

# SMALL BOWEL OBSTRUCTION IN A YOUNG REPRODUCTIVE AGE WOMAN

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## INTRODUCTION

Bowel obstruction accounts for 20% of hospital admissions due to acute abdominal pain. Endometriosis is benign, chronic condition affecting up to 15% of menstruating women.

Endometriosis is estrogen-dependent condition characterized by the presence of endometrial tissue outside the uterine cavity. This ectopic endometrium has the same histological characteristics like the normal one. Under the estrogen ectopic endometriosis implants may proliferate, forming nodules or cysts (endometriomas) and rarely infiltrate other organs[1, 26]. Endometriosis is a common finding in women between 30-40 years old and the lesions are stimulated by ovarian hormones[19, 22]. Typically endometriosis patients complain of dysmenorrhea, pelvic pain, ovulation pain, dyspareunia and dyschezia.

Endometriosis usually affects the genital tract; on the second place is the GI tract with 3-37%, followed by the urinary tract with 10% of all women with this condition [30, 31]. Endometriosis rarely affects extra abdominal organs such as lungs, skin and the central nervous system [7]. Extra-pelvic endometriosis affects the GI tract; the incidence of the involvement of different intestinal sites varies greatly in the literature with the rectosigmoid affected in 50-90%, small bowel 2-16%, appendix 3-18%, and caecum in 2-5% of cases [29, 23]. Intestinal involvement in endometriosis is common but it rarely causes acute small bowel obstruction (SBO) [10, 13].

Although the etiology of endometriosis was described nearly a century ago it still remains a very complex clinical entity with non-specific symptoms which make difficult to establish a diagnosis[23]. We report a two cases of an acute small bowel obstruction secondary to bowel endometriosis requiring emergency surgery. Diagnosis of intestinal endometriosis was made by histological examination of the resected bowel segment.

## **CASE REPORT-1**

A 39 year old woman was admitted to our Clinic with abdominal pain, nausea and vomiting. The patient was complaining of a two days history of abdominal pain. The patient's past medical history included one uncomplicated removal of a left ovarian cyst 3 years ago when the endometriosis was histopathologically diagnosed. There had been no family history of hereditary diseases, she was a non-smoker and did not drink alcohol. On examination the patient was haemodynamically stable, body temperature was 38.5°C. Physical examination showed weakening peristaltic rushes, distended abdomen with tenderness, most notably to the right of the umbilicus and right hypogastrium. No pathological abdominal masses were found, rectal examination was regular. Laboratory tests showed leucocytosis. Abdominal ultrasound imaging showed a free liquid in Douglas space. Abdominal radiograph showed dilated loops of small bowel, without pneumoperitoneum and colon distension. The patient was treated conservatively during the first few hours, with intravenous rehydration therapy and nasogastric suction. After 6 hours she developed clinical and radiographic signs of bowel obstruction with diffuse abdominal pain and vomiting. Because of rapid deterioration in patient's condition surgery was immediately carried. After adequate perioperative preparation we made explorative laparotomy and found a transparent ascites with dilation of the small bowel. About 25cm proximal from Bauhini valve we founded stricture which occlude bowel lumen. Proximal from occlusion bowel loops were edematose. Ileum resection was performed with termino-termino EE anastomosis. Diagnosis was made by histological examination. Histology of the resected specimen showed endometriosis involving the distal ileum. The patient made an uneventful post-operative recovery. After one-year follow-up, there was no recurrence of the symptoms.

## **CASE REPORT -2**

A 36 year-old woman was admitted to our Clinic due to abdominal pain associated with constipation and vomiting. Her symptoms started four days ago. She had previously several similar episodes of symptoms that have spontaneously passed, but she noted a weight loss of 7 kg over the past year. There was no history of alcohol, coffee, aspirin or non-steroidal inflammatory abuse. She denied painful menstrual periods and had no previous operations. Gynecological examination performed a month before was normal.

Physical examination revealed a palpable 2 cm × 4 cm mass in the right lower quadrant and abdomen was distention and with diffuse tenderness. Rectal examination demonstrated no masses or tenderness, with negative stool present in the rectal ampulla. Diagnostic results included leucocytosis, liver and kidney function tests and normal C-reactive protein. Abdominal ultrasonography was normal except for evidence of a simple left ovarian cyst. Abdominal radiograph showed dilated loops of bowel, without pneumoperitoneum. Computer tomography (CT) scanning revealed an ileocecal mass with multiple mesenteric lymph nodes enlarged.

Patient condition become deteriorated, and on the basis of her symptom and diagnostic findings, the diagnoses of acute intestinal obstruction was made. We made explorative laparotomy and found a transparent ascites and partial small bowel obstruction located approximately 15 cm proximal to the ileocecal valve. En bloc resection was taken and the histopathological examination confirmed ileocecal endometriosis with focal submucosal hemorrhage and serosal scarring. The patient recovered postoperatively.

## **DISCUSSION**

Endometriosis is defined as the presence of ectopic endometrial tissue in extrauterine sites. Intestinal endometriosis is generally an asymptomatic condition. Intestinal endometriosis occurs in 12%-15% of menstruating women, ileocecal involvement is rare with an incidence of 4.1% [5, 7, 13, 26, 31]. There are more than 10 million women with endometriosis, 30% of amenorrhoeic women have endometriosis and the incidence of endometriosis is 30-50% by infertility couples [5, 15]. The reported incidence of the involvement of different intestinal sites varies; this is due to intestinal endometriosis being mainly an incidental finding[8]. In a retrospective study of 7,000 patients with endometriosis the incidence of caecal and appendix involvement was 4% and 3%[27]. A similar result was shown in Chapron et al. study assessing the anatomical distribution of endometriosis – appendix and ileocaecal involvement was found in 6.4% and 4.1% of intestinal cases respectively[9].

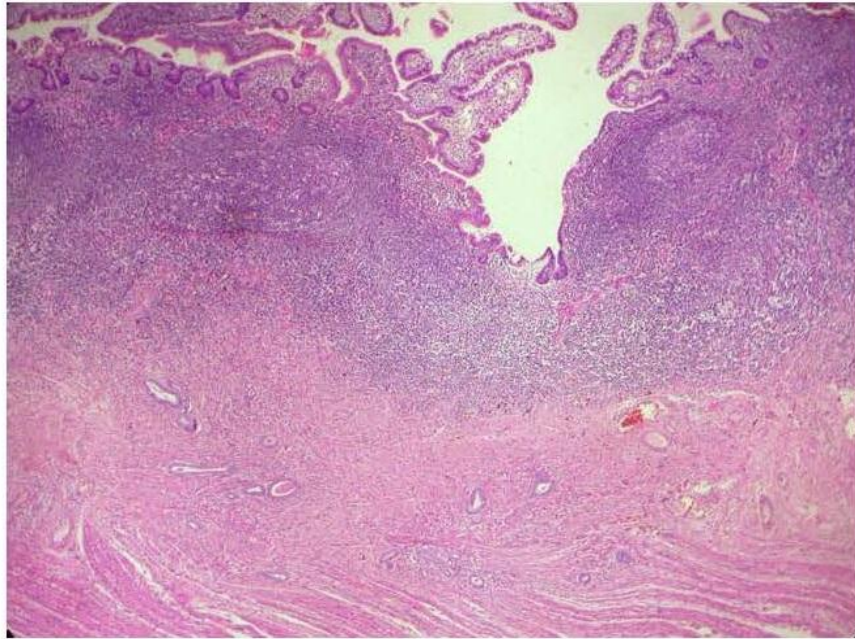
Endometriosis most commonly presents with gynecological symptoms of intermenstrual bleeding and premenstrual exacerbation of pain, while SBO symptoms include more upper abdominal pain, colicky pain and vomiting [13].

The etiology of endometriosis remains controversial. Many theories have been proposed to explain this condition such as: transformation of pluripotential peritoneal mesothelium, neurological hypothesis and migration of cells through the lymphatic system or via haematogenous spread [2, 3]. Immunological, genetic factors and unknown environmental factors could be involved in the pathogenesis of this disease [25]. It is thought that the growth and invasion of endometrial tissue at ectopic sites is due to a process of neovascularisation mediated by proangiogenic factors such as VEGF [28]. The most widely accepted theory is Sampson's retrograde menstruation theory: during menstruation endometrial tissue refluxes through the fallopian tubes, implanting and growing on the serosal surface of abdominal and pelvic organs [9]. The theory is supported by the mainly pelvic distribution of endometriosis [23].

Small bowel endometriosis tends to only affect the bowel serosa and deposits tend not to be larger than 2cm in size; it is characterized by a patchy involvement of the bowel and macroscopically is glistening grey in appearance [8, 29]. Under hormonal influences, serosal implants may proliferate and infiltrate the bowel wall, and lead to inflammation, fibrosis, and metaplasia or hyperplasia of intestinal smooth muscles [16]. Histological examination of small bowel endometriosis shows gradually spreading lesion from serosa to muscularis propria (Figure 1) [2, 13]. Serosa is rarely affected, because of its weak innervation [18]. Lymph node involvement of endometriosis can be affected as a consequence of lymphatic endometrium dissemination from intestinal wall [24]. Although bowel endometriosis is generally asymptomatic, infiltration of muscularis propria can lead to local inflammation resulting in fibrosis and the formation of adhesions [8, 31].

**Figure 1.**

Histological examination of small bowel endometriosis shows gradually spreading  
lesion from serosa to muscularis propria



The most common symptom of enteric endometriosis is a nonspecific colicky abdominal pain. Symptoms of intestinal endometriosis range from an asymptomatic state to abdominal pain, vomiting, constipation, diarrhea, rectal pain, infertility, abdominal mass, weight loss, anorexia and hematochezia[8,10]. Acute bowel obstruction is a rare complication occurring in less than 1% of intestinal endometriosis and usually affects the rectosigmoid colon [6, 13]. Small bowel obstruction was found in only 0.7% of all surgical interventions for endometriosis [6]. Distal ileum obstruction occurs in 7-23% of all cases with intestinal involvement [6]. Haematochezia is an uncommon symptom due to the low incidence of mucosal involvement [3, 5].

We present here a two cases of SBO requiring emergency surgery. Histology of the resected specimen showed bowel fibrosis caused by endometriosis. Rare cases of small and large bowel intussusception, bowel perforation and malignant transformation through adenocarcinoma have also been reported [11, 12, 17]. Malignancy has been reported in less than 1% of patients and 79% of these cases occur in the ovary, only 1/3 of all cases is extragonadal [14].

Diagnosis of small bowel endometriosis may be difficult because of different nonspecific symptoms. Clinical signs of endometriosis can mimic different pathological conditions: inflammatory bowel diseases, Crohn's disease, acute appendicitis, diverticulosis, infectious diseases, ischemic enteritis, and tumours [4, 10, 11, 20, 29].As we can see the

patients were admitted to our hospital with nonspecific abdominal symptoms which later redeveloped signs and symptoms of obstruction.

There are many techniques in diagnosing intestinal endometriosis such as: double contrast barium enema, transvaginal ultrasonography, rectal endoscopic ultrasonography, magnetic resonance imaging and multislice computed tomography (MSCT) enteroclysis[10, 21]. In a case of endometriosis abdominal ultrasound and abdominal radiograph offers insufficient and often non-specific information, but bowel obstruction can be found. MRI is currently the best imaging modality for enteric endometriosis with sensitivity of between 77-93% [8, 10]. In our case the patient had increased inflammatory markers with non-specific ultrasound imaging and abdominal radiograph showed dilated loops of small bowel. Because of rapid deterioration in patient's condition an emergency laparotomy was immediately carried out and other imaging tests (MSCT, MRI) could not be achieved prior to surgery.

In the case of elective surgical treatment a laparoscopic approach is the „gold standard” [8]. On the other hand, the rare but potential risk of malignant transformation makes surgical resection mandatory [8]. Surgery is indicated in acute or subacute bowel obstruction, endometriotic tumours, or when it is impossible to exclude a malignancy in cases of progressive pain and bleeding. In an emergency setting the main aim of surgery is to relieve the obstruction [5, 11, 26].

It is important to know that endometriosis has some unique biological characteristic; it is a chronic recurrent disease because of microscopic implants which are active without surgery [5]. If the endometriosis is suspected intra-operatively then as many ectopic deposits as possible should be excised [8]. In the case of presence a bowel lesion a resection margin of greater than 2cm should be attempted [11]. If it is difficult to exclude a malignancy intra-operatively, it is appropriate to carry out an oncological resection [29].

## CONCLUSION

The intestinal endometriosis presented as small bowel obstruction shows that endometriosis remains a challenging condition for clinicians. Endometriosis as a differential should be in mind when assessing females of a reproductive age who present with abdominal pain and small bowel obstruction. Surgical treatment is necessary with the main aim to

excise the point of obstruction and all deposits. Histopathological confirmation required presence of both glandular and stromal tissue

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SUMMARY

Endometriosis is a benign condition that can present as a surgical emergency because of its complications. Intestinal endometriosis affects up to 37% of women with endometriosis and it is rare to manifest as an acute small bowel obstruction secondary to ileal endometriosis. Small bowel endometriosis should be considered as a differential diagnosis when assessing females of reproductive age with acute small bowel obstruction. We present the two cases of female patients with intestinal endometriosis who presented with symptoms and signs of an acute small bowel obstruction requiring emergency surgery. A small bowel resection was performed in those cases. Histopathological examination confirmed a diagnosis of endometriosis with fibrosis and stricture of the bowel segment. Endometriosis should be considered in the differential diagnosis of every woman of childbearing age who presents with abdominal symptoms. Clinicians should keep in mind this condition in cases of abdominal emergency in young female patients.

**Key words:** Intestinal endometriosis, acute intestinal obstruction, emergency laparotomy

# ТОНКОКИШЕЧНАЯ НЕПРОХОДИМОСТЬ У ЖЕНЩИН РЕПРОДУКТИВНОГО ВОЗРАСТА

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## РЕЗЮМЕ

Эндометриоз – доброкачественное заболевание, которое может потребовать экстренное хирургическое вмешательство из-за осложнений. Кишечный эндометриоз поражает до 37% женщин с эндометриозом и редко проявляется в виде острой тонкокишечной непроходимости, как осложнение тонкокишечного (илеального) эндометриоза. Эндометриоз тонкой кишки можно рассмотреть как дифференциальный диагноз при оценке женщин репродуктивного возраста с острой тонкокишечной непроходимостью.

Мы представляем два случая пациенток с кишечным эндометриозом, у которых представлены симптомы и признаки острой тонкокишечной непроходимости, требующей неотложной лапаротомии. Резекция тонкой кишки была выполнена в обоих случаях. Гистопатологические исследования подтвердили диагноз «эндометриоз с фиброзом и со стриктурой сегмента кишечника».

Эндометриоз должен рассматриваться в дифференциальной диагностике каждой женщины детородного возраста, с болевыми симптомами в области живота. Врачи должны учитывать возможность такого состояния в случаях «острого живота» у молодых пациенток.

**Ключевые слова: кишечный эндометриоз, острая кишечная непроходимость, неотложная лапаротомия**

წვრილნაწლავოვანიგაუალობარეპროდუქციულიასაკისქალებში

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## რეზიუმე

ენდომეტრიოზი კეთილთვისებიანი დაავადებაა, რომლის გართულების შემთხვევაშიც, შესაძლებელია საჭირო გახდეს გადაუდებელი ქირურგიული ოპერაცია. ნაწლავის ენდომეტრიოზი გვხვდება ენდომეტრიოზით დაავადებულ ქალთა 37%-ში და იშვიათად ვლინდება მწვავე წვრილნაწლავოვანი გაუალოების სახით, როგორც ილუური ენდომეტრიოზის გართულება.

რეპროდუქციული ასაკის ქალებში, მწვავე გაუალოების შემთხვევაში დიფერენციული დიაგნოზი უნდა გატარდეს ნაწლავის ენდომეტრიოზთან. ჩვენ წარმოგიდგინებთ ნაწლავის ენდომეტრიოზის ორ შემთხვევას პაციენტებში, რომელთაც აღენიშნებოდათ წვრილი ნაწლავის გაუალოების ნიშნები და სიმპტომატიკა. ორივე შემთხვევაში საჭირო გახდა გადაუდებელი ლაპაროტომიის და ნაწლავის რეზექციის წარმოება. ჰისტოპათოლოგიური კვლევებით დადასტურდა დიაგნოზი: ნაწლავის ენდომეტრიოზი ნაწლავის კედლის ფიბროზით და სტრიქტურით.

რეპროდუქციული ასაკის ქალბატონებში მუცლის არეში მწვავე ტკივილების შემთხვევაში დიფერენციული დიაგნოზი უნდა გატარდეს ნაწლავის ენდომეტრიოზთან. ასეთი მდგომარეობის არსებობა ექიმებმა უნდა გაითვალისწინონ “მწვავე მუცლის” შემთხვევაში, ახალგაზრდა მდედრობითი სქესის პაციენტებთან.

**საკვანძო სიტყვები:** ნაწლავის ენდომეტრიოზი, მწვავე გაუალოება, გადაუდებელი ლაპაროტომია.