Acute endometrial bowel obstruction—A rare indication for colonic stenting

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ABSTRACT

INTRODUCTION: Pelvic endometriosis is an extremely rare cause of large bowel obstruction and the management can be challenging. Urgent surgery for acute colonic obstruction is known to carry high morbidity and mortality, and operation may be made more difficult in extensive pelvic endometriosis. Less invasive alternatives in the acute situation may need to be considered.

PRESENTATION OF CASE: Presented is the case of a 35-year-old lady with obstructive bowel symptoms caused by an endometriotic upper rectal stricture. She was initially treated using radiologically guided stent insertion, as an acute intervention, prior to an elective bowel resection and hysterectomy with bilateral salpingo-oophorectomy.

DISCUSSION: Colonic stenting is currently widely used in malignant obstruction. The use of self-expanding metallic stents (SEMS) to treat benign conditions is controversial, however, due to associated long term complications. This case demonstrates that stenting can provide a bridge to major surgery in the rare event of acute endometriotic colonic obstruction. The initial acute treatment with stenting provides the advantage of time to involve the multi-disciplinary team, to medically optimise the patient and to better plan the definitive surgery.

CONCLUSION: The use of radiologically guided stents has a place in the treatment of benign recto-sigmoid obstruction due to endometriosis and therefore should be considered as a bridge to further surgical treatment.

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1. Introduction

Endometriosis of the large bowel is rare, and presents both diagnostic and therapeutic challenges. Presented is a case of acute large bowel obstruction secondary to endometriosis. The use of self expanding metallic stents to treat benign colonic obstruction is controversial, due to potential technical difficulties, potential complications, and paucity of literature in this area. The benefits of deferred and hence planned elective surgery for the obstructing pathology may, however, be significant. The stenting of benign colonic strictures does provide a bridge to elective surgery, with a lower morbidity and mortality and better opportunity for multidisciplinary team involvement.

2. Case presentation

A 35-year-old female, with known grade 4 endometriosis presented with a three-week history of worsening abdominal distension, and absolute constipation for eight days.

For the previous two years she had complained of postmenstrual cyclical abdominal pain, associated with bloating, constipation and vomiting. These symptoms had initially settled with the combined oral contraceptive pill. Flexible sigmoidoscopy had been attempted but could not progress beyond the rectum, which was attributed to adhesions.

Six months prior to this acute admission, she had undergone a laparoscopy to investigate further her abdominal pain. This demonstrated grade 4 endometriosis, bilaterally occluded fallopian tubes, right sided haematosalpinx, and a left sided endometriotic tubo-ovarian mass. A mirena coil was inserted as treatment.

On this acute admission the patient was admitted under the care of the on-call surgical team with abdominal distension and absolute constipation. An abdominal radiograph demonstrated non specific gaseous distension of small and large bowel (see Fig. 1). Blood tests including full blood count and urea/electrolytes were unremarkable. A CT scan of the abdomen was urgently performed which demonstrated a recto-sigmoid stenosing lesion (see Fig. 2) with acute colonic obstruction (see Fig. 3). A decision was made to immediately attempt a radiologically guided endoscopic stent after a full discussion with the patient. The procedure was successful (see Figs. 4 and 5), and the patient was discharged just a few days later.

The patient made a full recovery from this acute episode, and definitive surgery was planned, after involving the gynaecology team. This was to involve a posterior pelvic exenteration to optimally treat both the bowel and the severe pelvic endometriosis.
Fig. 1. Abdominal radiograph demonstrating non-specific gaseous distension of small and large bowel.

Fig. 2. CT transverse film demonstrating the stricturing lesion in the recto-sigmoid junction, with proximal dilation and distal luminal collapse.

Fig. 3. CT transverse film demonstrating the extent of the large bowel dilation, particularly at the Caecum.

Fig. 4. Colonoscope used to pass guide wire through stenotic lesion.

Fig. 5. SEMS passed over guide wire and expanded at narrowing.

At this stage there was no definitive histological diagnosis from the bowel stricture. The patient, however, then started to suffer intermittent partial obstructive symptoms, which responded to conservative treatment. Four months after stenting, an MR scan of the abdomen demonstrated persistent partial stenosis at the recto sigmoid junction.

An elective recto-sigmoid resection was performed, along with a bilateral salpingoophorectomy and hysterectomy, from which she recovered well. A bowel anastomosis was not immediately performed due to concerns about luminal size discrepancy, condition of the rectal stump, and extensive pelvic surgery. The possibility of a temporary colostomy was discussed with the patient prior to the operation.

The specimen removed was sent for histology, and demonstrated chronic inflammatory changes in the rectal serosa, and focal endometriosis in the muscular coat (see Figs. 6 and 7). The patient has recently had her bowel anastomosed and remains well at follow up.
**3. Discussion**

Endometriosis is the presence of endometrial tissue outside of the uterine cavity, and commonly affects 8–15% of premenopausal women. Intestinal involvement is the commonest extrapelvic site, affecting 5.4% of women with endometriosis, and up to 90% of intestinal endometriosis is in the recto sigmoid region. Endometriosis affecting the bowel can cause non specific symptoms including abdominal pain, tenesmus, symptoms of intestinal obstruction, nausea and vomiting. Ninety percent of large bowel obstruction is due to malignancy, diverticular disease, or volvulus. The remainder is accounted for by rarer cause such as adhesions, ulcerative colitis, radiation, faecal impaction and endometriosis. The incidence of Endometriosis causing obstruction is reported between 0.1 and 0.7%. The diagnosis of intestinal endometriosis is difficult due to a lack of pathognomic symptoms, and investigating obstructive symptoms using barium enema or endoscopy is difficult as endometriosis rarely involves the mucosa. Endometriosis as a cause of intestinal obstruction should, however, be considered if there is a cyclical nature to the symptoms. Intestinal endometriosis can mimic adenocarcinoma with local invasion and rapid growth.

Hormone therapy is primarily the treatment of choice for endometriosis. This, however, cannot reverse strictureing in the bowel, and surgery is indicated in symptomatic disease, or where there is suspicion of malignancy. In acute or sub-acute intestinal obstruction, the mechanical blockage requires urgent surgical intervention. This commonly involves a bowel resection, to remove the obstructing lesion and identify the causative pathology, but balloon dilatation has also been documented as a treatment, where the histological diagnosis is already known.

The use of Self Expanding Metallic Stents (SEMS) has commonly been described in the treatment of malignant bowel obstruction. Stents are either used in palliation preventing surgery and stoma formation, or as a bridge to definitive surgery, to allow for medical optimisation of the patient. This potentially avoids emergency operations, which are associated with higher mortality rates, longer hospital stays and higher rates of stoma formation. The use of stenting in malignant obstruction allows time for disease staging, medical optimisation and treatment decisions with multi-disciplinary team involvement. Primary Anastomosis is also more likely if SEMS treatment is used initially. The use of stents as a bridge to elective surgery is associated with a lower morbidity and mortality in malignant bowel obstruction.

The use of prolonged stenting to manage benign colonic obstruction is controversial. Long term complications have been documented, including stent migration, stent disengagement, stent fracture and re-obstruction. Previous reports of stenting for immediate management of acute obstruction are documented as a bridge to elective surgery, particularly for diverticular strictures. Laparotomy often follows to remove the affected segment of bowel, invariably to provide histological diagnosis and exclude malignancy. The time period provided by the use of stents in the acute management of endometriotic obstruction may provide the advantage of allowing involvement of the multi-disciplinary team. This should include input from the gynaecology team regarding treatment of the endometriosis and possible collaborative surgical intervention. The opportunity for patient counselling regarding surgery and any potential effects on fertility can also be included in this interim period.

Only one case of acute colonic obstruction due to endometriosis managed by stenting was demonstrated in the literature. This was in a patient with known rectosigmoid endometriosis, who was awaiting surgical treatment, who underwent an Anterior Resection three weeks after stenting.

**4. Conclusion**

Large bowel obstruction due to endometriosis is rare and difficult to diagnose. Treatment challenges extend beyond that of the acute obstruction and include treating the underlying endometriosis, potentially involving gynaecology collaboration. Definitive surgery may be both difficult and extensive and hence is inadvisable in the acute situation. Colonic stenting is currently widely used in malignant obstruction, but in expert hands may provide an advantageous bridge to major surgery for endometriotic recto-sigmoid obstruction.

**Conflicts of interest**

The authors have no conflicts of interest to declare.

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Ethical approval

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.

Author contributions

Whelton CR: Literature review and writing up case report.
Bhowmick A: Aiding write up and clinical details. Consultant in charge of patient’s care during acute admission and follow up.

References