Case study

A case report of sigmoid endometriosis in a postmenopausal woman requiring bowel resection.

Abstract

INTRODUCTION: Endometriosis is the presence of endometrial glands and stroma in ectopic locations outside the uterine cavity. Colonic endometriosis is rare and endometriosis of any type is uncommon in postmenopausal women.

PRESENTATION OF CASE: A seventy-six-year-old lady presented with altered bowel habit. She had no known history of symptomatic endometriosis during her reproductive years. A computed tomography colonography was performed after a failed colonoscopy. This showed a lesion in the wall of the sigmoid colon. She underwent a laparoscopic assisted anterior resection and anastomosis. The histopathology showed mass forming endometriosis in the wall of the sigmoid colon.

DISCUSSION: Deep infiltrating endometriosis is defined as a solid mass situated deeper than 5 mm under the peritoneum. The prevalence of deep infiltrating endometriosis involving the bowel has been reported to be 5.3–12% of women affected by endometriosis. Deep infiltrating endometriosis involving the bowel is most frequently localised in the rectum and sigmoid colon. Other bowel localisations are relatively rare. Endometriosis in postmenopausal women is also rare.

CONCLUSION: Diagnosis of colonic endometriosis preoperatively is difficult and usually leads to a bowel resection as malignancy cannot be excluded. The diagnosis is usually established on histological examination. Colonic endometriosis in postmenopausal women is rare and difficult to diagnosis but should be considered in cases of distal bowel obstructions or abnormal radiological findings that cannot be biopsied by colonoscopy.

Keywords : Bowel resection, sigmoid endometriosis, postmenopausal

Introduction

Endometriosis is the presence of endometrial glands and stroma in ectopic locations outside the uterine cavity. This often induces a chronic, inflammatory reaction(1). It most commonly

occurs in women of reproductive age and the most common symptoms are dysmenorrhea, dyspareunia, irregular menstruation, pelvic pain and infertility. The most common sites for endometriosis are the ovaries, anterior and posterior cul-de-sac, posterior broad ligaments, uterosacral ligaments and the Pouch of Douglas(2). Intestinal endometriosis is rare and is thought to occur in up to 12% of all endometriosis cases(3). Endometriosis in postmenopausal women is even rarer (2-5%)(4) with colonic endometriosis in this cohort rarer again. In most cases, intestinal endometriosis is asymptomatic and often clinically unimportant. However, serious complications, such as complete intestinal obstruction, can occur(5). It is also diagnostically challenging as it can mimic colonic malignancy in both symptoms and radiological appearance.

Case Presentation

A seventy-six-year-old lady presented to her GP with symptoms of an altered bowel habit. She was referred to a general surgeon for a gastroscopy and colonoscopy. Her past medical history included a hysterectomy and left oophorectomy, partial gastrectomy for a gastrointestinal stromal tumour (GIST), Parkinson's disease, hypertension and gastroesophageal reflux disease.

She underwent gastroscopy and colonoscopy. The gastroscopy was unremarkable with biopsies showing normal duodenal tissue and gastric mucosa. The colonoscope could only be advanced to the distal sigmoid colon and the procedure was abandoned due to difficulty advancing the colonoscope any further secondary to a fixed and rigid sigmoid colon. Multiple diverticula were noted in the distal sigmoid colon.

A computed tomography colonography was later performed. This revealed a focal area of thickening of the wall of the sigmoid colon (Figs 1 and 2). Sigmoid colon diverticulosis was also noted. The appendix, ascending colon, transverse colon and descending colon all appeared normal.

Routine bloods and tumour markers were collected. The patient's haemoglobin was 121g/L (normal 115-160g/L), white blood cell count 5.71 × 10^9/L (normal 4–11 × 10^9/L) and carcinoembryonic antigen 2 ug/L (normal <5 ug/L).

The case was discussed at the regional colorectal multidisciplinary meeting. The consensus was that the patient should be offered a bowel resection as a malignancy in the sigmoid colon could not be excluded.

The patient underwent a laparoscopic assisted anterior resection and anastomosis. Intraoperative findings of note were adhesions from previous partial gastrectomy and hysterectomy and a palpable mass in the wall of the sigmoid colon. The patient had an uncomplicated post-operative recovery and was discharged on day six.

The histopathology showed mass forming endometriosis in the wall of the sigmoid colon characterised by cystic glands expanding the subserosal tissue, muscularis propria and submucosa, lined by variable bland columnar to attenuated simple epithelium. Ciliations were not identified. Occasional glands were surrounded by endometrial type stroma. Immunohistochemistry on epithelial cells showed strong nuclear staining for PAX8 and estrogen receptor. The endometrial type stroma was highlighted by CD10 (Fig 3 and 4). Background uncomplicated diverticular disease was noted adjacent to the mass. There was no evidence of malignancy.

The patient complained of some altered bowel habit and weight loss in the months following the operation. She went on to have a colonoscopy six months post operatively. The colonoscopy was normal. The anastomosis was widely patent, and the colonoscope was advanced easily into the caecum. A rectal polyp was removed, and histopathology showed it to be a tubular adenoma with low-grade dysplasia.

Discussion

Endometriosis was first hypothesized as a result of retrograde menstruation by John Sampson in 1927(6). He theorized that the explanation for the uterine contents reaching the

ovary and the surroundings was via a retrograde flow of the menstrual contents through the fallopian tubes. This was strengthened by the direct observation of menstrual blood escaping through the fimbrial ends of the tubes and endometrial tissue in the lumen of some women at the time of laparotomies scheduled during or soon after the menstrual period(7).

Deep infiltrating endometriosis is defined as a solid mass situated deeper than 5 mm under the peritoneum(8). Thus, deep infiltrating endometriosis of the bowel invades at least to the level of the bowel muscularis. The prevalence of deep infiltrating endometriosis involving the bowel has been reported to be 5.3–12% of women affected by endometriosis(3). This estimation can vary with referral bias. Deep infiltrating endometriosis involving the bowel is most frequently localised in the recto-vaginal septum and less in the sigmoid. Other bowel localisations are relatively rare(9). Most women with deep endometriosis have severe dysmenorrhoea, deep dyspareunia when localised low, dyschezia during menstruation and, occasionally, anal blood loss. Treatment consists of surgical excision, or segmental resection, when the bowel is involved(8).

Endometriosis in postmenopausal women is rare. It has been estimated at 2.2% based on older studies(10). It is unclear if postmenopausal endometriosis is a result of lesions established during premenopausal years or if it arises de novo. One explanation for de novo endometriosis in postmenopausal women is increased oestrogen production from adipose tissue in obese patients(11). In this case report, the patient denied any symptoms of endometriosis during her reproductive years. It is hypothesized that she had developed endometriosis prior to menopause but was asymptomatic. She did not receive any hormonal therapy during or after menopause.

Diagnosis of colorectal endometriosis is difficult. Distinguishing sigmoid endometriosis can be very difficult from other gastrointestinal pathologies as there are no pathognomonic symptoms of the disease. It is often assumed to be a colorectal malignancy. Colonoscopy has limited value and biopsy is futile as the endometrial tissue is usually confined to the serosal surface and rarely invades the mucosal layer(12). In this case, the colonoscope was unable to advance to the site of the lesion. This led to further investigation with a computed

tomography colonography which also has limited diagnostic value in diagnosing endometriosis and is often misdiagnosed as a colorectal malignancy. Endorectal ultrasound has been shown to have high sensitivity and specificity in diagnosing rectal wall endometriosis(13), however, in this case the lesion was in the sigmoid colon. Sigmoid colon endometriosis is almost always diagnosed on histological examination after segmental resection of the bowel.

Conclusion

Deep infiltrating endometriosis involving the bowel is rare. The most common sites are the rectum and sigmoid colon. Endometriosis in postmenopausal women is also uncommon. Diagnosis of colonic endometriosis preoperatively is difficult and usually leads to a bowel resection as malignancy cannot be excluded. The diagnosis is usually established on histological examination. Colonic endometriosis in postmenopausal women is rare and difficult to diagnosis but should be considered in cases of distal bowel obstructions or abnormal radiological findings that cannot be biopsied by colonoscopy.

Consent

Written informed consent was obtained from the patient 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.

Ethical approval

Exception from ethical approval-case report only, consent from the patient provided at request.

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Figures

Fig 1. Computed tomography colonography axial image showing the patient in prone position with a green arrow indicating a lesion in the wall of the sigmoid colon.

Fig 2. Computed tomography colonography sagittal image with a green arrow indicating a lesion in the wall of the sigmoid colon.

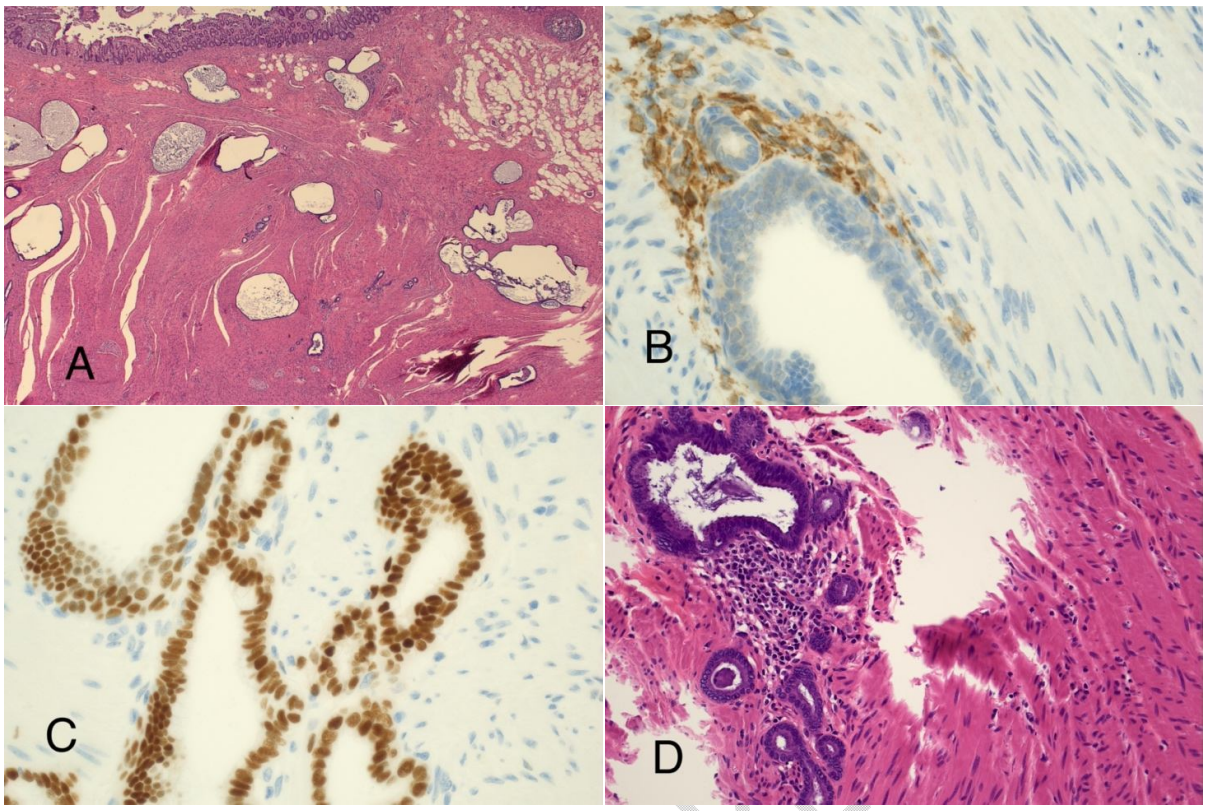

Fig 3. A. 2x HE stain showing expansion of muscularis propria and submucosa by cystic glands. **B**. 20x CD10 immunohistochemical stain, highlighting stroma. **C**. 20x Estrogen receptor immunohistochemical stain, highlighting epithelium. **D**. 20x HE stain showing glands lined by bland columnar cells with endometrial stroma.

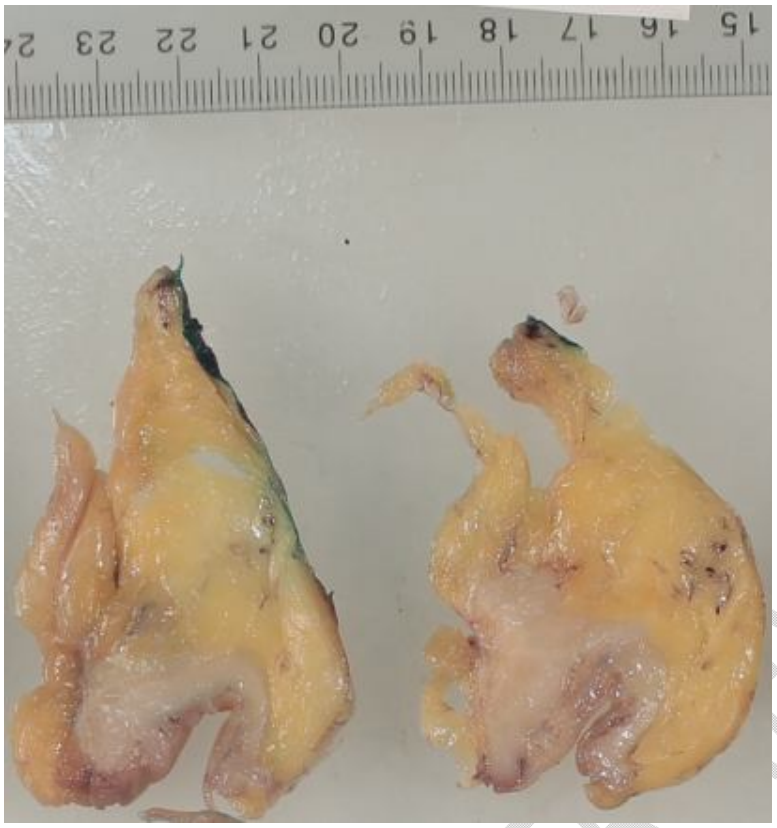

Fig 4. Slices of sigmoid colon with mass lesion extending from serosa to submucosa.