CASE REPORT

A rare case of sigmoid colon obstruction in patient with ulcerative colitis: role of transabdominal ultrasound-guided biopsy

F. Terracciano · G. Scalisi · V. Attino ·
G. Biscaglia

Received: 27 March 2014 / Accepted: 26 May 2014 / Published online: 13 June 2014
© Società Italiana di Ultrasonologia in Medicina e Biologia (SIUMB) 2014

Abstract

Introduction Endometriosis is a common chronic gynaecological disease affecting 10 % of women of reproductive age. Of these 5–12 % may present bowel endometriosis that may be asymptomatic or associated with aspecific symptoms even bowel obstruction.

Case presentation The case of a 41-year-old woman with history of ulcerative colitis, previous diagnosis of ovarian endometriosis, recurrent abdominal pain not related to the menstrual cycle, with abdominal pain and obstinate constipation for 2 weeks was referred. The patient underwent colonoscopy, transabdominal ultrasound and ultrasound-guided fine-needle biopsy to have a diagnosis.

Discussion Endometriosis should be considered in the differential diagnosis of every woman of childbearing age who presents with gastrointestinal or abdominal symptoms. As demonstrated in our case and by the burgeoning literature in this field, we believe that the role of transabdominal ultrasound should be reconsidered in the management of abdominal diseases because this examination associated with ultrasound-guided fine-needle biopsy allows, in expert

hands, to obtain adequate histological samples avoiding patients to undergo more invasive tests to get a diagnosis.

Keywords Transabdominal ultrasound · Ultrasound-guided fine-needle biopsy · Intestinal endometriosis · Bowel obstruction

Riassunto

Introduzione L'endometriosi è una malattia ginecologica cronica comune che colpisce il 10 % delle donne in età riproduttiva. Nel 5–12 % si può presentare una localizzazione intestinale della malattia. Essa può presentarsi in svariati modi potendo essere asintomatica o potendosi manifestare con sintomi aspecifici includendo perfino l'oclusione intestinale.

Caso clinico presentiamo il caso di una donna di 41 anni affetta da colite ulcerosa, con storia di precedente diagnosi di endometriosi ovarica e ricorrenti dolori addominali non correlati al ciclo mestruale. Riferisce da circa due settimane il peggioramento dei dolori addominali cui si associa stipsi ostinata. È stata quindi sottoposta a colonscopia, ecografia transaddominale e biopsia ecoguidata per via transaddominale prima di poter fare una diagnosi.

Discussione L'endometriosi dovrebbe essere considerata nella diagnosi differenziale in ogni donna in età fertile che si presenta con sintomi gastrointestinali o addominali vaghi. Come nel caso clinico illustrato e alla luce della fiorente letteratura in questo campo, riteniamo che il ruolo dell'ecografia transaddominale dovrebbe essere riconsiderato nella gestione delle malattie addominali. Infatti, l'ecografia transaddominale associata alla possibilità di poter eseguire in corso dello stesso esame una biopsia ecoguidata, permetterebbe di poter ottenere un adeguato campione istologico evitando al paziente esami più invasivi per raggiungere una diagnosi.

F. Terracciano · G. Biscaglia
U.O.C. Gastroenterology and Digestive Endoscopy, IRRCS Casa
Solievo della Sofferenza, San Giovanni Rotondo, Italy

G. Scalisi (✉)
U.O. Digestive Endoscopy, Policlinico G. Martino, Messina,
Italy
e-mail: scalisi.giuseppe@alice.it

V. Attino
U.O. Pathological Anatomy, IRRCS Casa Solievo della
Sofferenza, San Giovanni Rotondo, Italy

Introduction

Endometriosis is a common, chronic and recurrent gynecological condition, defined by the presence of endometrial-like tissue outside the uterus, which impairs quality of life. In more severe cases it forms cysts in the ovaries and deeply infiltrates pelvic organs [1].

In this article we report a case of large bowel obstruction secondary to sigmoid endometriosis, which led to a diagnostic challenge.

Case report

A 41-year-old, primiparous woman was diagnosed with ulcerative colitis over 9 years and was on maintenance 5-ASA and azathioprine therapy. At the age of 18 was subjected to surgery for the removal of ovarian cyst. The histological diagnosis was of ovarian endometriosis. Subsequent gynecological tests were all normal. The patient recalled a past history of frequent abdominal pain which was unrelated to her menstrual periods and a family history of colorectal cancer (mother). Two weeks before her initial presentation, she started to complain of abdominal cramps in the lower abdomen and obstinate constipation which could not be managed with laxatives. She admitted not to have experienced similar complains before. At physical inspection, the abdomen was distended, tender and tympanic on percussion with high-pitched bowel sounds. Routine blood chemistry was normal.

A colonoscopic examination documented at about 20 cm from the anal verge, a submucosal lesion occluding the colonic lumen, which prevented further inspection of the organ (Fig. 1); the inspected mucosa was normal in good keeping with clinical diagnosis of a quiescent ulcerative colitis. The clinical and endoscopic diagnosis of

inactive colitis was confirmed by normal histologic pictures of colonic biopsies. With the intent to further characterize the lesion, a transabdominal ultrasound of the bowel was performed which relieved an hypoechoic lesion (max diameter 17 mm) that seems to originate from the submucosa, occluding the sigmoid lumen (Fig. 2). The parietal stratification of this intestinal tract was normal. In addition, a hypoechoic area (max diameter 18 mm) originating from the right ovary was appreciated. Ultrasound scan of the remaining intestinal tract showed no coarse masses or wall thickening neither lymphadenopathy nor mesenteric reactions. After 15 days the patient underwent a repeat transabdominal ultrasound which pointed out the same wall thickening hypoechoic pattern on the sigma of smaller size (11 mm in diameter). After informed consent was signed, a transabdominal ultrasound-guided biopsy of the lesion with a needle Biomol 18 × 15G was performed. The post-procedure was uneventful. Histological examination showed a fibrous tissue within glands coated with cylindrical epithelium, surrounded by spindle cell stroma. The glands nuclei were positive for estrogen and progesterone. The stroma was positive for CD10 (Figs. 3, 4). The histologic diagnosis was compatible with endometriosis. The patient was sent to the gynecologist and an appropriate therapy with danazol was instituted.

Discussion

Endometriosis is a chronic and recurrent disease characterized by the presence and proliferation of endometrial tissue outside the uterine cavity. This condition has been described in approximately 10 % of women of reproductive age [2], and has also been noted in postmenopausal women in a few studies [3]. Endometriosis may affect

Fig. 1 Submucosal lesion occluding the sigmoid lumen

Fig. 2 Ipoechoic lesion originating from submucosa, occluding lumen (arrow). To note the normal stratification parietal (arrowheads)

Fig. 3 Hematoxylin–eosin magnification $\times 20$

Fig. 4 Immunoblotting with anti-progesterone receptor

either pelvic or extra-pelvic sites. The last one refers to endometriotic implants found in other areas of the body, which may involve the gastrointestinal tract, pulmonary structures, the urinary system, abdominal wall, skin, and even the central nervous system [4].

The gastrointestinal tract is the most common site of extra-pelvic endometriosis implants. The incidence of bowel involvement has been reported to vary from 3 to 34 % of cases. Colonic involvement has been reported in 12–25 % of patients with endometriosis. About 60–70 % of colonic endometriosis was located primarily on the recto-sigmoid colon and may present with large bowel obstruction. The true incidence of endometriosis causing bowel obstruction is unknown, although complete obstruction of the bowel lumen occurs in less than 1 % of cases [4–6].

The etiology of endometriosis is still elusive and three theories are prevalent: the first one implies transplantation and implantation; the second pathogenetic hypothesis concerns a coelomic metaplasia, and the third one suggests a haematogenous and lymphogenous spread [5]. Intriguing is the new pathogenetic hypothesis of a likely neurologic infiltration and spreading to the gastrointestinal tract of the endometriosis implants [7].

Intestinal endometriosis usually takes the form of asymptomatic small serosal implants. Under hormonal influence, these implants may proliferate and bleed cyclically, causing symptoms such as crampy abdominal pain, tenesmus, abdominal distension, diarrhea, vomiting, rectal pain, infertility, abdominal mass, increased urinary frequency, constipation, or hematochezia. Acute partial or complete bowel obstruction has also been reported, but its frequency is rare [5].

The diagnosis of intestinal endometriosis should be considered in any premenopausal woman who complains of gastrointestinal symptoms, especially when there are cyclic occurrence and associated with an endometriosis implant in other sites. However, most cases are found accidentally at surgery. Imaging studies, such as multislice CT (especially if combined with enteroclysis), MRI, endoscopic ultrasound, and transvaginal sonography have a great potential for detecting alterations in the intestinal wall. Colonoscopy has not proved helpful in diagnosis, as in our case, but it is still recommended in all patients with suspected endometriosis to rule out mucosal involvement and malignant lesions [8]. Despite this array of investigational methods, laparoscopy remains the only investigation able to confirm the presence of intestinal endometriosis [1, 4]. There is a great interest in the use of serum markers to diagnose endometriosis, but they are not sufficiently accurate in clinical practice. CA-125 can be useful marker for monitoring the treatment with limited diagnostic value [9].

Transabdominal ultrasound is not sensitive enough for diagnosis. Many studies have shown that the ultrasound-guided fine-needle biopsy/cytology of abdominal lesions is simple, relatively painless, reasonably safe, accurate, time saving, and a reliable method under ultrasound guidance to obtain specimen for specific histological/cytological diagnosis, with less trauma, minimal discomfort, and low complication rate [10, 11].

In this paper, we report an unusual presentation of endometriosis characterized by abrupt onset of sigmoid colon occlusion. The present report points out that endometriosis remains a challenging condition for clinicians. We believe that one should always maintain a high level of suspicion of endometriosis, when a woman of childbearing age presents with intestinal obstruction without other obvious causes. To the best of our knowledge of pertinent literature, this is the first observation where a definite histological diagnosis was obtained by ultrasound-guided fine-needle biopsy of a colonic obstructive mass.

Conflict of interest The authors Terracciano Fulvia, Scalisi Giuseppe, Attino Vito and Biscaglia Giuseppe declares that they have no conflicts of interest.

Informed consent All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000 (5). All patients provided written informed consent to enrolment in the study and to the inclusion in this article of information that could potentially lead to their identification.

Human and animal studies The study was conducted in accordance with all institutional and national guidelines for the care and use of laboratory animals.

References

1. Lin Y-H, Kuo L-J, Chuang A-Y, Cheng T-I, Hung C-F (2006) Extrapelvic endometriosis complicated with colonic obstruction. *J Chin Med Assoc* 69(1):47–50
2. Crosignani P, Olive D, Bergqvist A, Luciano A (2006) Advances in the management of endometriosis: an update for clinicians. *Hum Reprod Update* 12(2):179–189 Epub 2005 Nov 9
3. Kazadi BJ, Alcazar JL, Laparte MC, Lopez GG (1992) Catamenial rectal bleeding and sigmoid endometriosis. *J Gynecol Obstet Bio Rep* 21(7):773–774
4. De Ceglie A, Bilardi C, Bianchi S, Picasso M, Di Muzio M, Trimarchi A, Conio M (2008) Acute small bowel obstruction caused by endometriosis: a case report and review of the literature. *World J Gastroenterol* 14(21):3430–3434
5. Nasim H, Sikafi D, Nasr A (2011) Sigmoid endometriosis and a diagnostic dilemma - A case report and literature review. *Int J Surg Case Rep* 2(7):181–184. doi:10.1016/j.ijscr.2011.06.001
6. Bascombe NA, Naraynsingh V, Dan D, Harnanan D (2013) Isolated endometriosis causing sigmoid colon obstruction: a case report. *Int J Surg Case Rep* 12:1073–1075. doi:10.1016/j.ijscr.2013.09.015
7. Anaf V, Nakadi IE, Simon P et al (2004) Preferential infiltration of large bowel endometriosis along the nerves of the colon. *Hum Reprod* 19(4):996–1002
8. Karaman K, Pala EE, Bayol U, Akman O, Olmez M, Unluoglu S, Ozturk S (2012) Endometriosis of the terminal ileum: a diagnostic dilemma. *Case Reports Pathol*. doi:10.1155/2012/742035
9. Patrelli TS, Berretta R, Gizzo S, Pezzuto A, Franchi L, Lukanovic A et al (2011) CA 125 serum values in surgically treated endometriosis patients and its relationships with anatomic sites of endometriosis and pregnancy rate. *Fertil Steril* 95(1):393–396
10. de Sio Ilario, Funaro Annalisa, Vitale Luigi Maria et al (2013) Ultrasound-guided percutaneous biopsy for diagnosis of gastrointestinal lesions. *Dig Liver Dis* 45:816–819
11. Carson BW, Brown JA, Cooperberg PL (1998) Ultrasonographically guided percutaneous biopsy of gastric, small bowel, and colonic abnormalities: efficacy and safety. *Ultrasound Med* 17:739–742