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BRIEFINGS FROM
WOMEN'S HEALTH EXPERTS

Endometriosis: An Overview

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ENDOMETRIOSIS PROGRAM

Referrals and consultations
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What is endometriosis?

Endometriosis is a condition that affects between six and 10 percent of reproductive-aged women. It occurs when endometrial-like glands and stroma exist outside the uterus. The clinical presentation is highly variable, which could result in a delay in diagnosis of up to 10 years from initial onset of symptoms (Guidice 2010).

The most common symptoms of endometriosis include pain with menses and intercourse, pelvic pain outside of menses, fatigue and infertility. Chronic pelvic pain (CPP) is nonmenstrual or noncyclical pain lasting at least six months that interferes with daily activities and requires medical and/or surgical treatment. Patients often present with recurring lower genital tract symptoms: pain with bowel movements, diarrhea, constipation, or bladder dysfunction such as pain with bladder fullness or urination. Given that symptoms may overlap with other diagnoses such as painful bladder syndrome or irritable bowel syndrome, a multidisciplinary approach to diagnosing endometriosis is essential.

How does endometriosis develop?

Endometriosis is an estrogen-dependent gynecologic condition. Lesions also create a local overproduction of prostaglandins which overexpresses aromatase, an enzyme essential for the production of more estrogen, thus creating a positive feedback loop. While the exact pathogenesis of endometriosis remains unknown, there is likely a complex interplay between genetics and environmental factors, in combination with an aberrant immune system. Emerging data explores an association of a woman's microbiome with endometriosis. In some circumstances, estrogen acts as a proinflammatory factor, increasing the production of cytokines which activates B lymphocytes and excessive production of autoantibodies. Increasing our understanding of endometriosis and the immune system's role will help push newer treatment modalities to the forefront (Riccio 2017).

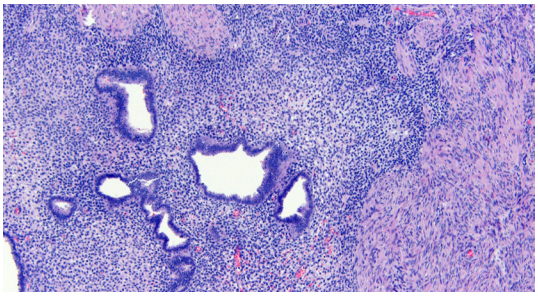
Although endometriosis can be present anywhere, it primarily exists in the pelvis. Lesions can be found on any organ or peritoneal surface in the body in a superficial or infiltrative manner. Deeply infiltrative endometriosis (DIE) penetrates more than 5 mm under the peritoneum. Lesions are often found involving areas of the uterus, bowel and/or bladder.

What is the impact on women's lives?

Symptoms tend to worsen with time, impairing a woman's physical and emotional well-being. Due to repeated episodes of pain, patients often modify their daily routines and experience loss of productivity from work or school absences, resulting in a diminished quality of life. The severity of pain experienced may be directly related to the presence of depression and anxiety, which commonly coexist in women with endometriosis (Soliman 2016, de Trovo 2015).

Why do patients have pain?

Several pathophysiological mechanisms may explain the relationship between endometriosis and pelvic pain including: recurrent cyclic microbleeding in the endometriotic lesions responsible for hyperpressure; production of inflammatory mediators by endometriotic lesions which can stimulate nerves; adhesions responsible for fixed position of pelvic structures; and compression and/or infiltration of the subperitoneal nerve fibers by deep implants (Fauconnier 2005).



Endometriotic implant (pathology)

How is imaging used to evaluate patients?

Pelvic imaging with ultrasound is the modality of choice when first evaluating patients to detect ovarian endometriomas or other structural abnormalities. If extensive disease burden and bowel or posterior compartment lesions are suspected, obtaining specialized imaging with pelvic MRI or transvaginal ultrasound with bowel preparation can greatly improve diagnostic accuracy. Routine pelvic ultrasounds or CT scans can often miss these implants. UChicago Medicine provides enhanced targeted imaging of the rectovaginal region. This allows for identification of the number of lesions involved, size and depth pertaining to the bowel, and distance from the anal verge, which aids in surgical planning (Goncalves 2010).

What is the medical treatment?

Medical management options for endometriosis are guided by a patient's primary goal which often includes pain reduction or improvement in fertility. First-line treatment often includes estrogen-progesterone combinations (birth control pills) or isolated progestins (norethindrone acetate, medroxyprogesterone acetate, or intrauterine systems with levonorgestrel). Medical induction of menopause with gonadotropin-releasing hormone analogues (leuprolide acetate), along with add-back therapy is a second-line option if symptoms persist. Other treatments include androgen, danazol and aromatase inhibitors; however, these agents' cost and side-effect profiles often lead to poor tolerability. Using NSAIDs in conjunction with these medical treatments is helpful in reducing the inflammatory processes and oxidative stress involved with endometriosis.

When does surgery play a role?

Surgical management is the therapy of choice for symptomatic patients with suspected deeply infiltrating lesions, as well as for evaluation of patients who do not respond to medical management. Surgery aims at removing the implants and restoring normal anatomic relationships. A multidisciplinary approach during evaluation and surgical planning is essential, especially in cases of extensive bladder or bowel involvement.

Utilizing laparoscopy or the robotic-assisted platform is ideal for a minimally invasive surgical approach. Magnified optics and enhanced visibility due to abdominal insufflation make the laparoscopic/robotic approaches desirable for endometriosis resection, and result in a decrease in blood loss, recovery time, pain scores and hospital stay.

Surgery is often very difficult and requires extensive experience and great skill to avoid injury to the bowel, bladder and ureter, and at the same time, remove all the lesions. Especially in advanced endometriosis, the surgical complication rate is high as the surgical planes are obliterated. However, in multiple studies, excision of endometriosis reduces pain levels after surgery and offers advantages over ablative techniques. Often, the extent or invasion of endometriotic lesions is not known until excision. This allows for complete removal, increasing the sustainability of benefits achieved with surgery (Pundir 2017).

Why should I refer my patients?

Endometriosis is a complex and highly variable gynecologic disease process that significantly impacts a woman's sexual, social and professional quality of life. Given the substantial overlap of symptoms with many other nongynecologic disorders, the diagnosis and management of endometriosis can be challenging. The best therapeutic strategy for endometriosis in the context of pain must be determined for each patient individually using a multidisciplinary approach. For women with ovarian or deep infiltrating endometriosis, as well as for those who do not improve with medical management, surgical referral to an experienced endometriosis surgeon may give the patient additional treatment options and provide sustained relief for those struggling with years of pain.

Which patients should be referred?

Consider referring patients with:

» Significant pain symptoms

» Limited response to traditional medical management

» Extensive endometriosis involving multiple organ systems

» Intent of excision or removal of endometriosis

» Need for multidisciplinary surgical planning and team approach

» Comprehensive pelvic pain management

Our multidisciplinary team includes leaders in minimally invasive gynecologic surgery, ultrasonography, colorectal surgery, urology, pelvic physical therapy and anesthesia pain management who can provide expert, compassionate care for your patients with endometriosis.

For consultation about a patient with endometriosis symptoms, please call 773-702-2618.

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