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# Intestinal obstruction caused by endometriosis: Endoscopic stenting and expedited laparoscopic resection avoiding stoma. A case report and review of the literature

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ABSTRACT

*INTRODUCTION:* Endometriosis is the growth of endometrium outside the uterine cavity. In 5–15% of cases the disease can affect the colon and small bowel, causing complete obstruction and requiring resection in about 1% of cases.
*CASE SUMMARY:* We describe a case of sigmoid obstruction due to endometriosis in a 38 years old woman with personal history of endometriosis. She was admitted for abdominal pain and constipation. The patient was treated with endoscopic stenting and subsequent laparoscopic sigmoidectomy.
*DISCUSSION:* Bowel obstruction caused by endometriosis is a rare event. Its diagnosis can thus be a clinical and radiological challenge but it may be suspected in all young woman with colonic obstruction. At present, the management of endometriosis is an integrate approach of both medical and surgical therapy. In case of irreversible colonic obstruction surgery is mandatory. The treatment of choice is usually an emergency procedure (either Hartmann procedure or resection and anastomosis with stoma placement). This approach entails all the risks related to emergency procedures and can have important psychological and biological drawbacks.
*CONCLUSION:* Endoscopic prosthesis placement as bridge to surgery is a feasible therapeutic strategy in colonic obstruction due to endometriosis. It brings about all the advantages of an expedited one step laparoscopic surgical procedure. Laparoscopic elective resection has a lower rate of stoma placement and has a postoperative pregnancy rate grater than open surgery.


## 1. Introduction

The prevalence of endometriosis in women during reproductive life is about 10%–15% [1]. It can affect not only peritoneum and ovary but also bowel, urinary tract, pericardium and lungs. Gastrointestinal localizations most commonly occur in the rectosigmoid. Colonic endometriosis can lead to a complete bowel obstruction [2,3]. In emergency settings it is most frequently treated with stoma placement. This approach brings about all the risks related to emergency surgery and might have important psychological and biological side effects.

We herein present a case of sigmoid endometriosis with complete bowel obstruction treated with endoscopic stenting and delayed one step laparoscopic procedure. We only found another similar case reported in literature [4]. This work has been reported in line with the SCARE criteria [5].

## 2. Case report

A 38 years old woman presented at emergency care with a history of abdominal pain started two days earlier and constipation started nine days earlier, she reported nausea but no vomit.

The patient had personal history of endometriosis and laparoscopic right ovarectomy was carried out a few years before; no similar episodes of abdominal pain were reported. She had no family history of intestinal diseases.

The abdomen was meteoric and tender; vital signs were normal with the exception of tachycardia (105bpm). On laboratory exams the WBC was 14090/mm3 and CRP was 3,1 mg/L.

A plain abdominal X-ray was performed with evidence of small and large bowel distension and an Abdomen CT detected an irregular mass (diameter 2 cm) at the proximal sigmoid colon determining stenosis. In consideration of the occlusive state, of the radiologic findings and of the likelihood of endometriosis, emergency recto-sigmoidoscopy was performed. The procedure revealed only lumen narrowing without mucosal alterations. A metallic auto-expansible stent was placed to treat bowel obstruction and to delay surgery.

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**Fig. 1.** Section of the sick sigma with the endoscopic metallic stent inside.

Fasting, parenteral rehydration, a double intravenous antibiotic therapy and analgesic drugs were started. Over the next 48 h the bowel obstruction was resolved. The patient underwent a transvaginal utltrasonography (TVUS) with evidence of peritoneal endometriosis in the Douglas pouch and suspected sigmoid deep endometrioid localization. CA-125 levels were increased (114,8 U/L). After 5 days from endoscopy a laparoscopic sigmoidectomy was performed without stoma placement.

Histological investigation revealed the presence of endometrioid foci with inflammation and fibrosis affecting the entire sigmoid wall [Fig 1].

The patient was discharged at fifth postoperative day in good conditions and was referred to Gynecologists.

At one month surgical follow-up she had no more abdominal pain and constipation.

## 3. Discussion

Endometriosis is the growth of ectopic endometrium, most commonly on ovary and pelvic peritoneum [6].

It usually leads to pelvic pain, deep dyspareunia, dysmenorrhea and infertility [7,8]. It can also affects other organs determining different clinical pictures. Even though intestinal localizations occur in about 5–15% of patients, only in about 1% bowel resection is required [2,3].

Laparoscopy should be considered the diagnostic gold standard for Endometriosis.

At present clinical evaluation, imaging and serologic markers can lead to a correct diagnosis leaving surgery to selected patients with a "see and treat" rationale [9]. This is also true for deep infiltrating endometriosis; in fact TVUS has a reported sensitivity of 91% and specificity of 98% in detecting bowel localizations [10]. Furthermore elevated serum levels of CA-125 can be considered for diagnosis [11].

The low incidence of bowel obstruction due to Endometriosis makes the diagnosis unlikely. Contrast abdominal CT has a low specificity and clinical presentation (constipation, nausea, vomit, abdominal pain, rectal bleeding) is unspecific. Other much more common conditions such as Cancer, Inflammatory Bowel Disease and obstruction due to bowel adhesions have a similar onset [2]. This is why the diagnosis is usually made by gross histology once the therapeutic decision has already been taken. In the case described patient's age, personal history and the endoscopic findings guided the diagnostic and therapeutic flow-chart.

A very important aspect of the disease consists of the psychophysical implication related to therapies that can drastically alter patient's quality of life [12]. For this reason the best management of endometriosis is by integrate approach of both medical and surgical treatment [9,13,14].

In the literature some cases of acute colonic obstruction due to endometriosis are described. Hartmann's procedure or direct anastomosis with defunctioning stoma were performed, either open or laparoscopic [15–18].

Our patient was treated with endoscopic stenting as a bridge to elective laparoscopic surgery.

We consider that this approach should be taken into account when colonic obstruction due to endometriosis is suspected, especially in young women with positive personal history.

Endoscopic stenting is a relatively safe procedure, potentially avoids the costs of two steps surgical intervention and the psychological drawbacks related to stoma placement. Laparoscopic procedure also allows a higher pregnancy rate after surgery [1]. In the literature we only found another similar case reported to have good outcomes [4].

## Conflict of interest

All the Authors declare that there is no potential personal conflict of interest or financial disclosures or acknowledgements.

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## Ethical approval

Ethical approval has been exempted by our Institution, because our paper is not a research but a case report.

## Consent

Written informed consent has been obtained. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

## Author contribution

Pietro Calcagno: corresponding author who wrote the paper.

Matteo Viti: contribute by giving the paper concept.

Alessandro Cornelli: the consultant surgeon who managed the patient and run the operation.

Davide Galli: the assistance surgeon in patient's operation.

Corrado D'Urbano: head physician who receive the article and gave final approval.

## Guarantor

Corrado D'Urbano.

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