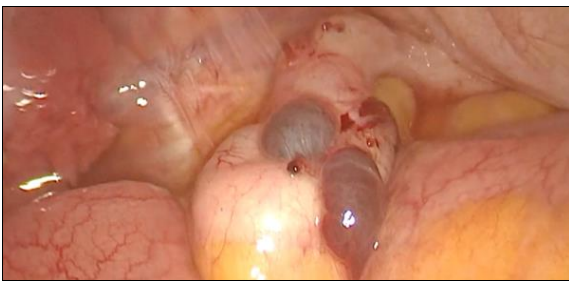


Fig 1: Intraoperative appearance of endometriotic nodule above the Appendix During Laparoscopy

Discussion

Endometriosis is the presence of endometrial tissue outside the uterus, it can affect the pelvic organs, peritoneum, digestive tract, omentum, surgical scar, appendix and even the lungs, kidneys and skin. The most common symptoms are dysmenorrhea, chronic pelvic pain, infertility, dyspareunia, dysuria, and digestive symptoms [7]. Due to the lack of pathognomonic clinical or radiologic signs, preoperative diagnosis of appendiceal endometriosis is difficult. Therefore, in patients with one or more risk factors for appendiceal injury, it is important to suspect appendiceal endometriosis. For this reason, the diagnosis of appendicular endometriosis should always be suspected in a young woman who presents with chronic non-menstrual pelvic pain and who has a history of infertility and pelvic endometriosis. [8]. Similarly, our patient was young and had a history of chronic pain in the lower abdomen, which is helpful in making the diagnosis. According to Mabrouk *et al*, appendiceal endometriosis was independently associated with posterior pelvic endometriosis, ileocecal endometriosis, and bladder endometriosis [8]. A significant association between the presence of right-sided endometriomas and appendiceal endometriosis, especially in cases of large ovarian cysts, was also found in this study. The proximity of the two organs and the clockwise circulation pattern of the peritoneal fluid may account for this association. Our case is in agreement with these findings, our patient presents 2 large endometriomas in addition to the appendicular localization. Several studies have shown a different distribution of endometriosis lesions between the 2 sides of the abdominopelvic cavity, which correlates with the anatomical differences between the 2 hemipelvises and the

circulation of peritoneal fluid. [9].

A study published by Ross *et al*. showed a strong correlation between appendiceal endometriosis and endometriosis stage, as well as a correlation between laparoscopic appendiceal appearance and the presence of appendiceal endometriosis, concluding that these intraoperative clues may indicate when to perform appendectomy [10].

The same study showed that appendiceal endometriosis was present in 7.0% of women with stage I-II endometriosis and 35.2% of women with stage III-IV endometriosis based on intraoperative visualization, similar to Moulder and colleagues [3] who found appendiceal endometriosis in 11.6% of women with superficial endometriosis and 39.0% with deep infiltrating endometriosis. Since the stage of endometriosis present can predict appendiceal endometriosis, it is reasonable to adopt a selective approach to appendectomy, prioritizing the performance of incidental appendectomy in women with stage III-IV endometriosis and/or endometriosis involving multiple sites [9]. Because women with endometriosis are at high risk for re-operation [11], it is incumbent upon gynecologic surgeons and researchers to find ways to minimize this risk. Although long-term results after appendectomy are lacking [12], it has been shown to be beneficial in reducing pain in a subset of women with chronic right lower quadrant pain.

More complete and effective treatment of endometriosis usually requires surgical removal of the affected tissue or organ. According to recent recommendations, appendectomy should be performed laparoscopically unless contraindicated [12].

Laparoscopic surgery significantly reduced overall pain at 6 and 12 months compared with diagnostic laparoscopy combined with GnRH agonists for endometriosis [13].

According to several authors, incidental appendectomy could allow complete eradication of the disease, complete relief of symptoms, and elimination of potential complications related to appendiceal endometriosis (intussusception or minor gastrointestinal bleeding) [3, 14]. After incidental appendectomy during laparoscopic treatment of ovarian endometriosis, the negative histology rate for appendiceal endometriosis is higher than selective approach (86.8% vs. 69.0%). [8]. Another study of 106 patients who underwent routine appendectomy during laparoscopic treatment of ovarian endometriosis showed macroscopic abnormality in only 3.3%, while microscopic examination showed endometriosis of the appendix in 13.2% of patients [15].

Conclusion

Appendicular endometriosis is observed in 2.6% of cases during surgery for endometriosis, which is often associated with adenomyosis, large endometriomas, deep endometriosis, and ileocecal and bladder endometriosis. Therefore, it is imperative to inform endometriosis patients scheduled for surgery about the risk of appendectomy, especially in stage III-IV endometriosis or widespread endometriosis. The causes of infertility in patients with endometriosis remain unclear. Laparoscopic surgical treatment of endometriosis in combination with medical treatment improves fertility. Appendectomy may be part of the surgical treatment of endometriosis, but this is still controversial. Prospective randomized trials are needed to evaluate and compare the benefits and risks of selective, involuntary appendectomy for appendicular endometriosis.

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How to Cite This Article

Chelly C, Rejeb OB, Chelly S, Derouiche M, Boughizane S. Appendectomy during surgery for ovarian endometrioma: A case report and review of literature. *International Journal of Case Reports in Surgery.* 2024;6(1):27-29.

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