Endometriosis: Clinical manifestations and diagnosis of rectovaginal or bowel disease

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INTRODUCTION

Endometriosis is the presence of endometrial glands and stroma at extrauterine sites throughout the pelvis and beyond. Endometriosis lesions can be superficial, ovarian, or deep. Endometriosis lesions that invade into the rectovaginal space and/or bowel are forms of deep infiltrating endometriosis. The invasive nature of these implants causes significant pain, bowel dysfunction, and treatment challenges.

This topic will review the clinical manifestations and diagnosis of rectovaginal and bowel endometriosis. General principles of endometriosis, treatment options, and urinary tract endometriosis (another form of deep infiltrating endometriosis) are presented separately.

- (See "Endometriosis: Pathogenesis, epidemiology, and clinical impact".)
- (See "Endometriosis: Clinical features, evaluation, and diagnosis", section on 'Clinical features'.)
- (See "Endometriosis: Treatment of pelvic pain".)
- (See "Endometriosis: Surgical management of pelvic pain".)
- (See "Endometriosis of the bladder and ureter".)

In this topic, when discussing study results, we will use the terms "woman/en" or "patient(s)" as they are used in the studies presented. However, we encourage the reader to consider the specific counseling and treatment needs of transgender and gender diverse individuals.

DEFINITION

Rectovaginal and bowel endometriosis are forms of deep infiltrating endometriosis (DIE), which is defined as an endometriotic lesion situated more than 5 mm below the peritoneum [1,2]. Thus, DIE of the bowel invades at least to the level of the bowel muscularis [3]. Endometriotic foci located on the bowel serosa that do not meet these criteria are defined as peritoneal endometriosis and not as deep infiltrating bowel endometriosis [4,5].

Of note, most bowel lesions do not infiltrate the full thickness of the bowel wall. In a systematic review of women who underwent bowel resection for colorectal endometriosis, 95 percent of lesions invaded the serosa and muscularis propria, while 38 percent penetrated to the submucosa and only 6 percent invaded to the mucosa [6].

PATHOGENESIS

Theories for the pathogenesis of endometriosis include spread of endometrial cells from retrograde menstruation, lymphatic or hematogenous dissemination, müllerian or coelomic metaplasia, spread of endometrium-derived stem or progenitor cells, and changes in the balance of cell proliferation and/or apoptosis [7-15]. These theories are presented in detail separately. DIE is thought to be the most severe form of endometriosis [16]. (See "Endometriosis: Pathogenesis, epidemiology, and clinical impact", section on 'Pathogenesis'.)

Once endometrial cells are present in the pelvis, the rectosigmoid colon appears to act as an anatomic shelter, covering endometrial cells and preventing them from being cleared by the usual processes within the peritoneal cavity. In women with rectal disease, a nodule of the pouch of Douglas is likely the initial lesion. The nodule and surrounding fibrosis may then infiltrate the rectal or vaginal walls. The pelvic posterior cul-de-sac can be obliterated by dense adhesions, and the uterosacral ligaments can develop endometriotic nodules [17]. Lateral extension of a nodule can involve the ureter and the parametrium.

PREVALENCE

While the prevalence of endometriosis in the general population is not precisely known, surgical studies of asymptomatic women undergoing unrelated surgery have reported prevalence rates of 1 to 7 percent [18-22]. Among women with endometriosis, the reported prevalence of rectovaginal or bowel involvement ranges widely, from 5 to 25 percent, which may reflect referral patterns rather than true prevalence [23-26]. (See "Endometriosis: Pathogenesis, epidemiology, and clinical impact", section on 'Epidemiology'.)

ANATOMY OF RECTOVAGINAL SPACE

In normal female pelvic anatomy, the anterior rectum is opposed the posterior vagina; this is referred to as the rectovaginal septum (figure 1). In the majority of women, the rectovaginal septum extends to the level of the middle one-third of the vagina [27,28].

Superior to the rectovaginal septum, the vagina and rectum separate and create a peritoneum-lined space referred to as the posterior cul-de-sac, pouch of Douglas, or rectouterine pouch (figure 1). The anatomic boundaries of the posterior cul-de-sac are:

- Inferiorly, the rectovaginal septum
- Laterally, the uterosacral ligaments
- Anteriorly and superiorly, the posterior vagina, cervix, and uterus
- Posteriorly, the rectum

Distribution of disease — In case series of 100 or more women who underwent surgical treatment of endometriosis of the bowel, the distribution of both peritoneal or deep bowel lesions sites was as follows [23,24,29,30]:

- Rectum (13 to 53 percent)
- Sigmoid colon (18 to 47 to percent)
- Ileum or other small bowel (2 to 5 percent)
- Appendix (3 to 18 percent)

Many women have multiple lesions in close proximity and/or involvement of more than one bowel segment [4,6]. In addition, rectovaginal or bowel endometriosis commonly coexists with endometriosis at other sites (eg, ovary, peritoneal surface). In a study of 194 women with DIE, 54 percent also had ovarian involvement [31]. There are additional reports of lesions of the descending colon, transverse colon, or stomach [23,30,32-35]. Isolated DIE is uncommon. In one study of 93 women with DIE, only 6.5 percent of patients had disease limited to one site [36].

CLINICAL MANIFESTATIONS

Women with rectovaginal or bowel endometriosis commonly present with the classic symptoms of endometriosis (dysmenorrhea, dyspareunia, and infertility) and/or with gastrointestinal symptoms (painful defecation, dyschezia, rectal bleeding, constipation, and/or bloating) [4,37,38]. Rectovaginal disease often presents with localized symptoms (deep dyspareunia, dyschezia). In contrast, endometriosis of the bowel proximal to the rectosigmoid is more likely to be associated with nonspecific symptoms (diarrhea, bloating, abdominal pain).

In a study of 89 women with histologically confirmed intestinal endometriosis (IE), the most common presenting symptoms were:

- Abdominal pain (29 percent)
- Rectal bleeding (25 percent)
- Palpable or radiographic abdominal mass (24 percent)
- Dysmenorrhea (23 percent)

Bowel occlusion, although rare, results from endometriotic nodules that both protrude into the lumen and cause plication and angulation of the intestinal segment around the nodule itself [39]. Thus, nodules involving the rectosigmoid junction and the sigmoid colon (ie, rectosigmoid or colorectal endometriosis) can cause occlusion because the abundant mesocolon allows intestinal angulation around the nodule. By contrast, nodules of the pouch of Douglas that infiltrate the midrectum (true rectovaginal endometriosis) do not cause bowel occlusion because the rectal ampulla has a large caliber, is distensible, and is covered by only peritoneum anteriorly, which makes sharp angulation and stenotic obstruction mechanically unlikely. Consistent with this mechanism, endometriotic obstructions of the rectal ampulla have not been reported.

Rectal bleeding that consistently coincides with menstrual bleeding is highly suggestive of rectovaginal endometriosis with infiltration into the rectal wall. In the above study, rectal bleeding was more common in women with distal IE while dysfunctional uterine bleeding was more commonly seen with proximal IE. Other symptoms associated with proximal IE include diarrhea, constipation, bloating, and abdominal pain [40,41]. In rare cases, women can present with obstruction of small or large bowel [42-45], ileus [46], intussusception [47], or presumed rectal carcinoma [48].

Of note, the degree of symptoms does not predict the size of lesions or extent of disease [3]. Women with extensive DIE can be asymptomatic while women with small lesions can present with severe symptoms. Rectovaginal or bowel endometriosis can be incidentally discovered during surgery performed for other indications (eg, laparoscopy performed for infertility evaluation). (See "Endometriosis: Clinical features, evaluation, and diagnosis", section on 'Clinical features'.)

Rectovaginal pain during intercourse may be caused by direct pressure on the posterior vaginal fornix, and pain during defecation may be caused by the passing of stool that stretches the rectovaginal tissue [49-51].

DIAGNOSTIC EVALUATION

Women suspected of having rectovaginal or bowel endometriosis undergo a diagnostic evaluation that includes a history and physical examination, laboratory testing, imaging, and possibly endoscopy. The presence of rectovaginal or bowel endometriosis is suggested by a physical examination finding of a painful rectovaginal nodule or by findings on pelvic ultrasonography [52]. (See 'History and physical examination' below and 'Approach to imaging' below.)

History and physical examination — As women with DIE commonly have endometriosis lesions at multiple sites, the history and physical examination for women suspected of having rectovaginal and bowel endometriosis also assesses for endometriosis throughout the abdomen and pelvis. Aspects of the evaluation specific to rectovaginal or bowel disease are presented here. General principles of the evaluation and diagnosis of endometriosis are presented separately. (See "Endometriosis: Clinical features, evaluation, and diagnosis" and "Endometriosis: Pathogenesis, epidemiology, and clinical impact".)

- **History –** In addition to inquiring about general symptoms of endometriosis (eg, pelvic pain, dyspareunia), the clinician asks about symptoms of rectovaginal or bowel endometriosis, including painful defecation, dyschezia, constipation, rectal bleeding, and bloating. The severity and frequency of symptoms and their relationship to the menstrual cycle are assessed. We ask the patient to rate her pain using a 10 point visual analog pain scale and to chart her symptoms and menses over several months on a menstrual calendar (form 1 and figure 2). (See 'Clinical manifestations' above and "Endometriosis: Clinical features, evaluation, and diagnosis", section on 'Presenting symptoms'.)

- **Physical examination –** Abdominal examination is performed to assess for masses and map tenderness. Speculum examination allows visualization of vaginal nodules (picture 1) or a deviated cervix, which suggests scarring of the ipsilateral uterosacral ligament (figure 3) [53]. The bimanual pelvic examination includes palpation of the posterior fornix, retrocervical tissue, and parametria to assess for tender nodules, fixed uterus, scarring (eg, lack of mobility), and/or thick and fibrotic uterosacral ligaments [54]. Rectovaginal examination is performed to assess for rectovaginal nodules. If present, the depth of nodule invasion into the anterior rectal wall is assessed.

Vaginal endometriosis lesions are typically cystic-appearing and pigmented due to the presence of hemosiderin (picture 1). These can be biopsied in an office setting. Posterior vaginal wall nodules that are palpable but deep to the vaginal mucosa should not be biopsied in an office setting because they can be quite deep and may involve the rectal wall. (See "Vaginal intraepithelial neoplasia", section on 'Biopsy technique'.)

In the absence of vaginal nodules that confirm endometriosis, the presence of rectovaginal or bowel endometriosis is typically suggested by a physical examination finding of a painful

rectovaginal nodule or by findings on pelvic ultrasonography [52]. While the history and physical examination are unlikely to be diagnostic, the information guides test selection and formation of the differential diagnosis, assesses the impact of symptoms on the patient's life, and aids counseling and decisions about invasive treatment.

Laboratory testing — There are no laboratory tests specific for endometriosis. We do not routinely order a cancer antigen 125 (CA 125) level because of its low specificity. However, we assess CA 125 level in the presence of concomitant ovarian cysts or when an anatomical or clinical progression of the deep endometriotic nodule is observed during follow-up. For women with symptoms of dysuria, urinary urgency and frequency, or bladder pain, we perform a urinalysis to assess for infection or hematuria. Urine culture is done if infection is suspected. (See "Endometriosis: Clinical features, evaluation, and diagnosis", section on 'Laboratory'.)

Approach to imaging — Ultrasound is the preferred imaging modality for women suspected of having rectovaginal endometriosis. We typically request transvaginal sonography and then proceed with rectal endoscopic or urinary sonography if rectal or urinary tract disease is suspected based on the initial transvaginal ultrasound or by patient symptoms. Additional imaging techniques such as magnetic resonance imaging (MRI) or computed tomography (CT) can be useful for women suspected of having bowel disease proximal to the rectosigmoid colon. Although not diagnostic, imaging can identify findings highly suggestive of endometriosis and map the location and extent of disease, which is extremely important for surgical planning. However, imaging of proximal bowel is less likely to be conclusive, and disease at this level may only be visualized at the time of laparoscopy. Additionally, imaging can identify other abnormalities that may be contributing to the presenting symptoms (eg, ovarian cyst).

Routine sonography — For women suspected of having rectovaginal endometriosis, transvaginal ultrasound followed by rectal endoscopic and/or urinary tract ultrasound is our preferred imaging sequence [55]. Goals of ultrasound imaging include evaluation of areas of the deep pelvis that are not visualized during laparoscopy, identification of lesions suggestive of endometriosis, and assessment of lesion depth of invasion to aid in surgical planning [31,56-58]. During the examination, the clinician uses the sonography probe to assess the mobility and tenderness of anatomic structures in addition to looking for endometriosis lesions. (See 'Advanced imaging' below.)

While preparation for rectal endoscopic ultrasound varies by practice, we ask women to fast after midnight, avoid liquids for six hours, and perform two sodium phosphate enemas, all prior to the procedure. In a review of nine studies of transvaginal ultrasound for DIE, studies performed after bowel preparation or rectal contrast were more accurate compared with

conventional studies [59]. In regions where rectal endoscopic ultrasound is not routinely performed, MRI may be preferred.

Transvaginal — Transvaginal sonography is the first-line imaging study when rectovaginal endometriosis is suspected [4,52,55]. We request that the rectosigmoid colon, rectovaginal septum, rectocervical region, and uterosacral ligaments be assessed in addition to the routine pelvic imaging protocol [60]. A consensus opinion from the International Deep Endometriosis Analysis (IDEA) group suggests four components for the sonographic evaluation of women with suspected DIE [54]. These include routine evaluation of the uterus and adnexa, evaluation of transvaginal soft markers (ie, site-specific tenderness and ovarian mobility), assessment of the posterior cul-de-sac using the sliding-sign, and assessment for DIE nodules in the anterior and posterior pelvic compartments.

In a meta-analysis of 32 studies, transvaginal sonography had a specificity of greater than 85 percent for DIE at all sites [61]. Two different meta-analyses reported the sensitivity and specificity for transvaginal ultrasound detection of DIE for the following structures [62,63]:

- **Rectosigmoid colon** – Overall pooled sensitivity of 91 percent (95% CI 85-94 percent) and specificity of 97 percent (95% CI 95-98 percent).
- **Uterosacral ligament** – Overall pooled sensitivity of 53 percent (95% CI 35-70 percent) and specificity of 93 percent (95% CI 83-97 percent).
- **Rectovaginal septum** – Overall pooled sensitivity of 49 percent (95% CI 36-62 percent) and specificity of 98 percent (95% CI 95-99 percent).
- **Vagina** – Overall pooled sensitivity of 58 percent (95% CI 40-74 percent) and specificity of 96 percent (95% CI 87-99 percent).
- **Bladder** – Overall pooled sensitivity of 62 percent (95% CI 40-80 percent) and specificity of 100 percent (95% CI 97-100 percent).

Of note, all participants in the above studies were suspected to have endometriosis by history, and all studies used surgical exploration as the reference standard.

Limitations of transvaginal ultrasound for the diagnosis of rectovaginal or bowel endometriosis include [4]:

- Imaging field extends only to the rectosigmoid junction.
- Cannot assess the depth of infiltration into the vaginal or rectal walls.
- Cannot determine the distance from the nodule to the anal junction; this information is important to determine the extent of surgical resection.

Rectal endoscopic — If a rectovaginal lesion is identified on transvaginal ultrasonography, rectal endoscopic ultrasonography (REU) is performed to determine the lesion's depth of infiltration and the distance from the anal junction [4]. This information helps the surgeon determine the need for, and the extent of, rectal surgery. REU is not typically used as a first-line study because it is more uncomfortable than transvaginal ultrasound and requires sedation in some patients [64-66].

While REU provides more details regarding lesion location and invasion, the ability of REU to identify lesions suggestive of endometriosis appears to be similar to transvaginal sonography [64-66]. As an example, in the largest prospective study (n = 134), rectal endoscopic compared with transvaginal ultrasound had a similar sensitivity (96 and 91 percent) and specificity (100 and 97 percent) for the diagnosis of rectal wall endometriosis. Surgical exploration was used as the reference standard [66]. Similar to transvaginal sonography, the imaging field of rectal endoscopic ultrasonography extends only to the rectosigmoid junction.

Urinary tract — Women with suspected bowel endometriosis often have DIE at multiple locations. Thus, we perform bladder ultrasound examinations to evaluate for bladder nodules. In addition, we routinely perform a renal ultrasound examination in order to rule out a possible asymptomatic hydroureter or hydronephrosis caused by a deep nodule of the Douglas pouch or the parametrium. (See "Endometriosis of the bladder and ureter".)

Advanced imaging — In our practice, we reserve MRI for women in whom rectovaginal septum disease is suspected but not detected on physical examination or transvaginal ultrasound [67]. Imaging is not typically necessary for evaluation of the rectovaginal septum because this tissue can be palpated during the bimanual examination, which we find more useful. The sensitivity and specificity of MRI for the detection of rectovaginal endometriosis is similar to that for transvaginal and rectal endoscopic ultrasound [64,68-70]. In addition, MRI and rectal endoscopic ultrasound have a similar sensitivity for detection of infiltration of endometriosis into the rectal muscularis [69]. The utility of MRI for diagnosis of bowel endometriosis proximal to the rectosigmoid colon has not been well studied. Such lesions are most commonly diagnosed at the time of laparoscopy.

Although CT with rectal enteroclysis has been reported for the evaluation of rectal endometriosis [71], we do not use CT to evaluate the rectosigmoid colon because CT has not been demonstrated to be superior to ultrasound and it exposes the patient to ionizing radiation. The use of CT to evaluate lesions proximal to the rectosigmoid colon has not been reported.

Double contrast barium enema is useful in women with symptoms suggestive of partial bowel obstruction. While this study can identify lesions that protrude into the bowel lumen, the results are not specific to endometriosis [4].

Bowel endoscopy — Sigmoidoscopy or colonoscopy is rarely useful to diagnose bowel endometriosis as lesions that penetrate the mucosa are unusual [4,72,73]. It is, however, important to perform bowel endoscopy prior to surgery in the following clinical contexts:

- To exclude a malignancy if there are symptoms suggestive of a bowel neoplasm.
- To assess for bowel stenosis in women with symptoms suggestive of partial bowel obstruction or who have abnormal findings at double contrast barium enema.

DIAGNOSIS

Endometriosis is definitively diagnosed by histologic evaluation of a biopsied lesion (typically obtained by laparoscopy) (picture 2 and picture 3 and picture 4 and movie 1) [74,75]. While visual confirmation of endometriosis without biopsy is considered diagnostic by some experts [52], visual confirmation alone is of limited value because the accuracy is impacted by the surgeon's expertise [52,76,77].

DIFFERENTIAL DIAGNOSIS

The gastrointestinal symptoms associated with rectovaginal or bowel endometriosis are mostly nonspecific. Since intestinal endometriosis is a fairly uncommon condition, other etiologies should be considered first. In general, rectovaginal or bowel endometriosis is suspected in women with gastrointestinal symptoms **only** if at least one of the classic endometriosis symptoms (dysmenorrhea, dyspareunia, infertility) is also present. As diagnosis and treatment of rectovaginal or bowel endometriosis typically involves surgery (potentially with extensive pelvic dissection or bowel resection), it is imperative to exclude other etiologies of the presenting symptoms prior to treatment. Even in women with classic endometriosis symptoms, other etiologies of gastrointestinal symptoms should be excluded.

- **Generalized endometriosis** – Women with pelvic pain symptoms (dysmenorrhea, dyspareunia, nonmenstrual pelvic pain) should be evaluated for superficial pelvic endometriosis and endometriomas because these symptoms may be due to endometriosis at any site, not just rectovaginal or bowel disease. A combination of pelvic pain and infertility increases the likelihood of these diagnoses. While imaging findings on ultrasound can suggest pelvic endometriosis, definitive diagnosis is made by histologic evaluation of tissue obtained by surgical biopsy, typically with laparoscopy. (See "Endometriosis: Clinical features, evaluation, and diagnosis".)
- **Pelvic pain** – Other etiologies of pelvic pain should be excluded. As an example, transvaginal ultrasound can assess for findings suggestive of adenomyosis and ovarian

cysts. (See "Chronic pelvic pain in nonpregnant adult females: Causes" and "Chronic pelvic pain in adult females: Evaluation".)

- **Bowel disease** – Diarrhea, constipation, abdominal pain, rectal pain, rectal bleeding, and/or bloating may be associated with a variety of gastrointestinal conditions (eg, inflammatory bowel disease, irritable bowel syndrome, diverticulitis, hemorrhoids) [41]. We refer women who have predominantly bowel symptoms for consultation with a gastroenterologist to exclude intestinal disease.

  - (See "Approach to the adult with chronic diarrhea in resource-abundant settings".)
  - (See "Etiology and evaluation of chronic constipation in adults".)
  - (See "Causes of abdominal pain in adults".)
  - (See "Anal fissure: Clinical manifestations, diagnosis, prevention".)
  - (See "Perianal and perirectal abscess".)
  - (See "Hemorrhoids: Clinical manifestations and diagnosis".)
  - (See "Etiology of lower gastrointestinal bleeding in adults".)
  - (See "Overview of intestinal gas and bloating".)

- **Malignancy** – Patients who present with rectal mass or bowel obstruction require evaluation for neoplastic or adhesive disease. (See "Management of small bowel obstruction in adults" and "Large bowel obstruction".)

ASSOCIATED CONDITIONS

Infertility — Endometriosis is commonly associated with infertility, but the impact of bowel lesions on fertility is not clear. It has been hypothesized that the dense posterior cul-de-sac adhesions that are often associated with rectovaginal disease may occlude the endometriotic lesions and limit detrimental effects on the remainder of the pelvis, but supporting data are lacking [49,50,78]. Advanced endometriosis (stage III or IV disease) (figure 4) at other locations is associated with distorted pelvic anatomy and adhesions which appear to impair fertilization and embryo transport [79]. (See "Endometriosis: Treatment of infertility in females", section on 'Pathogenesis of infertility from endometriosis'.)

Malignancy — In a study of 83 women undergoing surgical resection of intestinal endometriosis, 8 percent (7 of 83) had a concurrent malignancy. Four of the tumors were identified in endometriosis lesions (one clear cell carcinoma, one endometrial stromal sarcoma, and two endometrioid adenocarcinomas) [73]. Three other tumors arose from the ovary (one granulosa cell tumor, one mucinous carcinoma, and one adenocarcinoma). Of note, the majority of these women (71 percent) had an abdominal mass identified on physical examination or imaging, and thus malignancy was strongly suspected

preoperatively. Additional surveillance for malignancy is not recommended for women with bowel endometriosis at this time.

Adenomyosis — Adenomyosis may be present in about 20 percent of people with endometriosis [80] and a higher prevalence of a specific form of adenomyosis (focal adenomyosis of the outer myometrium) has been associated with deep infiltrative endometriosis (DIE) [81]. The possibility that adenomyosis and endometriosis are different expressions of the same underlying disease has been raised [82]. The coexistence of adenomyosis with endometriosis is clinically relevant, since it may negatively impact fertility [83] and obstetrical outcome [84].

TREATMENT

The management of rectovaginal and bowel endometriosis is presented in detail separately. (See "Endometriosis: Treatment of rectovaginal and bowel disease".)

SOCIETY GUIDELINE LINKS

Links to society and government-sponsored guidelines from selected countries and regions around the world are provided separately. (See "Society guideline links: Endometriosis".)

SUMMARY AND RECOMMENDATIONS

- **Disease description** – and bowel endometriosis are forms of deep infiltrating endometriosis (DIE), which is defined as an endometriotic lesion situated more than 5 mm below the peritoneum. DIE of the bowel invades at least to the level of the bowel muscularis; lesions limited to the peritoneum are considered superficial lesions and not DIE. (See 'Definition' above.)

- **Theories of disease development** – Theories for the pathogenesis of endometriosis include spread of endometrial cells from retrograde menstruation, lymphatic or hematogenous dissemination, müllerian or coelomic metaplasia, spread of endometrium- derived stem or progenitor cells, and changes in the balance of cell proliferation and/or apoptosis. Once endometrial cells are present in the pelvis, the rectosigmoid colon appears to act as an anatomic shelter, covering endometrial cells and preventing them from being cleared by the usual processes within the peritoneal cavity. DIE is thought to be the most severe form of endometriosis. (See 'Pathogenesis' above.)

- **Epidemiology of deep endometriosis –** While the prevalence of endometriosis in the general population is not precisely known, surgical studies of asymptomatic women undergoing unrelated surgery have reported prevalence rates of 1 to 7 percent. Among women with endometriosis, the reported prevalence of rectovaginal or bowel involvement ranges widely, from 5 to 25 percent, which may reflect referral patterns rather than true prevalence. (See 'Prevalence' above.)

- **Clinical presentation –** Patients with rectovaginal or bowel endometriosis may present with the classic symptoms of endometriosis (dysmenorrhea, dyspareunia, and infertility) and/or with gastrointestinal symptoms (eg, dyschezia, diarrhea, constipation, bloating). Rectal bleeding is an uncommon presentation, but if bleeding is present and consistently coincides with menstrual bleeding, it is highly suggestive of rectovaginal endometriosis with infiltration into the rectal wall. In rare cases, bowel obstruction occurs. (See 'Clinical manifestations' above.)

- **Evaluation and findings –** Patients suspected of having rectovaginal or bowel endometriosis undergo a diagnostic evaluation that includes a history and physical examination, laboratory testing, imaging, and possibly endoscopy. (See 'Diagnostic evaluation' above.)

    - **Physical examination –** The presence of rectovaginal or bowel endometriosis is suggested by a physical examination finding of a painful nodule, fixed uterus, or scarring, or by findings on pelvic sonography.

    - **Limited laboratory evaluation–** There are no laboratory tests specific for endometriosis. For women with symptoms of dysuria, urinary urgency and frequency, or bladder pain, we perform a urinalysis to assess for infection or hematuria. Urine culture is done if infection is suspected.

    - **Imaging studies –** Ultrasound is the preferred imaging modality for women suspected of having rectovaginal endometriosis. We typically request transvaginal sonography and then proceed with rectal endoscopic ultrasound if rectal disease is suspected. Women with symptoms suggestive of urinary tract disease also undergo sonographic evaluation of the urinary tract. In our practice, we reserve magnetic resonance imaging (MRI) for women in whom rectovaginal septum disease is suspected but not detected on physical examination or transvaginal ultrasound. We do not use computed tomography (CT) to evaluate the rectosigmoid colon because CT has not been demonstrated to be superior to ultrasound and it exposes the patient to ionizing radiation. (See 'Routine sonography' above.)

    - **Additional diagnostic procedures –** Sigmoidoscopy or colonoscopy is rarely useful to diagnose bowel endometriosis as lesions that penetrate the mucosa are unusual.

However, patients with symptoms or findings suggestive of bowel malignancy, obstruction, or an abnormal double-contrast enema study should undergo endoscopy as part of their evaluation. (See 'Bowel endoscopy' above.)

- **Diagnosis –** Endometriosis is definitively diagnosed by histologic evaluation of a biopsied lesion (typically obtained by laparoscopy) (picture 2 and picture 3 and picture 4 and movie 1). While visual confirmation of endometriosis without biopsy is considered diagnostic by some experts, visual confirmation alone is of limited value because the accuracy is impacted by the surgeon's expertise. (See 'Diagnosis' above.)

- **Differential diagnosis –** The gastrointestinal symptoms associated with rectovaginal or bowel endometriosis are mostly nonspecific. Since intestinal endometriosis is a fairly uncommon condition, other etiologies should be considered first. In general, rectovaginal or bowel endometriosis is suspected in women with gastrointestinal symptoms **only** if at least one of the classic endometriosis symptoms (dysmenorrhea, dyspareunia, infertility) is also present. As diagnosis and treatment of rectovaginal or bowel endometriosis typically involves surgery (potentially with extensive pelvic dissection or bowel resection), it is imperative to exclude other etiologies of the presenting symptoms prior to treatment. Even in women with classic endometriosis symptoms, other etiologies of gastrointestinal symptoms should be excluded.

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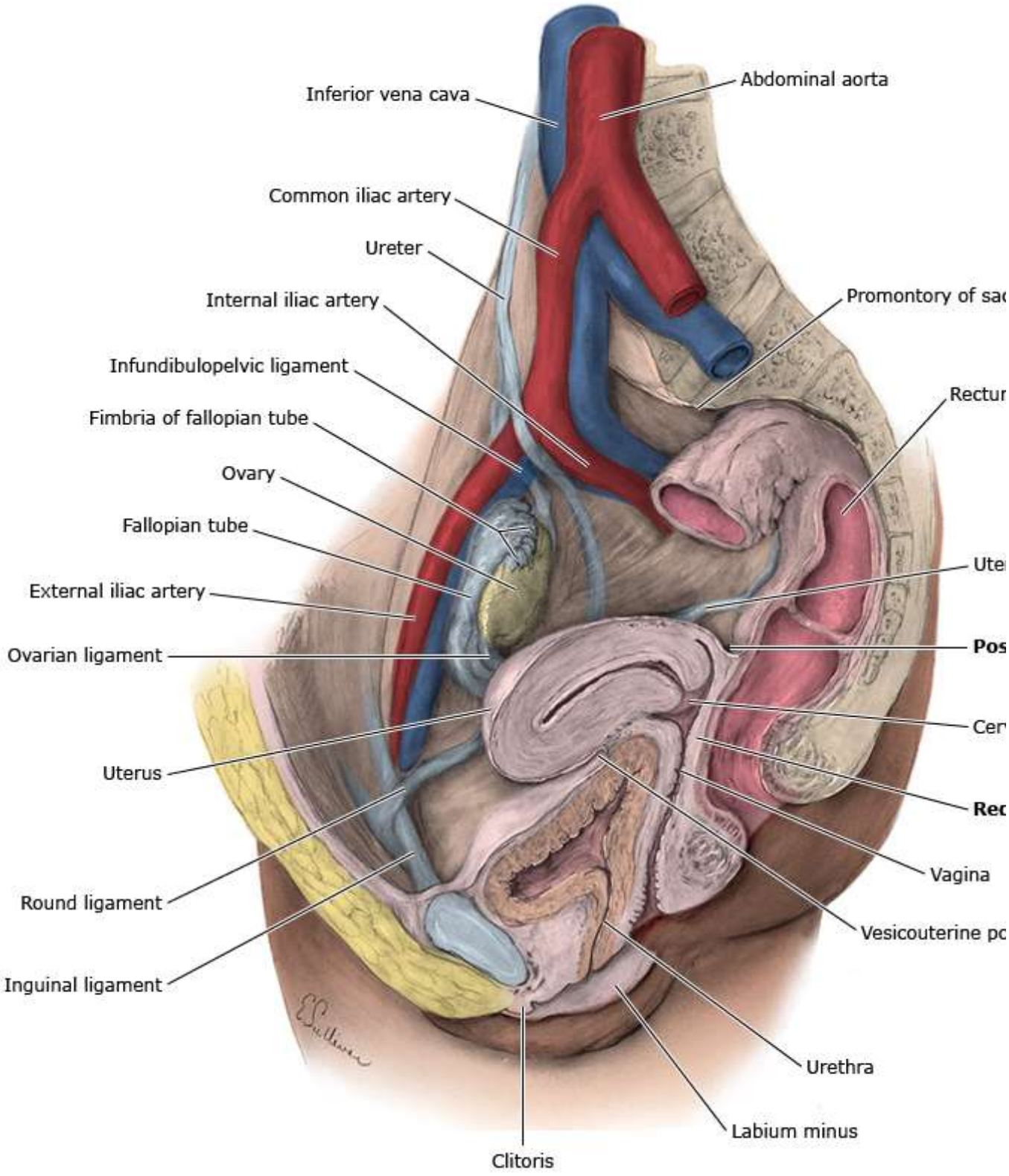
Topic 14189 Version 29.0

GRAPHICS

Sagittal view of female pelvis and rectovaginal septum



Sagittal view of female pelvis with posterior cul-de-sac and rectovaginal septum in bold text.

Graphic 110343 Version 8.0

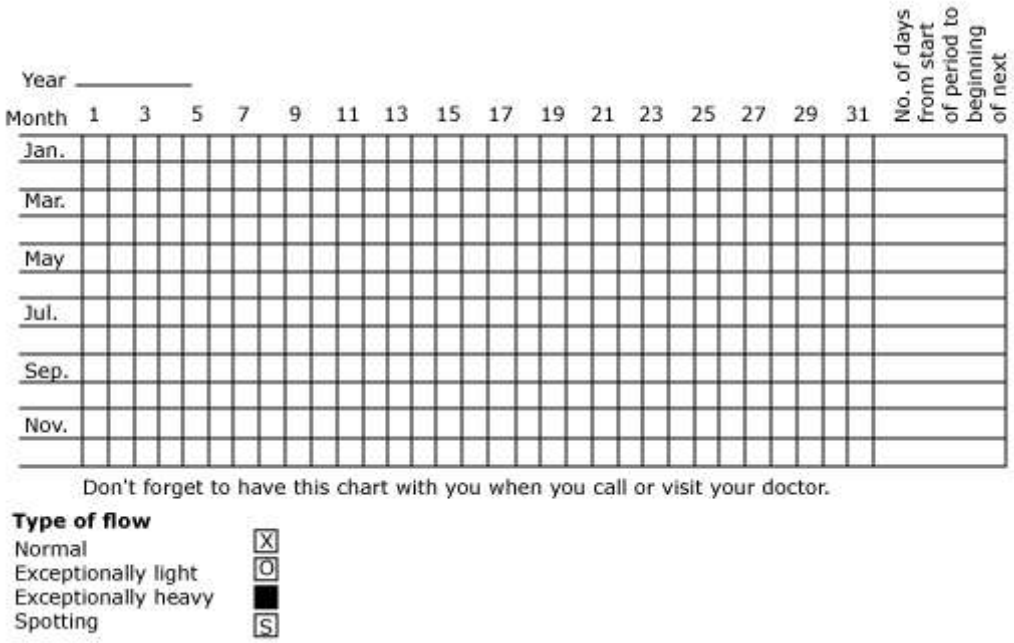
Visual analog scale (VAS) for pain

For assessment of pain using the VAS, the patient makes a mark on a 10 cm line that corresponds to the intensity of pain. The distance from the "no pain" end of the line to the mark is measured and recorded as the score.

VAS: Visual analog scale.

Graphic 82442 Version 8.0

Menstrual record chart



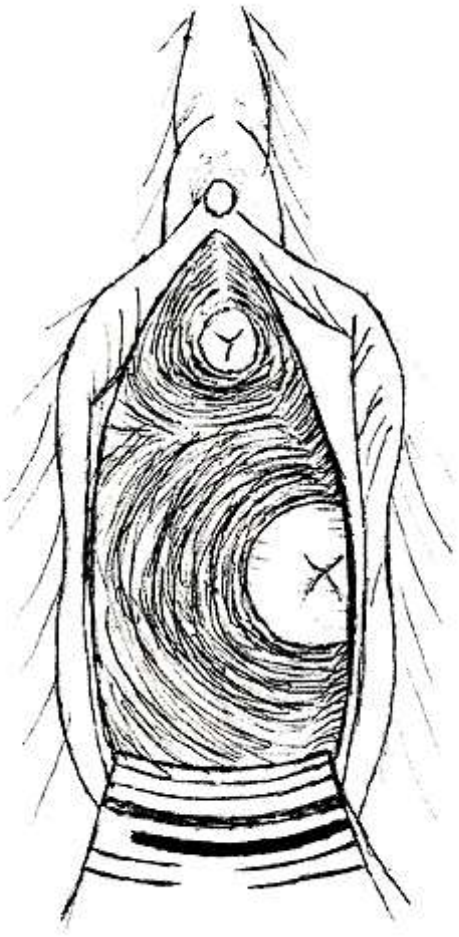
Graphic 76376 Version 1.0

Endometriotic lesion of the posterior vaginal fornix

These endometriotic lesions (dark lesions) infiltrate the vaginal mucosa and are visible on speculum examination of the posterior vaginal fornix.

Graphic 80415 Version 1.0

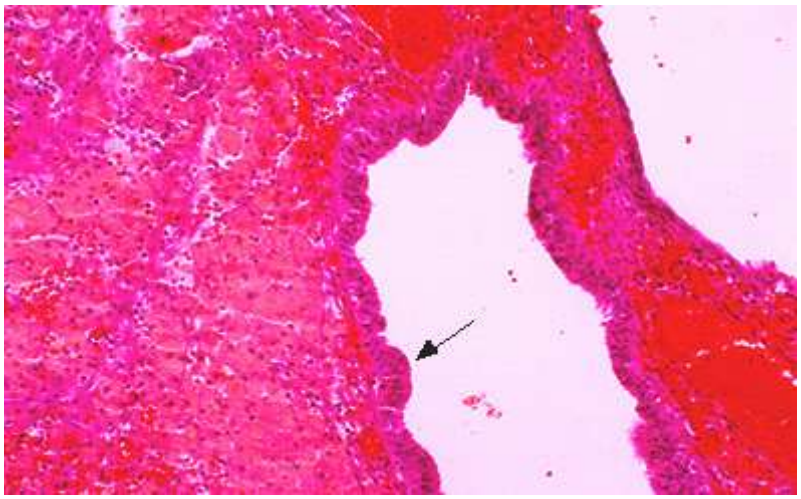
Endometriosis can be associated with lateral displacement of the cervix



Lateral displacement of the cervix, which can be documented by visual examination of the cervix on speculum examination or by digital examination, is probably caused by the asymmetric involvement of one uterosacral ligament by endometriosis, causing one ligament to shorten and pull the cervix to that side of the body.

Graphic 59765 Version 5.0

Peritoneal endometriosis

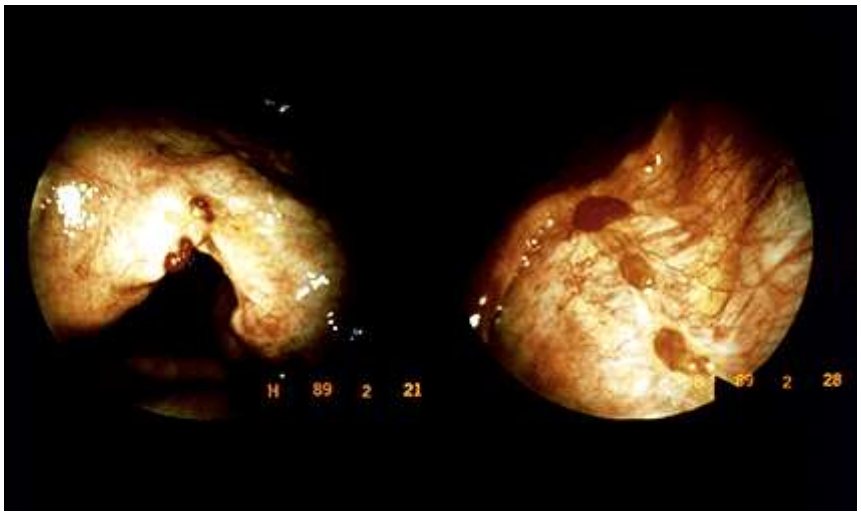


Light micrograph of peritoneal endometriotic implant shows endometrial glandular epithelium (arrow) and surrounding stroma.

Courtesy of Robert Schenken, MD.

Graphic 71136 Version 2.0

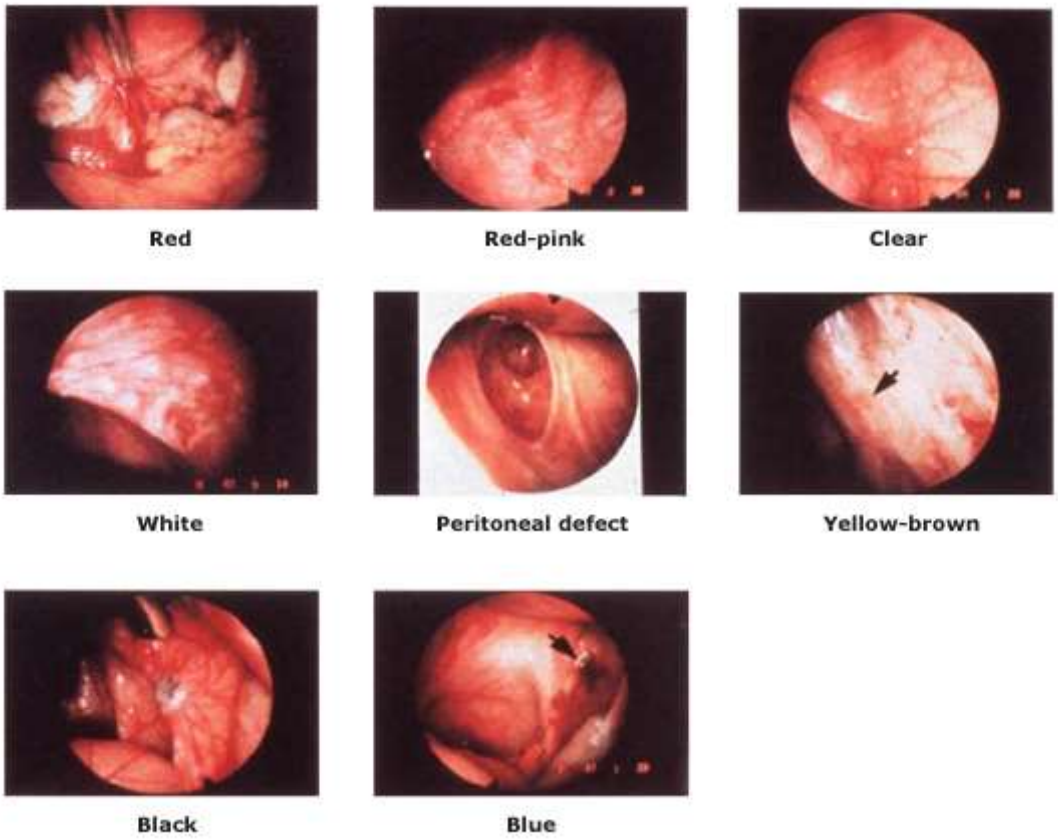
Peritoneal endometriosis



The peritoneum in this woman with endometriosis is studded with reddish, irregularly shaped implants.

Graphic 61500 Version 1.0

The top, middle, and bottom series are representative of red, white, and black implants, respectively



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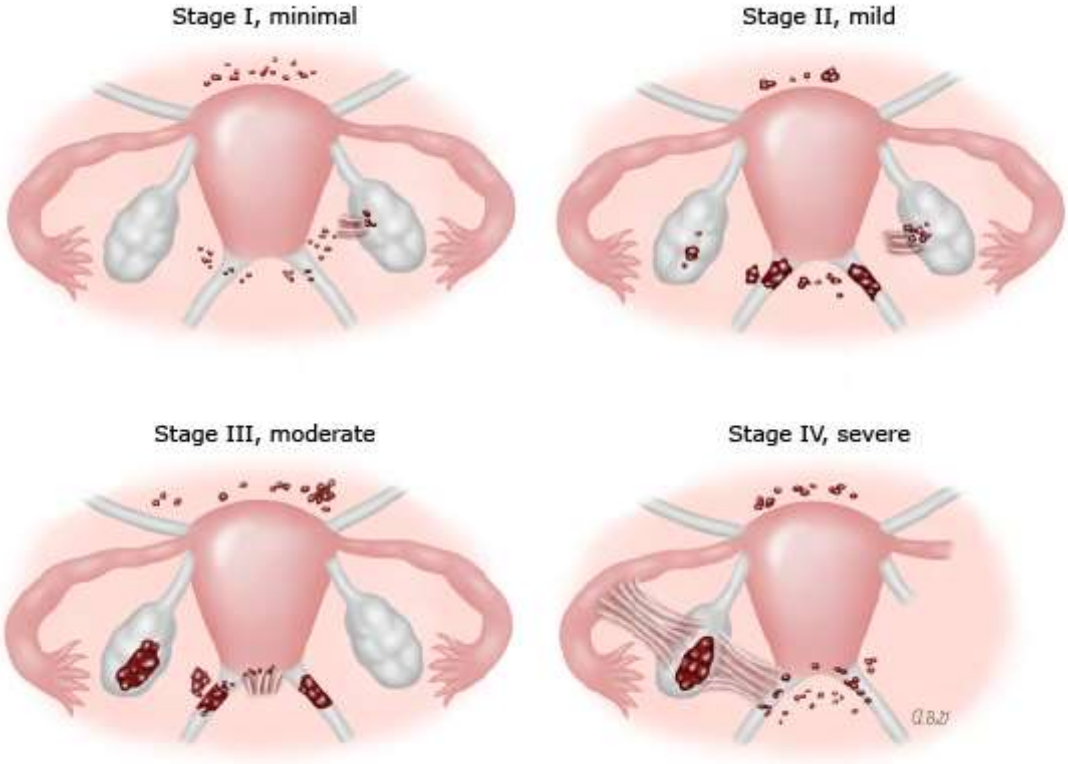
Graphic 65789 Version 1.0

Examples of the anatomic distribution of disease in the revised classification of endometriosis



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