

# Endometriosis As A Cause Of Colonic Obstruction

George P. Valko, MD, and Richard C. Wender, MD

The signs and symptoms of endometriosis are well known and usually are consistent with a pelvic process. Less well known is that endometriosis can occur at other locations and can result in signs and symptoms of a general surgical condition.

## Case Report

A 41-year-old woman with a family history of colon cancer in her father complained to her family physician of a 4-month history of crampy lower abdominal pain and a change of bowel habits from regularity to intermittent constipation and loose stools. There was no particular pattern to the bowel movements, and she could not recall what would aggravate the pain, but having a bowel movement provided temporary relief. The stool had not changed in color or odor and did not appear bloody or tarry. She had no fever, chills, night sweats, anorexia, weight loss, nausea, or vomiting. Her menstrual periods were irregular and were accompanied by cramps and heavy flow.

She did have a recent travel history to an area once endemic to *Giardia lamblia*; however, no one else in her travel party had any symptoms. She did not eat any new or unusual foods. She had a medical history notable for a Clark level I melanoma, fibrocystic breast disease, a benign thyroid adenoma, hypothyroidism, and dysfunctional uterine bleeding. A recent work-up for her dysfunctional uterine bleeding included a Papanicolaou smear and endometrial biopsy, the results of which were normal. Leiomyomas, suspected on pelvic examination, were confirmed by sonography, and magnetic resonance imaging obtained in response to a mildly elevated CA 125 revealed normal ovaries. Findings on a hysterosalpingogram to assess infertility were also normal. Past surgery included excisional biopsies of the melanoma and breast

cyst and a partial thyroidectomy. Her only medication was an appropriate dose of levothyroxine. She had no children but desired to have a child.

On physical examination the patient was well developed and well nourished and appeared to be her stated age. She had no weight loss by past charted measurements. Her blood pressure, temperature, pulse and respiratory rates, and cardiopulmonary and neuromusculoskeletal examinations were unremarkable. Her abdomen was soft, nontender, nondistended, and without hepatosplenomegaly. No masses were palpated. The pelvic examination was remarkable for an 8 to 10-week-sized uterus. Her rectal examination was also without masses and was negative for occult blood in the stool.

Initial laboratory studies showed a normal blood count and differential. The stool was negative for bacterial pathogens, frank blood, and white cells but had a moderate to heavy burden of *Blastocystis hominis*. After taking an appropriate dose of metronidazole, the cramps ended and her bowel movements became regular until 1 month later, when all the symptoms returned.

A barium enema was obtained, which showed a polypoid lesion partially obstructing the sigmoid colon. On colonoscopy, a villous tumor was seen at the 30-cm level. This obstructing lesion prevented further advancement of the colonoscope. A small area of firmness in the lesion was suspected to be carcinoma, but the frozen section was interpreted as a tubular adenoma.

Because of the appearance and obstructing nature of the lesion, the patient underwent a low anterior resection of the involved bowel. The surgical report noted a palpable 5-cm intraluminal lesion of the sigmoid colon. The remainder of the colon, as well as the liver and ovaries, appeared normal.

An endometrioma with endometrial stroma and glands seen through the entire thickness of the colonic wall, as well as the subserosal adipose tissue, was found on pathological examination. Twenty-nine hyperplastic lymph nodes were removed but no other seedings were noted in the mesentery.

Submitted, revised, 21 July 1995.

From the Department of Family Medicine, Jefferson Medical College and Thomas Jefferson University Hospital, Philadelphia. Address reprint requests to George P. Valko, MD, Department of Family Medicine, Jefferson Medical College of Thomas Jefferson University, Suite 401, 1015 Walnut St., Philadelphia, PA 19107.

The patient had no adjuvant therapy and has done well for the 2 years since the surgery. Her follow-up care includes periodic colonoscopy, gynecologic examinations, and pelvic sonography.

## Literature Review

### *Pathogenesis*

Endometriosis is the proliferation of functional endometrial tissue at extrauterine sites, usually on the surface of the uterus and adnexa. Less commonly, implants can involve intestines, bladder, lungs, bones, and suture sites. Several theories exist as to its cause.<sup>1,2</sup> One theory is that the lesions represent metaplasia of abdominal and pelvic epithelial cells, which share a common embryologic origin with cells of the reproductive tract and are induced to differentiate into endometrial cells. Also postulated is hematogenous and lymphatic spread of endometrial cells; this theory is supported by the discovery of endometriosis in the pelvic lymph nodes of 30 percent of women with the disease. Other theories include iatrogenic dissemination in the abdominal walls of women who have had Cesarean sections or episiotomy scars and immune dysfunction involving both cell-mediated and humoral abnormalities. The most widely held view, however, is that endometrial cells flow backward through the fallopian tubes into the peritoneal cavity during menstruation, subsequently seeding various surfaces. It has been noted that women who have obstruction to normal flow or who have periods that last longer than usual have a higher incidence of endometriosis.

Intestinal wall endometriosis usually starts as a pinpoint red-brown lesion that then is surrounded by inflammation and fibrosis caused by cyclic proliferation, sloughing, and bleeding.<sup>3,4</sup> In some cases either a single, discrete endometrioma or the more diffuse and extensive endometriosis will expand into muscle layers with a more pronounced fibrotic reaction that can cause it to surround the bowel completely or grow into the lumen, leading to obstruction or complete occlusion.<sup>3</sup> Usually localized to the rectum and sigmoid colon, endometriosis can develop in the ileocecal region, the appendix, the small intestine, or in the Meckel diverticulum.

### *Incidence*

The incidence of endometriosis has been increasing during the last 25 years but the growing num-

ber of cases could be related to the discovery of mild to moderate asymptomatic lesions during laparoscopy or laparotomy done for other reasons, such as the examination for infertility.<sup>1</sup> That women are delaying childbirth into their late 30s and early 40s has also been cited as an explanation for the rising incidence.

Estimates of endometriosis found by incidental laparoscopy in reproductive age women range from 5 to 15 percent.<sup>1</sup> In infertile women the estimates reach 30 to 45 percent. Of those who have extragenital endometriosis, the intestines are the most common site and are involved in 3 to 38 percent of all cases found at laparotomy.<sup>3,4</sup> The rectosigmoid is most frequently involved, accounting for 25 to 95 percent of all intestinal cases, presumably as a result of its close proximity to the pelvic organs. Involvement of the proximal colon is rare, and the small intestine accounts for only 5 to 8 percent of intestinal cases.<sup>4</sup> In symptomatic postmenopausal women, intestinal involvement occurs in 30 to 40 percent of all cases of endometriosis.<sup>3</sup>

### *Clinical Features*

Although endometriosis can be asymptomatic and discovered incidentally, the classic manifestations are cyclic pelvic pain, dysmenorrhea, dyspareunia, abnormal bleeding, and infertility.<sup>1</sup>

The symptoms and signs of intestinal endometriosis derive from sites of implantation. The most common complaint is that of crampy abdominal pain, but diarrhea, constipation, tenesmus, small-caliber stools, and abdominal distention are also reported.<sup>3,5,6</sup> Rectal bleeding is found only rarely but can occur if the mucosa is involved.<sup>6</sup> Partial or total obstruction, of course, is indistinguishable from obstruction from any cause.

All symptoms can be cyclic and more pronounced at the time of menstruation, but this cyclical presentation occurs only about one-half the time according to some authors<sup>3,6</sup>; others report that there is no periodicity associated with symptoms.<sup>5</sup> Although most patients with intestinal endometriosis report some gynecological symptoms, endometriosis is frequently overlooked in the differential diagnosis of recurrent lower abdominal pain.

Preoperative diagnosis is rare despite a multitude of studies.<sup>3,7</sup> For example, findings on a

barium enema might be normal, or it might show a polypoid mass, an annular lesion, long areas of stricturing, or intramural lesions, but one cannot reliably distinguish benign from malignant lesions. These lesions can be visualized through a colonoscope, but because endometriosis is mainly serosal, the biopsy might not go deep enough through the fibrosis to get an adequate sample and therefore would be nondiagnostic in many cases; laparoscopy is much more helpful. If endometriosis involves the mucosa and especially if the lesion is bleeding, an endoscopic biopsy is much more likely to give the diagnosis.<sup>8</sup> These procedures need to be performed, however, not only for diagnostic purposes, but to plan for surgery.

The goal of treatment for pelvic endometriosis is to induce amenorrhea to avoid stimulating the endometrium. Danazol, gonadotropin-releasing hormones, oral contraceptive pills, and prostaglandin inhibitors have all been used for a 6- to 9-month period. Definitive treatment for endometriosis includes a total abdominal hysterectomy, bilateral salpingectomy, and removal of all visible endometriosis. The decision to pursue this course depends on the patient's age, desire for fertility, and extent of symptoms.<sup>1,5</sup> For intestinal endometriosis, however, surgery is the mainstay of treatment because the usually extensive fibrosis does not respond well to hormonal manipulation.<sup>1,7</sup> Also, it must be recognized that occult carcinoma can be present within the endometrio-

sis and will be found only by careful histologic examination.<sup>6</sup>

### Conclusion

For women of childbearing age who experience recurrent lower abdominal pain, especially with a change of bowel habits, intestinal endometriosis must be on the list of differential diagnosis. Common procedures, such as barium enema and colonoscopy, might not be adequate to diagnose endometriosis, and laparoscopy might be needed. If the intestines are obstructed, surgery might be the only option for treatment.

### References

1. Damewood MD. Pathophysiology and management of endometriosis. *J Fam Pract* 1993; 37:68-75.
2. Rock JA, Markham SM. Pathogenesis of endometriosis. *Lancet* 1992; 340:1264-7.
3. Bergqvist A. Extragenital endometriosis. A review. *Eur J Surg* 1992; 158:7-12.
4. Sievert W, Sellin JH, Stringer CA. Pelvic endometriosis simulating colonic malignant neoplasm. *Arch Intern Med* 1989; 149:935-8.
5. Rambo WM, Johnson BL. Endometriosis mimics general surgical disease. *Am Surg* 1991; 57:679-81.
6. Collin GR, Russell JC. Endometriosis of the colon. Its diagnosis and management. *Am Surg* 1990; 56:275-9.
7. Keane TE, Peel AL. Endometrioma. An intra-abdominal troublemaker. *Dis Colon Rectum* 1990; 33:963-5.
8. Shaw RJ. Treatment of endometriosis. *Lancet* 1992; 340:1267-70.