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CLINICAL PRACTICE

Outlet constipation syndrome caused by elongation of the rectosigmoide as a frequent etiology for pelveo-abdominal pain and intestinal troubles in women with endometriosis

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Abstract The aim of the study was to isolate from the clinical history and examination, symptoms, or combination of symptoms highly suspicious for intestinal infiltration in endometriosis patients. In a prospective study, preoperative anamnesis on defecation problems and pain symptoms was correlated with the vaginal examination and the laparoscopic findings in 2,000 consecutive patients with suspicion of intestinal endometriosis; 65.7% of the patients reported a typical symptomatology combining left-sided pelvic pain irradiating systematically to the back and occasionally to the left leg, with dyschesia, abdominal bloating, and/or sensation of a doubt masse in the left lower or middle abdomen, sometimes rectorrhagia and an improvement in the pain after defecation. In the absence of a palpable endometriotic nodule of the rectovaginal space, the combination of this symptoms correlated in 93.7% of the patients with an outlet constipation syndrome due to a significant elongation with kinking of the rectosigmoide. In the patients with a palpable endometriotic nodule of the posterior fornix (n=712), the combination of an apareunia with the apparition of constipation for 2–3 days at the beginning of the period bleeding followed by a diarrhea until the end of the period shows a positive predictive value for deep intestinal infiltration of 95%. In all endometriosis patients undergoing a laparoscopy for pain and intestinal disorders, the elongation of the rectosigmoide must be perceived and recognized as a potential cause for an outlet constipation syndrome which can be cured easily by a left-sided sigmoidopexy. In patients with a macroscopic endometriotic nodule of the posterior fornix, the presence of an apareunia and the apparition of constipation at the beginning of the menstruation followed 2–3 days later by a diarrhea are strong arguments for an invasive intestinal endometriosis, and those patients must be primarily referred to a tertiary referral center.

Keywords Endometriosis · Constipation · Sigmoidopexy · Rectum endometriosis · Pelvic pain · Dyschesia

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Introduction

Endometriosis is one of the most prevalent gynecological disorders, affecting millions of women and girls around the world. Gynecologists are confronted daily with this pathology and when in the great majority, endometriosis just involves the genital organs and/or the pelvic peritoneum; endometriosis can also affect extra genital pelvic organs such as the ureter or bladder, the intestine, or the pelvic somatetic nerves [1]. The intraoperative discovery of an unexpected bowel infiltration is a very difficult situation for every surgeon as irrespective of the surgeons` experience with intestinal surgery, due to the absence of a signed consent from the patient for such a procedure; the only legitimate consequence is the incomplete removal of the endometriosis or more easily the abortion of the procedure. On the other hand, the systematic allocation of appropriate surgical time and the presence of a colorectal surgeon in case of the potential need for bowel resection in all patients with the suspicion of endometriosis are impractical. Thus, knowing that there is a high possibility of requiring bowel resection is essential in the planning of the surgical

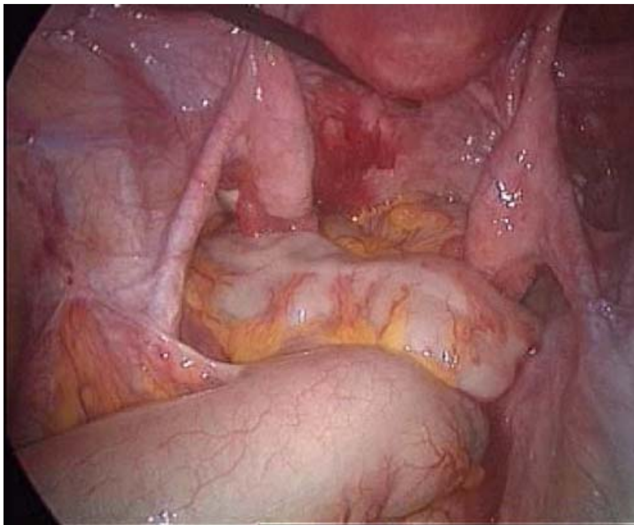

Fig. 1 Elongation of the rectosigmoid

procedure and the optimal management of such patients begins with the admitting practicing gynecologist or GP: The optimal scenario is when the patients with a high risk of intestinal endometriosis have been preselected and primarily referred to a tertiary referral center [2]. Thus, the aim of our study was to isolate from the clinical history, symptoms or combination of symptoms highly suspicious for intestinal endometriosis.

Materials and methods

Since 1997, we prospectively assessed in an Excel file all consecutive patients referred to us for the treatment of endometriosis with suspicious of intestinal involvement because of the presence of a rectovaginal nodule and/or because of the severity of the dyschesia with abdominal bloating and cyclical rectorraghia or at last because of a previous laparoscopy.

All patients underwent meticulous preoperative anamnesis and examination focusing on previous history, type and location of the pain, functional intestinal disorders including dyschesia, rectal pain, cyclical and noncyclical rectal bleeding, tenesmus, and diarrhea, and at last the classical symptoms of endometriosis such as dysmenorrhea, dyspareunia or apareunia, or infertility. During preoperative clinical examination and colposcopy, particular attention was paid to presence of a deep infiltrating endometriosis of the posterior fornix or rectovaginal space or of the uterine parametria.

All patients underwent surgical procedure from the same surgeon (MP) with the same motivation for optimal laparoscopic surgery: all procedures included a primary rectovaginal examination under anesthesia; in patients with a rectovaginal endometriosis, the procedure systematically started with vaginal dissection of the nodule followed by the laparoscopic en bloc resection of the rectovaginal endometriosis. When rectum resection was mandatory (nodule >3 cm in diameter and/or a stenosis of the intestinal lumen of at least 50%), an endoscopic resection or anastomosis was performed [3], modified since 2000 by the elective sparing of the pelvic splanchnic nerves [4]. In the absence of a rectovaginal endometriosis, the procedure was directly started by laparoscopy.

On intraoperative diagnosis of elongation of the terminal colon with kinking of the rectosigmoide (Fig. 1), as this is a well-known situation responsible for outlet constipation syndrome [5], we systematically performed in the same surgical time a laparoscopic left-sided sigmoidopexy by a primary mobilization of the left colon up to the left colonic flexure followed by a refixation of the bowel to the lateral peritoneum with separate resorbable sutures performed in such a matter that the terminal rectosigmoid runs straight on but tension free in the pelvis with preservation of the rectosigmoidal angle at the level of the psoas muscle (Fig. 2).

All preoperative collected data were compared to the laparoscopic and histological findings. At the end of the study, positive predictive values were calculated for each symptom.

Results

We closed the study in 2008 with exactly 2,000 patients.

All patients reported preoperatively on pain, dysmenorrhea, and more or less bowel function disorders, but the most common presenting symptoms were dysmenorrhea (prevalence 91.4%) and cyclical pelvic pain (prevalence

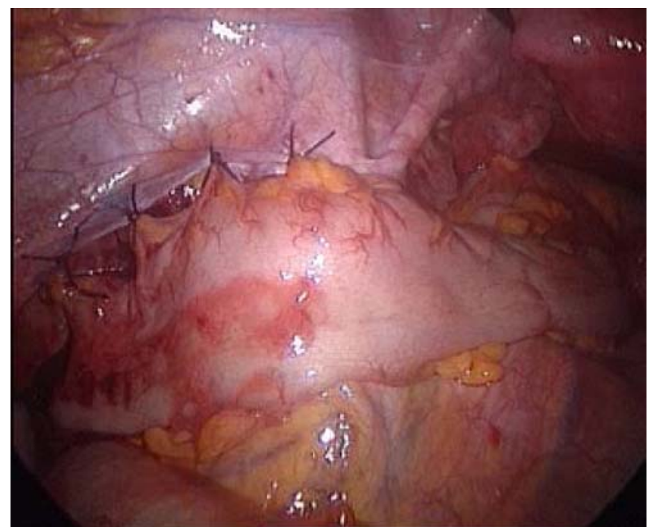

Fig. 2 Laparoscopic rectopexy-end situs

Table 1 Prevalence of the most frequent symptoms and findings in 2,000 patients send for suspicion of bowel endometriosis

Paramter (n=2,000)	Prevalence
Dysmenorrhea	91.4%
Cyclic pelvic pain	93.1%
Abdominal bloating	83%
Dyspareunia, dyschesia, cyclic rectal bleeding, tenesmus, back pain	15–50%
Elongation of the sigmoidorectum	64.45%
Endometriotic nodule of the posterior fornix	35.6%

93.1%). The overall prevalence of all further symptoms such as dyspareunia, constipation, dyschesia, cyclic rectal bleeding, tenesmus, and back pain varied between 15% and 50% with the exception of abdominal bloating (cyclical and non cyclical) with a prevalence of 83%. The prevalence of rectovaginal endometriosis was 35.6% (712/2,000; Table 1).

In most patients, classical laparoscopic procedures such as adhesiolysis, excision of peritoneal endometriosis, resection of the sacro-uterine ligaments, or surgery to the annex were required. All further advanced laparoscopic procedures performed are reported in Table 2.

The overall prevalence of the presence of elongation of the rectosigmoide with at last three kinks into the pouch of Douglas was 64.45% (1,289/2,000). One thousand, seventy-three patients underwent a laparoscopic sigmoidopexy and never combined a rectum or sigmoide resection or anastomose with a sigmoidopexy.

After correlation of the preoperatively collected data with the intraoperative findings, we focused our attention on the positive predictive value of the different symptoms predicting a rectum and/or a sigmoide infiltration requiring bowel surgery: no single symptom offered a positive predictive value exceeding 70%. However, the positive predictive value for the bowel symptoms differed completely depending on the presence or not of an infiltrative endometriosis of the rectovaginal space. Abdominal bloating and dyschesia show, respectively, a positive predictive value for intestinal infiltration of 84% and 79% when a endometriotic nodule was palped in the posterior fornix while in the absence of a rectovaginal infiltration, these values fell to 3.2% and 2.8%, respectively. A apareunia present a positive predictive value for endometriosis of the rectovaginal space and/or for uterine retroversion or retroflexio of 92%.

During the study, we observed also that in patients with a clinical rectovaginal endometriosis founded by the vaginal palpation (n=702) added to the presence of cyclical dyschesia, abdominal bloating and tenesmus with a normal bowel function during the menstrual cycle, and apparition of a constipation at the beginning of the period followed 2 to 3 days later by a diarrhea was correlated in 78.2% with a deep infiltration of the rectosigmoide required bowel surgery (n=201). The combination of these mentioned symptoms with an apareunia shows then a positive predictive value for bowel infiltration of 95%.

In patients without a endometriosis of the rectovaginal space, the combination of abdominal bloating with pelveo-abdominal pain starting in the left middle or lower abdomen, with irradiation to the back and sometimes to the left leg (irritation of the left genito-femoral nerve by dilated colon descendens), the sensation of a masse in the left middle or lower abdomen and cyclical rectal bleeding

Table 2 Advanced laparoscopic surgery procedure performed between 1997 and 2008 in 2,000 consecutive patients with preoperative suspicious of bowel endometriotic infiltration

Laparoscopic (-vaginal assisted) procedures	Parameter (n)
Deep rectum resection with ant. colorectal anastomosis	186
Sigmoide resection with reanastomosis	29
Segment rectum or sigmoide-resection or suture	45
Coecum resection with ileo-ascendostomy	13
Appendectomy	7
Bladder resection or suture	43
Ureter resection or anastomosis	3
Ureter resection or reimplantation (psoas hitch)	27
Neurolysis sacral plexus or sciatic nerve or pudendal nerve or femoral nerve	58
LION procedure to the superior hypogastric plexus	3
Diaphragmatic resection	3
Partial omentectomy	3
Segmental gastric resection	2

appeared very often correlated with a elongation of the rectosigmoide and kinking into the pouch of Douglas (positive predictive value of 97%). The constipation was, in these patients, an inconstant symptom, and its combination with the above symptoms did not improve the positive predictive value for outlet constipation syndrome. On the contrary, the absence of any rectal pathologies except for internal hemorrhoids in the preoperative colonoscopy and in turn the presence of difficulty with the further upward passage of the coloscope is up to 15 cm ab ano, then increased the positive predictive value of rectosigmoidal kinking to 100%.

Discussion

The aim of this study was not the symptoms predicitng an endometriosis of the rectovaginal space, as this diagnosis is easy to obtain by rectovaginal examination and colposcopy, but the symptoms that predict intestinal infiltration. This is absolutely essential as this determines the further management of the patient. The study shows that the classical symptoms of endometriosis are poor markers for the diagnosis of intestinal endometriosis, and the classical combination of rectal bleeding with pelvic pain and constipation is definitively not pathognomonic for an intestinal infiltration. Not only the anamnesis but also the clinical diagnosis of an infiltrative endometriosis of the rectovaginal space by the vaginal palpation and the colposcopy is essential for the further management of the patients. The study suggests that in patients with a macroscopic endometriotic nodule of the posterior fornix, the presence of an apareunia and the apparition of constipation at the beginning of the menstruation followed 2–3 days later by a diarrhea speak very strongly for a rectal infiltration with reduction of the intestinal lumen. In turn, in absence of a rectovaginal endometriosis, symptoms such as pain starting in the left lower abdomen with irradiation to the back and the left leg, abdominal bloating, the sensation of an abdominal masse in the middle or lower left abdomen and cyclical rectal bleeding (internal hemorrhoids) are all symptoms speaking strongly for an outlet constipation syndrome by elongation and kinking of the rectosigmoide. The combination of these symptoms with the finding of an elongation of the rectosigmoide and/or passage difficulties by 15 cm from the linea dentata during the colonoscopy makes this diagnosis quite certain. The study suggest that the incidence of such a outlet constipation syndrome is quite high in endometriosis patients (64.45%) and must be perceived and recognized by gynecologists as a potential and frequent cause for pelveoabdominal pain with abdominal bloating and rectorraghia. This is of importance since this painful functional disorder of the intestine can be treated successfully by a laparoscopic left-sided rectosigmoidopexy—a simple technique with low morbidity—and in situation of failure of this procedure by a sacral nerve stimulation [5] or at last by a bowel resection or anastomosis [6].

Conflict of interest None.

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