

Gastrointestinal Endometriosis: a Diagnostic Challenge.

Description of a Stenosing Lesion of the Sigmoid Colon Considered as a Malignant Neoplasia

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Abstract

Endometriosis is a clinical entity defined by the presence of functional endometrial tissue outside the uterus. Endometriosis of the sigmoid colon is an extremely rare cause of large bowel obstruction. It can remain asymptomatic for a long period of time until signs and symptoms of obstruction occur.

We present the case of a 50-year-old female patient with endometriosis of the sigmoid colon and manifestations of bowel obstruction. The stenotic lesion of the colon was discovered in a virtual colonoscopy. Biopsy of the lesion was not performed because of the inability of the colonoscope to pass through the stenotic lesion. During exploratory laparotomy, a sigmoidectomy for suspected malignancy was performed with colo-colonic anastomosis. The diagnosis of endometriosis was made by the pathologist.

Though gastrointestinal endometriosis is not an uncommon entity, large bowel obstruction due to endometriosis is extremely rare and preoperative diagnosis is still challenging. An accurate anamnesis is very important for the surgeon who should consider this entity, especially in women of fertile age. The most appropriate therapeutic approach demands a multidisciplinary team that includes a gynaecologist, a general surgeon and an expertise psychologist.

Key words: *Endometriosis; bowel obstruction; sigmoidectomy; colonoscopy*

Introduction

Endometriosis represents a benign clinical entity that mostly affects women during the reproductive age. Although gastrointestinal endometriosis is not uncommon, the differential diagnosis from other neoplastic and inflammatory conditions is difficult. We present the case report of a female patient in menopause, with a stenotic lesion of the sigmoid treated with sigmoidectomy and bilateral oophorectomy due to suspected malignancy. The pathological examination revealed endometriosis of the bowel wall.

Case Report

A 51-year-old female patient was admitted to our de-

partment in order to undergo elective surgery for a stenotic lesion of the sigmoid. The patient reported colicky abdominal pain and a change in bowel habits over the previous 6-8 months, for which she had been treated in recent months with antispasmodic drugs. Since the symptoms persisted, she underwent a virtual colonoscopy that showed a sigmoid mass 30 cm above the anal verge that was causing stenosis of the bowel lumen (Fig. 1). The colonoscopy was not diagnostic due to the inability to pass through the stenotic lesion; hence, a biopsy could not be performed. The laboratory tests were within normal ranges: Hct and Hgb were 42.16 and 13.89, respectively.

Her past medical history was significant for a wedge cervical resection 20 years earlier due to intraepithelial neoplasia, a laparoscopic cholecystectomy 12 years earlier for gallstones, and a hysteroscopic endometrial ablation a year later due to endometrial hyperplasia. She also mentioned dysmenorrhoea and diarrhoea during her menstrual cycles. She attempted to become pregnant after she married, but without success due to male infertility.

A laparotomy was performed through a midline incision. The intraperitoneal organs were inspected without pathological findings apart from the presence of multicystic and calcified ovaries. A sigmoid mass was identified about 30 cm above the anal verge. A sigmoidectomy and a hand sewn colo-colonic end-to-end anastomosis were performed followed by bilateral

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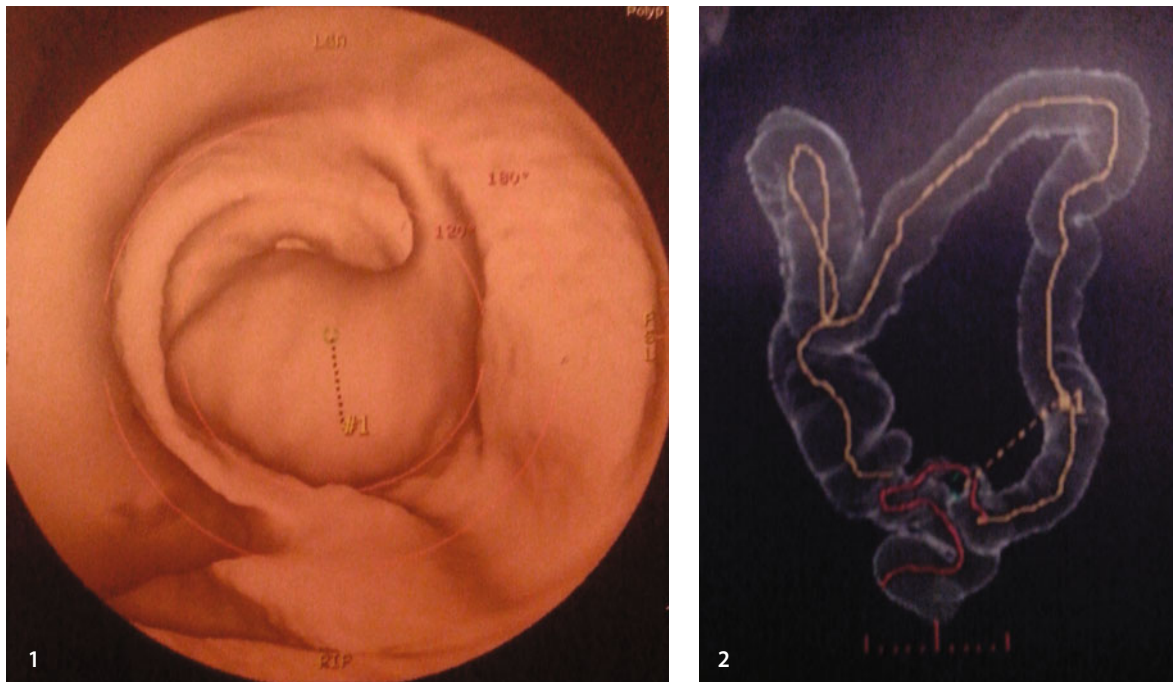


Figure 1, 2. Virtual colonoscopy showing a stenosing lesion of the sigmoid.

oophorectomy. The patient had an uneventful recovery and was discharged from clinic the 8th postoperative day.

Histological examination showed foci of endometriosis in the muscular layer, the submucosa and the muscularis propria. The mucosa was intact (Fig. 2). One of the 11 lymph nodes dissected was involved by endometriosis (Fig. 3,4). The examination of the ovaries showed diffuse stromal hyperplasia.

The patient underwent a colonoscopy five months after the operation without pathologic findings.

Discussion

Endometriosis was first described by von Rokitansky Kitansky in 1860 as a clinical entity defined by the presence of functional endometrial tissue in sites outside the uterus. The incidence of endometriosis ranges from 3 to 15% in the female population of fertile age [1,2]. Its incidence peaks in females aged between 25 and 35 years [3]. The tissues involved can be intraperitoneal such as the ovaries, uterosacral and large ligaments, fallopian tubes, pelvic peritoneum, pouch of Douglas and gastrointestinal tract (small intestine,

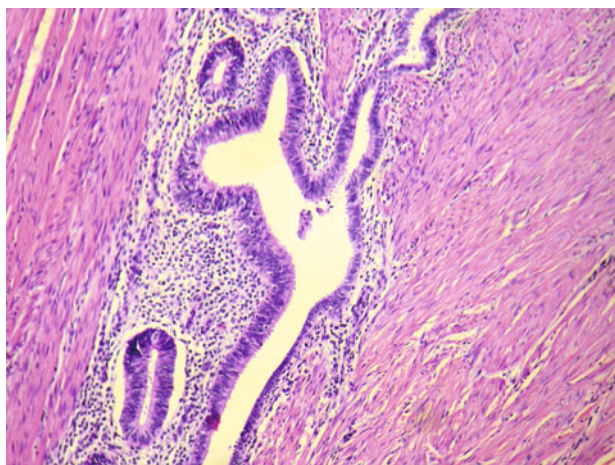


Figure 3. Focus of endometriosis within the muscular layer.

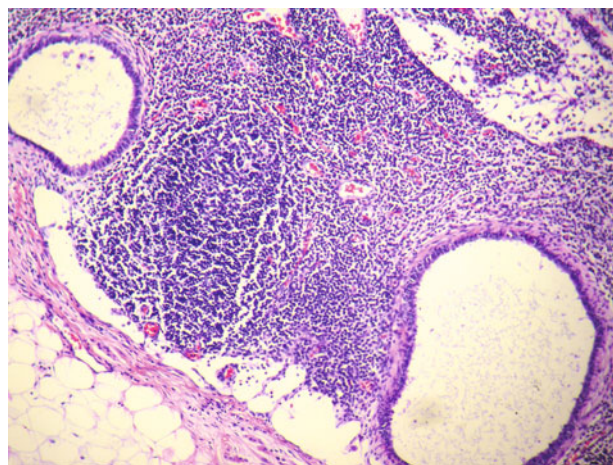


Figure 4. Focal endometriosis within a lymph node.

appendix, colon and rectum) [4]. The extraperitoneal locations include cervical portio, round ligament, vagina and rectovaginal septum, and scars following gynaecological surgery [4]. Extra-abdominal locations of endometriosis have rarely been described. These are represented by the lungs, central nervous system, urinary system and skin [4]. Gastrointestinal endometriosis represents 3-37% of cases and the rectosigmoid is involved in 50-90% of these cases [1,4]. In 1921, Sampson described the first case of an endometrioma in the sigmoid colon [5].

The exact pathogenetic mechanism is still not known. Many theories have been described. Sampson suggested the most accepted theory, according to which the cause of endometriosis is the retrograde peritoneal seeding of the endometrial tissue through the fallopian tubes during menstruation. The pelvic organs can also be involved [4]. On the other hand, Minh et al. postulated the hypothesis of metaplastic transformation of the coelomic mesothelium into endometriosis of the ovaries [6].

Other pathogenetic mechanisms include the haematogenous or lymphatic dissemination of endometrial cells in distant locations, abnormal differentiation or migration of the müllerian remnants, and iatrogenic dissemination of endometrial tissue during the caesarean section [4,7]. Finally, Marc Possover et al. proposed a new "neurologic hypothesis" for the development of endometriosis of the rectovaginal space and the peritoneum. According to this theory, the sympathetic nervous system is directly involved in the development and expansion of endometriosis [8]. Endometriosis is oestrogen-dependent. The number and the type of menstrual flows, environmental, genetic and immunological factors are all important for the physical and clinical course of the disease [3].

The American Society for Reproductive Medicine classified endometriosis into four stages. Minimal and mild endometriosis corresponds to peritoneal or small ovary lesions. Moderate endometriosis includes ovary lesions >3 cm, and severe endometriosis defines cases with complete obliteration of the Douglas pouch. The presence of adhesions is an additional factor that affects the stage. Although this classification is widely used, it seems that it bears no relevance to the clinical course of the disease [3].

The most common symptoms are chronic pelvic pain, dysmenorrhoea, deep dyspareunia, dyschezia, dysuria and infertility caused by medical therapy and chronic pelvic inflammation [3,9]. Bowel endometriosis is usually asymptomatic [1]. In cases where the lesion becomes obstructive, nausea, vomit, colicky abdominal pain and a change in bowel habits can occur. The incidence of endometriosis causing obstruction is 0.1-0.7%. Rectal bleeding and the malignant transformation of the lesion have also been described [1]. Intestinal endometriosis is character-

ized by local invasion and rapid growth [2]. Histological examination usually shows a submucosal tumour and the mucosa is rarely involved [1].

The differential diagnosis of gastrointestinal endometriosis is very difficult and includes neoplastic and inflammatory lesions [9]. The gold standard for the diagnosis of endometriosis is direct laparoscopic vision with histologic confirmation of the lesion [10]. Computed tomography, multislice CT and particularly multislice CT enteroclysis, magnetic resonance imaging and positron emission tomography are all very useful in the diagnosis of gastrointestinal endometriosis. Rectal endoscopic ultrasound is also important. Colonoscopy is rarely diagnostic due to the histological properties of gastrointestinal endometriosis which develop in the deeper layers of the intestinal wall leaving the mucosa intact. This fact, in association with the lumen stricture, does not always allow the appropriate biopsy and completion of the examination [1,9]. Serum markers such as CA-125, IL-6 and EVGF-A are also used for the diagnosis and the follow-up of the patients after surgical resection [4,10].

The approach to endometriosis should be multidisciplinary, including a gynaecologist, a general surgeon and often an expertise psychologist. Treatment is mostly conservative and includes the use of oral contraceptive, danazol, gonadotropin-releasing hormones and prostaglandin inhibitors in order to discontinue ovulation and menstruation [1,3]. Medical treatment is followed in order to control the symptoms [3]. Surgical resection is indicated for the treatment of intractable pain or in the case that the patient requires a spontaneous pregnancy. The treatment options for endometriosis of the gastrointestinal tract include lesion shaving, disk excision or segmental resection [3]. Recurrence can be observed [4]. In the case of an obstructing lesion of the gastrointestinal tract or suspected malignancy, the treatment of choice is a radical surgical resection [2]. Hysterectomy and bilateral salpingectomy, with or without oophorectomy, is performed when conservative medical and surgical treatments have failed to control the disease and the patient does not desire a future pregnancy [3].

In our case, the CT colonoscopy indicated a stenotic lesion in the sigmoid. Colonoscopy was not helpful since it could not progress beyond the rectum. The histological examination showed foci of endometriosis that involved all layers of the intestinal wall, except the mucosa which was intact. This case report shows the difficulty of the differential diagnosis of gastrointestinal endometriosis in postmenopausal female patients. This difficulty derives from the limited availability of diagnostic tools. An accurate anamnesis is important for the surgeon who should always be suspicious of this entity in order to offer the patient adequate treatment.

Conclusion

Endometriosis of the colon is an uncommon clinical entity. It may present as an obstructive lesion of the intestinal tract. The differential diagnosis from a neoplastic or an inflammatory lesion is usually very difficult. In our case, the diagnosis was made by the pathologist. The surgeon should be suspicious of this clinical entity especially in women of fertile age in order to offer the most adequate treatment.

Ethical Approval - Informed Consent

Written informed consent was obtained for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Conflict of Interest

The authors report no conflicts of interest

Author Contributions

Synekidou Eirini is responsible for data collection, data analysis and writing. Arapoglou Stergios, Fragandreas Georgios and Tona Nerisa revised the article. Arapoglou Stergios, Fragandreas Georgios, Synekidou Eirini, Tsiachris Christos performed the operation. Katsiki Evaggelia and Dimitropoulou Ioanna have made the anatomopathological analysis.

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