CASE REPORT

Large bowel obstruction caused by endometriosis - Elective laparoscopic management - Natural orifice surgery

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Introduction

Endometriosis is characterized by the implantation of endometrial epithelium outside the uterus. In women with endometriosis, bowel involvement has been estimated to range from 5% to 15% [1]. Notably, colonic endometriosis has the potential to result in complete bowel obstruction [1].

We herein present a case of endometriosis with recto-sigmoid involvement causing complete large bowel obstruction (LBO) treated initially with defunctioning colostomy and subsequently elective laparoscopic surgery.

Case report

A 45-year-old previously healthy female patient presented with clinical and radiological features suggestive of LBO.

She was hemodynamically stable. Her WBC was 13,880/mm^3 and CRP 18.2 mg/L.

An abdominal CECT revealed short-segment enhancing mural thickening at the distal sigmoid colon, causing proximal large bowel and distal small bowel obstruction, more suggestive of tumour than inflammatory lesion.

Flexible sigmoidoscopy revealed extreme luminal narrowing at the rectosigmoid junction, making it impossible to traverse the obstruction. Mucosa normal.

After initial resuscitation a midline laparotomy was performed under GA. Dense adhesions of the recto-sigmoid to the posterior wall of a retroverted uterus, suggestive of severe endometriosis was noted. Further dissection in the pelvis not done as the anatomy was unclear. Minimal adhesiolysis and a transverse loop colostomy were then performed.

Postoperatively gynaecological opinion was taken. Transvaginal ultrasonography (TVUS) revealed endometriosis with a retroverted uterus with large bowel adhered to the posterior wall of the uterus. Pelvic MRI was advised and a course of GnRH was initiated.

At the time of discharge patient was ambulant, colostomy functioning well and eating normally.

Subsequent pelvic MRI revealed the presence of a right ovarian endometrioma with extrauterine endometriotic deposits and circumferential mural thickening in the distal sigmoid colon.

It was then decided that total laparoscopic hysterectomy (TLH) and bilateral salpingo-oophorectomy (BSO) with bowel resection would be carried out in 3 months from the first surgery if there was no relief of LBO from hormonal treatment. After 3 months, repeat endoscopy passed both rectally and through transverse colostomy showed persistent recto-sigmoid narrowing. It was hence decided to proceed with surgery.

The planned laparoscopic surgery was carried out in collaboration with the Professorial Gynecological unit. The procedure was TLH, BSO, and the intracorporeal resection and anastomosis of the rectosigmoid stricture utilising a 5-port technique. Left ureteric stenting done. Extensive adhesiolysis was performed. Following TLH and BSO, an on-table colonoscopy was attempted, but the rectosigmoid junction proved impassable. Hence resection and anastomosis of the involved segment using a circular stapler was done with speciment retrieval through vaginal opening. Intergrity of anastomosis was confirmed with both negative air leak test and retrieval of two intact donuts.

Postoperative recovery was uneventful. Patient was discharged on day 8, on a normal diet and a functioning colostomy. Colostomy closure was planned after a loopogram later.

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Histological examination identified the existence of endometrioid foci accompanied by inflammation and fibrosis.

Discussion

Colorectal malignancy is the commonest cause of LBO. Benign causes of LBO include strictures arising from diverticular disease or inflammatory bowel diseases, volvulus particularly affecting the sigmoid colon, internal or external herniae involving large bowel, etc.[2] Masses arising from the pelvis/abdomen such as uterine/ovarian tumours, lymph node enlargement, etc. also are causative factors. Endometriosis is a very rare cause of LBO but must be considered in a younger female, especially those with a history of recurrent lower abdominal pain.

Intestinal localization of endometriosis occurs in 5-15% of affected females. Approximately 90% of such localization is limited to the sigmoid and rectum. Only about 1% of patients with intestinal endometriosis require bowel resection surgery [1,3].

The CECT in this patient did not reveal endometriosis. However the specificity of CECT in detecting endometriosis is low [1]. As there were no features of endometriosis in this patient's history it was not considered in our initial differential diagnosis.

Transvaginal ultrasound (TVUS) has a reported sensitivity of 91% and specificity of 98% in detecting bowel localizations of endometriosis [4].

In the few reported cases available of LBO due to endometriosis, surgical management has included procedures such as Hartmann's surgery or primary resection and anastomosis with defunctioning stoma - both open and laparoscopically.

Gynaecological input was taken throughout as a combined surgical/gyanecological approach is considered the best option. GnRH was advocated in between initial laparotomy and subsequent elective laparoscopy because studies have shown this to help lesion regression and symptomatic improvement in endometriosis. However, inspite of GnRH treatment, this patient's bowel obstruction didn't resolve [5].

The decision to do TAH and BSO was taken by the gynaecological team because of the severity of the endometriosis with extra pelvic deposits.

Laparoscopic TAH & BSO with sigmoid bowel resection and anastomosis in large bowel obstruction with endometriosis is feasible if the required expertise is available. The surgery is difficult due to extensive inter-loop bowel and pelvic adhesions associated with endometriosis. As the ureters may be difficult to identify/involved, it is advisable to stent the ureters preoperatively. In this patient the uterus/ovaries and the resected sigmoid stricture were removed through the vaginal orifice, thereby avoiding additional incisions - Natural Orifice Surgery.

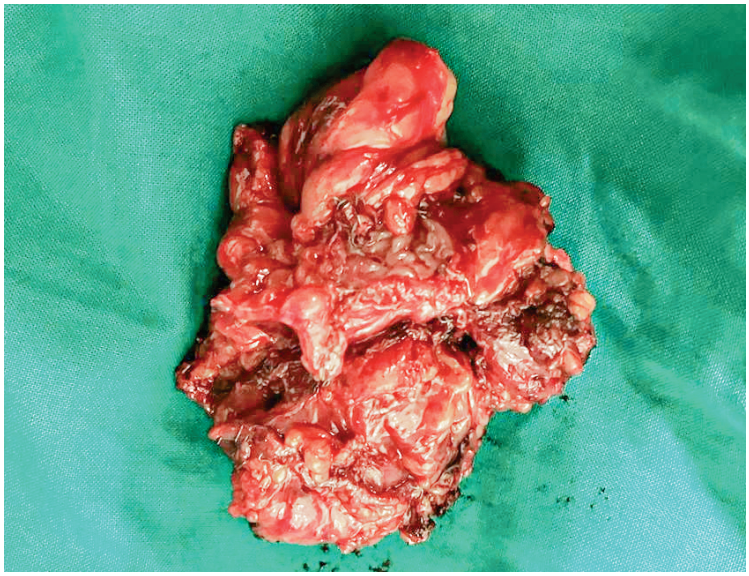

Figure 1. Resected rectosigmoid stricture

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Learning Points:

- Although not common, endometriosis should be considered as a cause of LBO in young females.
- TVUS is readily available and useful imaging modality in confirming bowel endometriosis.
- Laparoscopic TLH + bowel resection with Natural Orifice Surgery possible when expertise available.