



Severe Endometriosis with Intestinal Invasion: A Case Report and Literature Review

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Abstract

Endometriosis is a pelvic inflammatory disease characterized by the growth of endometrial tissue outside the uterine cavity. The incidence is 10% to 15% and is present in over 50% of women experiencing chronic pelvic pain or infertility. The most common symptoms reported by patients include pelvic pain, dysmenorrhea, dyspareunia, abdominal pain, menstrual disorders, diarrhea or constipation, and infertility. The diagnosis of endometriosis is primarily clinical and supported by imaging studies, including transvaginal ultrasound, hysterosalpingography, and Magnetic Resonance Imaging (MRI). Treatment strategies typically involve pharmacological and hormonal approaches for mild stages, whereas more severe stages often necessitate surgical interventions. Conservative surgery is aimed at removing endometriotic lesions while preserving reproductive function. A case report is presented of a 38-year-old patient with endometriosis and intestinal invasion. Initially, she was solely treated for symptoms of menstrual syndrome with the administration of non-steroidal analgesics. However, due to the lack of improvement, a potential case of endometriosis was suspected, leading to the implementation of specific surgical procedures for treatment.

Keywords: Endometriosis; Anastomosis Primaria; Dysmenorrhea; MRI

Introduction

Endometriosis is a disorder characterized by the abnormal growth of endometrial tissue outside the uterus, resulting in pelvic inflammation. It affects 10% to 15% of women of reproductive age. Additionally, 35% to 50% of women experience chronic pelvic pain and infertility. In most cases, endometriosis manifests in women during their reproductive period, which spans from menarche to menopause. It is worth noting that symptoms tend to ameliorate during the latter stage due to the estrogen-dependent nature of the disease. A genetic predisposition is observed in approximately 7% of patients with a first-degree family history [1].

The most common clinical manifestations of endometriosis are chronic pelvic pain, dysuria, dyspareunia, tenesmus, diarrhea, constipation, and it is associated with infertility; it tends to invade the following structures: Pelvic-peritoneal surfaces, sub-peritoneal adipose tissue, rectovaginal space, ovaries, bladder, or intestines. The condition's prevalence is higher among Caucasian women, whereas African American women face a comparatively lower risk [2].

The pathophysiology of this condition has not been fully understood due to the scarcity of information described by various researchers since 1860. There are various theories supported by research, among which the most widely accepted one is the abnormal growth of endometrial cells outside the uterus, which can undergo solidification and subsequently spread to other organs. A prominent manifestation of severe endometriosis is the invasion of the bowel. Different theories attempt to explain its etiology, which is why it is considered a multifactorial disease. The following are the theories aiming to describe the etiology of endometriosis: The theory of retrograde menstruation, also known as Sampson's theory, the embryological origin of endometriosis or Mülleriosis, the Homeobox (HOX) gene theory, Coelomic metaplasia, the environmental theory, the dysfunction of the immune system and genetics theory [3].

Early diagnosis is crucial for providing better treatment without significant complications for the patient. Clinical diagnosis based on pelvic examination, symptoms, and signs has sufficient sensitivity; however, it is necessary to rely on complementary studies. For patients suspected of

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endometriosis, a lower abdominal ultrasound, a complementary transvaginal ultrasound, and magnetic resonance imaging are necessary to obtain a more comprehensive imaging assessment of the reproductive organs [4].

The diagnosis is made through laparoscopic surgical intervention, where specialists infer the severity of the disease by observing and locating the endometrial tissue. To perform this, experts use predictive systems that help forecast the surgical intervention and the relationship between symptoms and the extent of the disease. According to the American Society for Reproductive Medicine (ASRM), the severity and depth are classified into stages I (minimal) to IV (severe). However, due to the limited data provided by this classification, the utilization of ENZIAN and VNESS has been implemented to supplement and enhance diagnostic accuracy. Furthermore, the definitive diagnosis involves sending the tissues for histopathological study, where they are analyzed and described based on macroscopic and microscopic appearance [5].

Case Presentation

A 38-year-old female presented with an ongoing illness that commenced one year ago, characterized by incapacitating chronic pelvic pain, dysmenorrhea, dyspareunia, gastrointestinal symptoms related to menstruation, and abnormal uterine bleeding manifested as hypermenorrhea with polymenorrhea. The patient reported a worsening of symptoms during menstruation. She initially received medical treatment consisting of non-steroidal analgesics for two months, but no relief from pain was observed. Upon physical examination, the patient displayed abdominal and pelvic pain, scoring 8 out of 10 on the Numerical Rating Scale (NRS) during deep palpation. A transvaginal ultrasound was conducted on April 19th, 2023, and the subsequent report described the findings as shown in (Figure 1).

Due to a high suspicion of endometriosis, a pelvic Magnetic Resonance Imaging (MRI) for endometriosis mapping was requested on April 20th, 2023, which revealed the following findings: Deep endometriosis in the anterior, middle, and posterior compartments, posterior uterine adenomyosis, a 39 mm right endometrioma, a 55 mm left endometrioma, associated with predominantly left-sided hematosalpinx measuring up to 16 mm, thickening of the origin of the round ligaments and the right sacral ligament. The ENZIAN classification was as follows: P0, O 2/2, T2/2, A1, B2/2, C0, FA, FI. The nodular plaque in the sigmoid musculature initiated at 18 cm (Figure 2).

The patient was informed of her diagnosis and the available



Figure 1: Transvaginal ultrasound in sagittal view: Irregular hypoechoic image corresponding to an endometriotic nodule at the rectosigmoid junction.

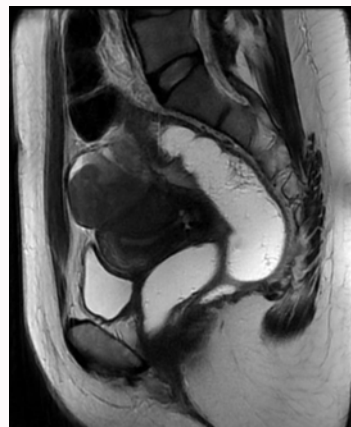


Figure 2: Simple pelvic magnetic resonance imaging in sagittal view and T2 sequence: Hypointense image compatible with an endometriotic nodule located 18 cm from the anal margin.

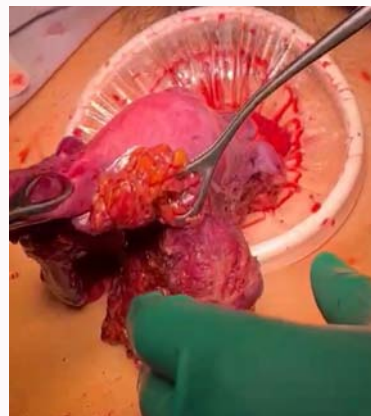


Figure 3: Total radical hysterectomy. The image shows the uterus along with the fallopian tubes and ovaries. Additionally, a segment of the intestine containing an intestinal nodule is visible.

therapeutic options while respecting her autonomy. After considering the information provided, the patient opted to undergo laparoscopic surgery, which was scheduled for April 24th, 2023. The procedure was performed under general anesthesia, with a 16 Fr Foley catheter placement. Laparoscopic trocars, consisting of one 10 mm and three 5 mm, were inserted, allowing visualization of deep endometriosis and severe adhesions.

Total resection of endometriosis, total hysterectomy, low anterior resection, primary anastomosis, and appendectomy were performed. A 19 Fr Blake drain was placed, and the uterus and adnexa were removed through the Alexis protector-retractor (Figure 3). The ports were closed using 3-0 Monocryl sutures. The surgical procedure was successfully completed without any incidents or accidents, and the patient experienced a blood loss of 300 cc. Specimens including the cecal appendix, uterus, ovaries, sigmoid colon, and peritoneum were sent for histopathological examination. The patient remained stable and was transferred to the recovery room and later to the gynecology department, where she had a favorable postoperative recovery. The patient was discharged on April 29th, 2023. The histopathology report, received on May 23rd, 2023, revealed the presence of multiple leiomyomas, with the largest measuring 1 cm in diameter. The left ovary exhibited an endometriotic cyst, and the right ovary showed a hemorrhagic cystic corpus luteum. Extensive and multifocal

intestinal wall endometriosis was identified, along with transmural endometriosis in the appendix.

Discussion

Endometriosis is a condition in which there is an abnormal growth of tissue similar to the endometrium in locations outside the lining of the uterine cavity. Usually, the lesions are observed on the peritoneal surfaces of the reproductive organs and neighboring pelvic structures; however, they can manifest in any location within the body. The first description of endometriosis was given by Russell in 1888 when he reported a case of "endometrioid" ovarian tissue with extra-ovarian invasion. The theory explaining endometrial tissue outside the uterine cavity is retrograde migration, as postulated by Sampson [6,7].

Extragenital localization of endometriosis is frequently observed, with the large or small intestine being the most commonly affected sites, affecting 3% to 12% of women diagnosed with endometriosis. In decreasing order of occurrence, the most commonly affected segments are the rectum, sigmoid colon, vermiform appendix, terminal ileum, and cecum [8].

The clinical presentation is characteristic of pelvic endometriosis, manifesting as pelvic pain, dysmenorrhea, and dyspareunia. In cases involving the visceral digestive organs, additional symptoms may arise, contingent upon the extent of intestinal wall involvement. These symptoms include rectal pain radiating to the perineum during defecation, primarily during menstruation (52% of cases), changes in bowel movements (25% to 40% of cases), similar percentages of diarrhea, rectal bleeding coinciding with menstruation (15% to 20% of cases), and typical symptoms of intestinal sub-occlusion (12% of cases) [2,9]. Our patient presented with pelvic pain, dysmenorrhea, dyspareunia, intestinal symptoms during menstruation, and abnormal uterine bleeding, which raised suspicion of endometriosis.

The diagnosis is typically made through clinical evaluation, which helps to raise suspicion of the disease. However, using transvaginal ultrasound can assist in identifying lesions related to endometriosis, and Magnetic Resonance Imaging (MRI) is the most sensitive imaging study for identifying deep lesions and organ invasions [10]. In our case, the disease was suspected based on symptoms, and the MRI provided a more detailed identification of the lesions.

The first-line treatment for endometriosis involving the bowel includes using hormones (such as combined oral contraceptives and progestins), analgesics, and anti-inflammatory drugs. This treatment helps reduce pain and slow down the progression of the disease. In cases where medical treatment fails, surgical intervention becomes necessary. The surgical treatment is indicated for patients presenting with severe pelvic pain, infertility, non-responsive to medical treatment, and signs of intestinal obstruction. Only about 1% of women with endometriosis are candidates for intestinal resection. The preferred surgical approach for intestinal endometriosis depends on the location, extent, and depth of lesion penetration. Laparoscopy is the chosen approach, and rectosigmoid resection may sometimes be necessary [11,12]. Our patient underwent total resection of

endometriosis, total hysterectomy, low anterior resection, primary anastomosis, and appendectomy. She has been discharged from our department and is currently undergoing follow-up care at the outpatient clinic.

Conclusion

Endometriosis is one of the pathologies with the highest incidence and prevalence worldwide. Despite this, it is commonly misdiagnosed, leading to inaccurate assessment and management of the disease. It is imperative to acknowledge that this condition is progressive and can potentially affect multiple organs and structures. Therefore, early diagnosis is crucial to avoid complications or unfavorable prognosis through appropriate and early management. Treatment options are diverse and depend entirely on the extent of the disease. In multiple cases, including the one presented above, surgical intervention and complete resection of the affected tissue is the best therapeutic approach for the recovery and favorable evolution of our patient.

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