

Intestinal occlusion caused by endometriosis of the sigmoid colon

A case report and review of the literature



Ann. Ital. Chir., 2012 83: 353-356
Published online 21 Dicembre 2011
(www.annitalchir.com)

Giovanni Conzo, Giovanni Docimo, Giancarlo Candela, Antonietta Palazzo,
Cristina Della Pietra, Claudio Mauriello, Luigi Santini

VII Divisione di Chirurgia Generale, Dipartimento di Scienze Anestesiologiche, Chirurgiche e dell'Emergenza, Seconda Università degli Studi di Napoli, Italia

Intestinal occlusion caused by endometriosis of the sigmoid colon. A case report and review of the literature

Endometriosis (E) is an estrogen-dependent inflammatory disorder that is observed in approximately 10% of women in childbearing age, and is the most common benign gynecological disorder requiring hospitalization. In 5% of cases, there is an involvement of the gastrointestinal tract, for the most part of the sigmoid colon and rectum (~ 90%). However intestinal obstruction due to severe stenosis of the sigmoid colon, as in the case described by the authors, is rare. The differential diagnosis should include cancer, inflammatory diseases and actinic colitis which has a similar clinical picture to E. Surgical treatment - resection and anastomosis or conservative procedures - provides better results especially when a multidisciplinary approach is used (colorectal surgeon, gynecologist, urologist). The authors report a case of obstruction of the sigmoid colon due to endometriosis and analyze the pathophysiology, diagnosis and surgical management of this disorder.

KEY WORDS: Endometriosis, Intestinal occlusion, Rectal anterior resection, Stapled anastomosis.

Introduction

Endometriosis (E), an estrogen-dependent inflammatory disorder in which endometrial tissue develops outside uterus, is found in approximately 10% of women in childbearing age and in 15-20% of cases is associated with sterility.

There is intestinal involvement, especially of the sigmoid colon and rectum, in about 5% of patients ¹. The dif-

ferential diagnosis of rectosigmoid E can be complex since it includes conditions like diverticulitis, Crohn's disease, actinic colitis and cancer, all of which can cause similar signs & symptoms ².

The authors report a case of intestinal endometriosis in which the clinical picture and imaging suggested a diagnosis of intestinal occlusion due to sigmoid colon cancer, with indication to emergency colorectal resection.

Case report

In March, 2008, a 42-year-old woman came to our observation complaining of abdominal pain in the left lower quadrant, associated with episodes of rectal bleeding and constipation, that had begun one month earlier.

The patient had a history of chronic hepatitis C, and arterial hypertension managed by pharmacological therapy. At age 38 she had undergone total hysterectomy plus

Pervenuto in Redazione Luglio 2011. Accettato per la pubblicazione Novembre 2011

Correspondence to: Giovanni Conzo, MD, Aggregate Professor of General Surgery, VII Division of General Surgery, Dipartimento di scienze Anestesiologiche, Chirurgiche e dell'Emergenza, Second University of Naples, Via Pansini 5, Ed. 17- 80131 Naples, Italy (e-mail: giovanni.conzo@unina2.it).

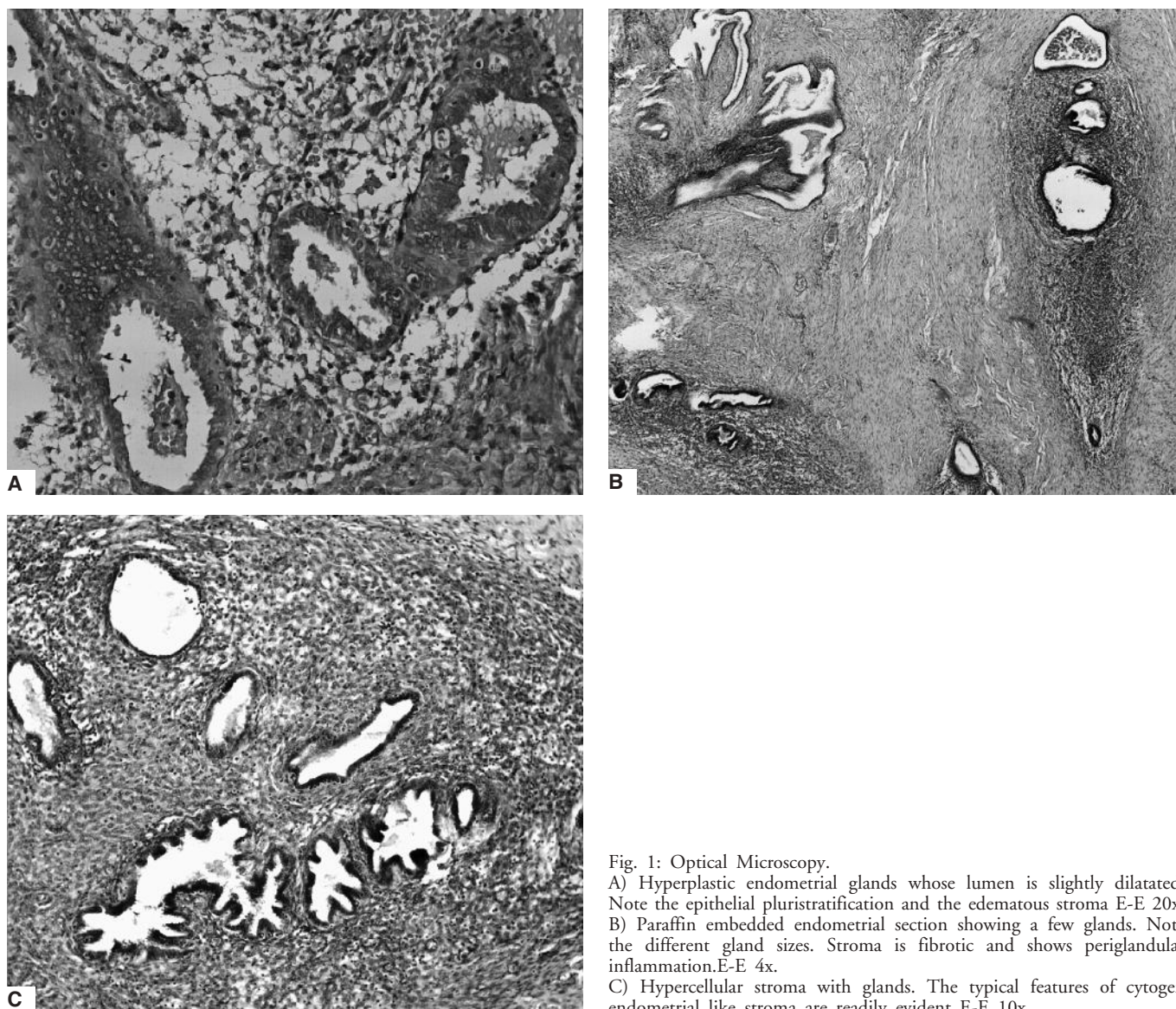


Fig. 1: Optical Microscopy.

A) Hyperplastic endometrial glands whose lumen is slightly dilated. Note the epithelial pluristratification and the edematous stroma E-E 20x.
 B) Paraffin embedded endometrial section showing a few glands. Note the different gland sizes. Stroma is fibrotic and shows periglandular inflammation.E-E 4x.
 C) Hypercellular stroma with glands. The typical features of cytogen endometrial like stroma are readily evident E-E 10x.

right oophorectomy for metrorrhagia due to chronic cervicitis and endocervical micropolyps. At age 40 she had undergone laparoscopic cholecystectomy for recurrent biliary colic due to cholelithiasis. A pancolonoscopy, that had been performed in another institution, showed an infiltrating lesion of the distal sigmoid colon, approximately 25 cm from the anal verge, bleeding, causing circumferential stenosis of the lumen. Biopsy results were inconclusive. Routine blood tests and tumor marker levels (CA 50, CEA, CA 19-9, CA 125) were normal except for the TPA level which was 74 UI/ml, slightly above normal. An abdominopelvic computed tomography (CT) scan with contrast agent revealed thickening of the colon wall at the rectosigmoid junction. There was no pelvic or abdominal lymphadenopathy.

Emergency surgery was performed because of patient's worsening clinical condition (repeated episodes of rectal bleeding and severe abdominal distension).

After lysis of several adhesions resulting from the prior

hysterectomy, the patient underwent open anterior resection of the sigmoid colon with stapled colorectal anastomosis along with left oophorectomy. The patient's postoperative course was uneventful and she was discharged on postoperative day 9.

The definitive histological examination showed "florid, diffuse sigmoid colon endometriosis involving the entire thickness of the wall with hyperplasia of the muscular component which surrounds nests of endometriosis; follicular and corpus luteum cysts in the ovary" (Fig. 1).

Discussion

Endometriosis, defined as the presence of endometrial tissue outside the uterus, is not easy to diagnose or treat. The complexity of the clinical presentation of E often demands the collaboration of a multidisciplinary team consisting of a gynaecologist, coloproctologist and urologist.

Endometriosis is an estrogen-dependent inflammatory disease which affects 10% of women in childbearing age and is the most common benign gynaecologic condition requiring hospitalization¹. The prevalence of E ranges from 1% to 20% in asymptomatic women and is 60-70% in women with chronic pelvic pain. Frequently the disease is not associated with any specific symptom.

Hormonal stimulation of the endometrial implants results in cyclical bleeding associated with irritation and scarring of surrounding tissue which sometimes involves neighbour structures, causing specific symptoms. The ovaries are most often involved, followed by Douglas' pouch, the rectovaginal septum, and the rectum.

Extrapelvic E can occur almost anywhere in the body, including bowel, urinary tract, muscles, liver, gallbladder, and heart. Ninety-five percent of cases involve sigmoid colon and rectum^{3,4}.

The mean age of women diagnosed with E was between 34 and 40 years, and 7% of them were found to be in postmenopausal period⁵. The incidence of intestinal E ranges from 5.3% to 12%, and in 90% of cases the sigmoid colon and rectum are involved.

In the rare cases in which the disease affects small bowel, it is most often found in the distal ileum (1% of cases)^{6,7}, and usually involves the serosa.

Intestinal E presents with abdominal pain, commonly in the left lower quadrant, dyschezia, abdominal distention, and rectal bleeding, a clinical presentation similar to that of diverticulitis, Crohn's disease, and rectal cancer⁸⁻⁹. Since the mucosal layer is rarely involved, occlusion of the lumen of the colon/rectum hardly occurs⁹.

It is not easy to diagnose intestinal E based on symptoms alone since there are many, often misleading manifestations of the disease¹⁰.

Endoscopic diagnosis of intestinal E is sometimes difficult and colonoscopy is negative due to the absence of mucosal infiltration. When the mucosa is affected, the results of endoscopy are similar to those obtained in cases of chronic inflammatory diseases of bowel, ischemic colitis, actinic colitis and neoplasia. Since the colonic mucosa is not involved, endometrial implants may have the characteristics of an extrinsic lesion. Virtual colonoscopy does not seem to increase diagnostic sensibility¹¹.

If E is suspected, transvaginal ultrasound is the first diagnostic test that should be performed, and plays an important role in many studies^{5,12,13,14}. Hypoechoic endometrial nodules, and thickening of the intestinal wall can be found in all the sites involved. Transvaginal ultrasound performed after intestinal preparation is more effective in diagnosing intestinal lesions, and provides important details about what layers of the intestinal wall are involved and the distance between the lesion and the anal canal^{13,14}.

Magnetic resonance imaging has high sensibility (80%) and specificity (90%) for diagnosing pelvic E, and in cases of extrapelvic and intraperitoneal E, is a useful adjunct

to laparoscopy. It is of key importance in identifying endometriotic foci in extraperitoneal sites.

Laparoscopy is the gold standard for diagnosing and treating E, especially whether a biopsy is performed¹. Once a definitive diagnosis has been made, resolution of pain can be obtained with drug treatment (donazole, oral contraceptives, aromatase inhibitors, prostaglandin inhibitors, and selective progesterone antagonists), with careful gynecological follow-up.

However there are disadvantages to medical therapy: the high rate of recurrence if treatment is suspended, and the costs and side effects of the drugs, and its ineffectiveness in treating the infertility that can be associated with E.

Surgical therapy is the treatment of choice in patients who no longer respond to pharmacological therapy, or have recurrent or critical symptoms, and it is associated with a low rate of long-term recurrence. Moreover, surgery is necessary to avoid the malignant transformation of the endometriotic foci (neoplasia-adenocarcinoma-sarcoma), the incidence of which has been reported to range from 3% to 10%¹⁵. If there is any doubt at the time of diagnosis, an intraoperative biopsy should be obtained in order to rule out neoplastic disease. A perioperative diagnosis of E makes possible conservative surgery, with a reduction in peri- and postoperative morbidity. Surgical management of patients with rectal E, continues to be a very interesting object of research and discussion. The procedures consist of conservative superficial or full thickness resection, segmental resections or even extended debulking, but there are no randomized/prospective studies that provide definitive results^{2,6,16}.

Before the most appropriate therapy could be selected, complete mobilization of the rectum is needed so that the degree of pelvic involvement could be better defined. Conservative treatment, which consists of superficial or full-thickness resection of the lesions, is associated with a higher incidence of long-term recurrence than radical treatment. Multiple nodules, nodule diameter of >3 cm, the risk of strictures due to sutures, are indications for rectal resection with anastomosis^{5,10,13}.

Conclusions

Rectosigmoid occlusion due to E is rare, and since an emergency treatment is required, it is difficult to make a differential diagnosis of the lesion. Symptoms of patients with E are nonspecific. Intestinal E should be considered in women in childbearing age with recurrent and/or cyclical gastrointestinal symptoms, and a history of E with gynaecological symptoms. Previous laparoscopic and/or open surgery performed on reproductive organs should mark this suspicion^{2,10,16}.

Elective treatment for colorectal E should be managed by a multidisciplinary team (gynaecologist, coloproctol-

ogist, urologist). Conservative resection is possible in cases of monofocal lesions smaller than 3 cm in diameter, that are not in the subperitoneal rectum, whereas in all other cases resection followed by anastomosis may be associated with better long-term results ^{3,9,14,15}.

Riassunto

L'endometriosi (E) è una patologia infiammatoria estrogeno dipendente che si osserva in circa il 10% delle donne in età fertile e rappresenta la causa di ospedalizzazione più frequente nell'ambito della patologia ginecologica "benigna".

Nel 5% dei casi si verifica un interessamento del tratto gastrointestinale per lo più del sigma-retto (~90%), tuttavia un quadro di occlusione intestinale per stenosi serrata del sigma, come nel caso descritto dagli Autori, è di rara osservazione.

Nella diagnosi differenziale vanno considerati il carcinoma, le patologie infiammatorie e la colite attinica di cui l'E ripercorre il quadro clinico. Il trattamento chirurgico – resezione ed anastomosi, procedure conservative – consente migliori risultati dopo un approccio multidisciplinare – chirurgo coloretale, ginecologo, urologo.

Gli Autori, riportando un caso di occlusione intestinale da E del sigma, analizzano le problematiche fisiopatologiche, diagnostiche e relative alla chirurgia.

Aknowledgement: the Authors are indebted with Francesco Stanzone for his collaboration to the material preparation of the paper.

References

1. Kanthimathinathan V, Elakkary E, Bleibel W, Kuwajerwala N, Conjeevaram S, Tootla F: *Endometrioma of the large bowel*. Dig Dis Sci, 2007; 52:767-69.
2. Kim JS, Hur H, Min BS, Kim H, Sohn SK, Cho CH, Kim NK: *Intestinal endometriosis mimicking carcinoma of rectum and sigmoid colon: A report of five cases*. Yonsei Med J, 2009; 50 (5):732-35.
3. Jubanyik KJ, Comite F: *Extrapelvic endometriosis*. Obstet and Gynec Clinics North Am, 1997; 24(2):411-40.
4. M Donato, L Gandolfo, G Cavallaro, F Ciancio, G Brancato: *L'endometriosi della parete addominale (esperienza personale)*. Ann Ital Chir, 2004; LXXV(1):29-33.
5. Collin GR, Russell JC: *Endometriosis of the colon. Its diagnosis and management*. Am Surg, 1990; 56(5):275-79.
6. De Ceglie A, Bilardi C, Bianchi S, Picasso S, Di Muzio M, Trimarchi A, Conio M: *Acute small bowel obstruction caused by endometriosis: A case report and review of the literature*. World J Gastroent, 2008; 14(21):3430-34.
7. Li Destri G, Iraci M, Latino R, Carastro D, Li Destri M, Di Cataldo A: *Sub-occlusione intestinale da insospettata endometriosi rettale ed ileale. Due casi clinici e review della più recente Letteratura*. Ann Ital Chir, 2010; 81:383-88.
8. Garg N, Bagul N, Doughan S, Rowe P: *Intestinal endometriosis. A rare cause of colonic perforation*. World J Gastroenterol, 2009; 15(5):612-14.
9. Vergelí Rojas JA, Pagán Rodríguez L, Santiago Muñoz C, Gutiérrez Rivera S: *Intestinal endometriosis as a cause of rectal bleeding: A case report*. Bol Asoc Med PR, 2010; 102(2):58-61.
10. Varras M, Kostopanagiotou E, Katis K, Farantos C, Angelidou-Manika Z, Antoniou S: *Endometriosis causing extensive intestinal obstruction simulating carcinoma of the sigmoid colon: A case report and review of the literature*. Europ J of Gynaec Oncol, 2002; 23(4): 353-57.
11. Samet JD, Horton KM, Fishman EK, Hruban RH: *Colonic endometriosis mimicking colon cancer on a virtual colonoscopy study: A potential pitfall in diagnosis*. Case Report Med, 2009; 379578.
12. Orlandi A, Di Pasquale M, Listorti N, Giusto Spagnoli L: *Adenocarcinoma insorto su endometriosi colo-rettale: considerazioni clinico-patologiche*. Ann Ital Chir, 2000; LXXI (3):385-88.
13. Chamié LP, Pereira RM, Zanatta A, Serafini PC: *Transvaginal US after bowel preparation for deeply infiltrating endometriosis: Protocol, imaging appearances, and laparoscopic correlation*. Radiographics, 2010; 30(5):1235-49.
14. Guerriero S, Alcazar JL, Aiossa S, Pilloni M, Mellis GB: *Three dimensional sonographic characteristics of deep endometriosis*. J Ultrasound Med, 2009; 28(8):1061-66.
15. Stern RC, Dash R, Bentley RC, Snyder MJ, Haney AF, Robboy SJ: *Malignancy in endometriosis: Frequency and comparison of ovarian and extraovarian types*. Int J Gynecol Pathol, 2001; 20(2):133-39.
16. Hoang CD, Boettcher AK, Jessurun J, Pambuccian SE, Bullard KM: *An unusual rectosigmoid mass: Endometrioid adenocarcinoma arising in colonic endometriosis. Case report and literature review*. Am Surg, 2005; 71(8):694-97.