

# ENDOMETRIOSIS

Endometriosis is a disease almost exclusively of reproductive-age women. It is a benign condition that affects 5 to 15 % of all reproductive-age women. It is classically been described as extrauterine growth of endometrial glands and stroma. One-third of all women with findings of endometriosis by laparoscopy are asymptomatic. This may be a normal physiologic finding. Although it is not a cancer, symptomatic endometriosis has some characteristics of a cancer: it grows progressively while under the influence of normal ovarian function; it frequently recurs despite treatment; and it appears in sites distant from its origin.

The age of onset is usually the late 20's but endometriosis may present in any reproductive-age woman. It most frequently occurs in the pelvis and on its peritoneal surfaces. It may rarely involve the lung, brain, and prior surgical scars. Regions in the pelvis that are commonly affected include the ovaries, and the serosal surfaces of the uterus, bladder, bowel, and rectosigmoid. Endometriosis can invade the stroma of the ovary and result in cyst, called an endometrioma.

## **SYMPTOMS:**

Dysmenorrhea

Chronic pelvic pain

Dyspareunia

Infertility

Pain from endometriosis occurs in the latter half of the cycle, usually a few days prior to the onset of the next period. Over time, the pain may become noncyclic, but is often worse in the premenstrual period. Spotting of dark menstrual blood several days prior to the onset of the normal period is frequently described. The extent of the disease often contrasts significantly with symptoms. Frequently, the patient with extensive endometriosis has minimal pain. Conversely, patients with minimal objective findings often complain of severe pain.

Another common presenting symptom is infertility. Often, patients who are otherwise asymptomatic may be unable to conceive because of endometriosis. The causes of infertility from endometriosis are probably multifactorial. Inflammation, pelvic, and peritubal adhesions may reduce or obstruct tubal transport. Immunologic factors, including cytokines and enhanced macrophage activity in the peritoneal fluid, may prevent normal sperm function and conception.

## **DIFFERENTIAL DIAGNOSIS**

(table)

## **DIAGNOSIS**

Clinical findings on physical exam that may raise the examiner's suspicion include pelvic tenderness, especially in the cul-de-sac. Nodularity and tenderness may be encountered in the region of the uterosacral ligaments and posterior uterus, which will be more apparent during rectovaginal examination. A retroflexed, fixed uterus is very suggestive of endometriosis, although it can also be encountered with gynecological malignancies. Many patients with endometriosis have normal pelvic exams.

The definitive diagnosis of endometriosis can only be made surgically, usually by diagnostic laparoscopy, and sometimes by exploratory laparotomy. The characteristic endometriotic lesion is described as a "powder-burn lesion," which represents a small collection of blood and debris, endometrial glands and stroma within the area of fibrosis. The spectrum of gross appearance of endometriosis includes clear vesicles, white adhesions, red papules, and the characteristic dark-purple lesions. Given the wide range of gross findings, a confirmatory biopsy is often performed.

## **PATHOPHYSIOLOGY**

Three theories regarding the etiology of endometriosis predominate: The first theory is retrograde menstruation through the fallopian tubes, leading to the deposition of endometrial tissue in the pelvis. A second theory proposes that coelomic metaplasia of "totipotential cells" of the peritoneum can differentiate into any type of tissue, including endometrial tissue. The third theory postulates that both explanations may play a role in endometriosis. There is also the suggestion that endometrial cells spread through the lymphatics and blood.

## **TREATMENT**

Treatment options for endometriosis range from observation when the disease is mild, to medical and surgical options when the disease is more severe. Patients with infertility and mild endometriosis may be as successful in their efforts at conception without medical or surgical intervention. A period of 6-12 months without infertility therapy is often recommended.

### **MEDICAL**

If the chief complaint is pelvic pain, nonsteroidal anti-inflammatory agents often improve the pain over a 3-6 month course of treatment. There is a placebo effect as high as 40 percent when treating patients with pain and endometriosis.

If the therapy is to halt the progression of the endometriosis, then the estrogen-dominant and fluctuating hormonal environment leading to the proliferation of the heterotopic endometrial tissue must be stopped. This is done in two ways: by achieving a hypoestrogenic, hypoprogesterational "pseudomenopausal" state, or by increasing the hormonal environment, causing a "pseudopregnancy" state.

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A pseudogestational state can be induced by using monophasic, oral birth control pills. The patient should not start a new pill pack after 21 days therefore avoiding the placebo pills. This should make her amenorrheic. Breakthrough bleeding is common on this regimen. Other side effects include headaches, hypertension, mood swings, weight gain and bloating.

Progestational agents alone can also induce pseudogestational states. The side effects include mood swings, irritability, weight gain, increased appetite and fatigue.

Gonadotropin-releasing hormones (Gn-RH) agonist are now used to create a pseudomenopausal state. It causes an initial stimulatory effect followed by a suppression of LH and FSH. It leads to anovulation, amenorrhea and atrophy of the endometrial glands. The most common side effects are vaginal dryness, hot flushes, and progressive bone demineralization; similar to that found in a menopausal woman. Because of concerns of long-term effects, Gn-RH agonist are only used for six months.

### SURGICAL

Patients with severe disease are more likely to benefit from surgical treatment than are patients with mild or moderate disease. Surgical treatment usually involves the vaporization by electrocautery or laser. If a patient has completed her childbearing years, definitive cure is possible with hysterectomy and bilateral salpingo-oophorectomy.

### COMBINED THERAPY

Combination therapy with surgical and medical treatment has some theoretical advantages. Because some endometriosis may be present microscopically without gross evidence of disease, these areas would be missed during surgery. Some investigators have suggested medical treatment with Gn-RH agonist following surgery.