Case report

Endometriosis and the gut

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SUMMARY Six patients with endometriosis involving the intestine are described and illustrate the variety of symptoms which may occur in this condition, many of which are frequently associated with the more common gastrointestinal illnesses. A correct preoperative diagnosis based on history, clinical examination, radiology, and endoscopy may be difficult to make, and when first discovered at laparotomy endometriosis can easily be mistaken for other inflammatory, or neoplastic processes. A histological diagnosis should always be made before definitive treatment.

Although endometriosis most frequently involves the female reproductive organs, it has also been described in many other sites throughout the body. Despite this, little attention is paid to endometriosis in most texts of gastroenterology. We have recently treated a number of women with intestinal endometriosis and the cases described in this article illustrate the wide variety of presentations which may occur in this condition.

PATIENT 1

A 28 year old woman presented with a painful perianal swelling of six days duration. This had been treated initially with antibiotics. Her last menstrual period had started 12 days previously. There was no past history of gastrointestinal symptoms. She was taken to theatre for drainage of a perianal abscess. At operation a thick walled lesion was excised, which at that time was thought to be a chronic abscess. Sigmoidoscopy revealed no other abnormality. When reviewed in clinic one month later, she volunteered that there had been considerable haemorrhage from the cavity during her most recent menstrual period. Microscopy of the perianal lesion showed chronically inflamed fibrous tissue, containing several foci of endometrial glands surrounded by endometrial stroma. The lesion eventually healed without further surgical intervention.

Fig. 1 Barium enema (positive image) showing a stricture in the lower sigmoid colon.

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Fig. 2 Photomicrograph of large bowel showing endometrial glands and stroma present within submucosa.

PATIENT 2

A 37 year old woman presented with a history of increasing pain on defecation. She claimed that because of the discomfort she had become reluctant to open her bowels more than once per week. Examination revealed a 4×2 cm rubbery mass in the rectovaginal septum. Sigmoidoscopy showed no mucosal abnormality and a Tru-cut biopsy of the mass was taken. Histology showed haemosiderin pigmentation throughout areas of connective tissue, but no specific pathology. A repeat sigmoidoscopy revealed a small erythematous lesion at 2 cm above the anal verge. The histology from a further biopsy showed islands of endometrial tissue. The patient was started on danazol and her symptoms have improved but not resolved completely.

PATIENT 3

A 46 year old woman was referred by a gastroenterologist after colonoscopy had revealed a tight stricture in the sigmoid colon. She had presented to him with a four month history of spasmodic upper abdominal pain, aggravated by feeding and associated with belching and abdominal gurgling. These

symptoms were initially investigated by gastroscopy.

Three years ago she had undergone a hysterectomy, and shortly afterwards had developed vaginal endometriosis. At that time she also began to experience lower abdominal pain, bloating, constipation, and occasional bleeding *per rectum*. Her gynaecologist had arranged a barium enema, during the last year, which had shown a sigmoid stricture (Fig. 1) and this was attributed to endometriosis. She had been treated with danazol, but this was withdrawn after two months because of side effects.

At laparotomy there was a rigid stricture in the lower sigmoid colon, with proximal distension of the bowel. The left ovary was fibrosed and the right contained multiple chocolate cysts. The stricture was resected and both ovaries were removed. At microscopy the large bowel mucosa was intact. The submucosa contained numerous foci of endometriosis (Fig. 2), with surrounding fibrosis and evidence of old haemorrhage. Her symptoms were relieved.

PATIENT 4

A 34 year old woman presented with acute right sided abdominal pain. It was 21 days since starting her last

menstrual period, with a normal cycle of 28 days. Over the past three years she had intermittently experienced similar although less severe pain, and this had led to two hospital admissions elsewhere. One of these coincided with menstruation, but the other was during the mid-cycle. A barium enema had revealed no abnormality.

On abdominal examination she was markedly tender with guarding in the right iliac fossa. At operation the terminal ileum and caecum were fibrosed, with multiple strictures and dense adhesions. An ileocaecal resection was carried out. Microscopy of the specimen revealed endometrial glands and stroma within the submucosa, muscularis propria and serosa. There was also an extension of the endometrial stroma into the lamina propria (Fig. 3).

PATIENT 5

A 49 year old woman presented with generalised peritonitis. Over the past 18 months she had experienced recurrent episodes of diffuse colicky abdominal pain, radiating to her back and aggravated by meals. Her general practitioner had arranged a Graham's test which had shown no abnormality. For three weeks before admission her symptoms had worsened, with frequent vomiting, and loss of weight.

At laparotomy there were dense pelvic adhesions. A large inflammatory mass involved the terminal ileum, caecum, right ovary, and uterus. The small bowel mesentery was grossly thickened and the most likely diagnosis was thought to be Crohn's disease. Macroscopically the resected ileocaecal specimen showed a tight ileal stricture, with thickening of the bowel wall and serosal exudate. Microscopically there was no mucosal ulceration, the submucosa was oedematous and the bowel wall was infiltrated by both polymorphs and chronic inflammatory cells. Occasional endometriotic foci were seen in the submucosa, with multiple foci in the outer bowel wall. There was no evidence of epithelioid cell granuloma formation.

PATIENT 6

A 30 year old woman presented with sudden onset of abdominal pain, three days after starting a menstrual period. Examination revealed generalised peritonitis. Three months previously she had been admitted and observed with an episode of lower abdominal pain. At that time her bowel habit had recently become irregular and she had complained of bloating. A small bowel meal had been arranged, which was normal.

At laparotomy there was a 10 cm chocolate cyst, which had ruptured. The cyst was densely adherent to the rectum, with additional adhesions to the ileum.

Fig. 3 Photomicrograph of caecal mucosa showing endometrial stroma replacing lamina propria. Inset: detail of boxed area with endometrial glands surrounded by stroma.

Histology confirmed that the cyst was lined by endometrial type of epithelium, with adjacent endometrial stroma and a thick fibrous wall.

Discussion

It has long been established that endometriosis may involve the lower bowel,¹ but there is perhaps little general awareness as to its diversity of presentations. Although most of the presentations noted in this article have previously been described, we believe that the variety of symptoms associated with the condition and some of the difficulties which arise in its management, are well illustrated by these case reports.

Studying the summary of presentations in the Table it is obvious that each may be produced by other commoner gastrointestinal illnesses. The women were in the third, fourth, and fifth decades and particularly in the older age group one might suspect alternative diagnoses. An accompanying

Table Summary of presenting features of intestinal endometriosis in six patients

Perianal 'abscess', with haemorrhage
Painful defecation
Rectovaginal mass
Constipation
Irregular bowel habit
Bleeding per rectum
Bloating
Belching
Vomiting
Weight loss
Colicky abdominal pain
Acute pain in right iliac fossa
Generalised peritonitis

gynaecological history of acquired dysmenorrhoea, dysparunia, menorrhagia, and sterility should suggest the possibility of intestinal endometriosis, but were absent in most of these cases. Similarly, an exacerbation of symptoms at the time of menstruation did occur in some patients, but this association was often realised retrospectively. In others there was clearly no such association. Several women had undergone previous radiological and endoscopic investigations, as other diseases had been suspected by both ourselves and other clinicians. In patient 3, we believe that the radiological appearance could be mistaken for a neoplasm. Radiological differentiation between a small rectal cancer and endometriosis can be impossible, although the presence of a long filling defect and the absence of mucosal involvement are thought to be suggestive of endometriosis.² Where a lesion was identified, initial Tru-cut biopsy was unhelpful and needed to be repeated. The absence of mucosal ulceration may make accurate targeting of colonic biopsies difficult and a small biopsy specimen could miss endometriotic foci and reveal only fibrosis. Nevertheless, this combination might alert one to the possibility of endometriosis.

A more widespread use of laparoscopy might also lead to earlier diagnosis of the condition. A trial of medical treatment would then be appropriate. There is some evidence, however, to suggest that conservative surgery offers a better chance of subsequent pregnancy, and this should be taken into account.³ Danazol is at present the first line of medical treatment, although its androgenic side effects can be particularly distressing in some young women. Recently buserelin has been reported to be equally efficacious, with less androgenic effects, but producing a higher incidence of flushing and vaginal dryness.⁴ Longer term studies with this agent are awaited.

When discovered at laparotomy we found that it was difficult to make a diagnosis of endometriosis with confidence. This has also been the experience of other general surgeons and the use of frozen section has been proposed.⁵ Is a correct diagnosis essential at the time of operation? When the condition has progressed to the stage of intestinal obstruction then local resection is required, but earlier lesions can be treated by partial excision of the bowel wall.⁶ If the patient is approaching the menopause or when preservation of fertility is unimportant, an oophorectomy will prevent a recurrence of endometriosis. Oophorectomy can also restore patency of the bowel when obstruction is incomplete.⁷ Thus, a provisional diagnosis of a bowel neoplasm can lead to excessively radical surgery and to the morbidity of an intestinal anastomosis which may not be required.⁸ Second, failure to undertake an oophorectomy when indicated, may result in the patient eventually requiring further surgery.

In summary, endometriosis of the bowel can present with a wide variety of symptoms which are more commonly associated with other diseases. A diagnosis based on history, clinical examination, endoscopy or radiology may be difficult to make. In this respect a tissue diagnosis is of paramount importance, and biopsies may need to be repeated. Mistaken diagnoses may also occur at laparotomy. If doubt arises at the time of surgery then a frozen section diagnosis should be sought. A wider awareness of the condition in premenopausal women might lead to earlier medical treatment and to the correct operative management.

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