Main:
-Diagnosis

-Causes
-PCOS
-PID
-Endometriosis
-Hypertension
-Ovulatory Dysf

-Therapies
-Ovulation Induction
-AI
-ART

Pathway Index

Toolbox
Glossary
Medication Guide
Fertility:
-Calculator
-First Step Kit
-Prediction Kits
Physician Directory

Community
Discussions
ChatRoom
Guestbook
Mailing List

Send2Friend
E-mail This Page to A Friend:
Your Name
Your Email

Causes of Infertility: Endometriosis

Your Guide: Anna Peris, *PharmD. -Stadtlanders' Fertility Specialist*

Endometriosis is a fairly common condition affecting the reproductive health of more than a quarter of all women suffering from infertility.

Endometriosis can be defined as a nonmalignant disorder in which functioning endometrial tissue is present outside the uterus. The incidence of this disease ranges from 10-15% in women between the ages of 25 and 44 who are actively menstruating, but it also occurs in teenagers. It is estimated that 25-50% of infertile women have this disease. The incidence is higher in first degree relatives of women with endometriosis, which suggests that heredity may play a role. In addition, there is also a higher prevalence of the disease in women who delay childbearing or who are of Asian descent.

Discussions

kpo
"Hi lady !

Sorry I haven't posted on our thread for a few days.
I guess there isn't much to say until you get the cl..."

-Talk About It

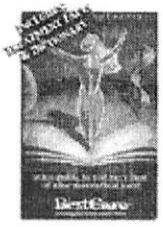
In women affected with endometriosis, endometrial tissue builds up in areas outside of the uterus - these areas are known as "ectopic implants". Ectopic implants may be found on the outside of the uterus, inside and outside the ovaries, fallopian tubes, bowel, urinary tract, or anywhere in the abdomen. Ectopic tissue responds to hormonal stimulation, just like the endometrium in the uterus. Unlike the normal tissue inside the uterus however, ectopic tissue has no place to shed in response to a decline in estrogen and progesterone, so the debris and blood accumulate locally (in various parts of the abdomen), instead of exiting the body as menstrual flow. This ectopic tissue accumulation, growth, and eventual death leads to inflammation, scarring and adhesions that ultimately cause the symptoms and complications of endometriosis.

Back To Top Talk About It

Causes and Symptoms

The cause of endometriosis is unknown, however there are several theories.

- The first theory is known as retrograde menstruation, or the movement of sloughed endometrial tissue back through the fallopian tubes and into the abdominal cavity. This tissue can then attach itself to various internal organs or tissues outside of the uterus. Retrograde menstruation can occur in women with and without endometriosis, but it is thought that women with the disease have a deficiency in their immune system which is unable to destroy the ectopic implant. This leads to the second theory:
- Immune system dysfunction. It is believed that certain women may develop endometriosis due to deficiencies in their immune system - the main system



in the body that fights infection and other foreign "invaders". In women without endometriosis, the immune system destroys any ectopic implants that may develop. However, in women with endometriosis, there is an altered immune response and the body is unable to destroy the growth of the implants. Furthermore, some scientists believe that endometriosis is an autoimmune disorder. This means that the body makes antibodies to endometrial cells. These antibodies may destroy the healthy endometrium found in the uterus, but are ineffective in destroying ectopic implants.

Most likely, both of these theories play a role in the cause of endometriosis.

Symptoms

Symptoms of endometriosis typically occur in a cyclic fashion with menstrual periods. The most commonly reported symptoms are:

- Pelvic pain and cramping before and during periods
- Pain during intercourse
- Inability to conceive
- Fatigue
- Painful urination during periods
- Gastrointestinal symptoms such as diarrhea, constipation, and nausea

There are other medical conditions that have similar symptoms and should be considered prior to making a diagnosis of endometriosis. Conditions that may cause generalized pelvic pain include:

- Pelvic inflammatory disease (PID)
- Pelvic adhesions
- Neoplasms (cancers), both benign or malignant
- Ovarian torsion
- Sexual or physical abuse
- Other causes that are not gynecologic in nature

Endometriosis may place patients at a higher risk for developing endometriomas. These are ovarian cysts that are composed of endometrial cells that grow and bleed during menstruation. Sometimes they are called chocolate cysts, because they appear chocolate in color. Endometriomas may be painful, especially during active bleeding and/or ovulation.

How does endometriosis contribute to infertility?

Endometriosis is believed to be the cause of infertility in approximately 30% of all infertile women. The cause of infertility is believed to result from the scarring and adhesions that form in the reproductive tract as a result of inflammation. Scar tissue and adhesions may reduce fertility by either obstructing or distorting the shape of the fallopian tubes, which in turn impedes the passage of sperm to the egg. In the event that sperm do reach the egg, they may encounter a hostile environment unfavorable to fertilization. Finally, scarring from endometriosis may obstruct the fallopian tubes so that if an egg is fertilized, it may be unable to travel to the uterus for implantation.

Testing, Diagnosis, and Treatment

One of two techniques may be used to confirm the diagnosis of endometriosis. Both procedures involve visualization of the pelvic cavity in order to confirm the presence or absence of ectopic implants. The first procedure is known as laparoscopy. A laparoscopy involves making a small incision (usually near the belly button) and inserting a small wire with a light on the end of it. The second technique is a laparotomy. This is a more invasive procedure that requires general anesthesia. An incision is carefully made in the abdomen in order to view a large pelvic area. If there are any suspected ectopic implants, they are biopsied in order to determine the presence of endometrial cells.

Treatment

The goals of treatment may include relieving/reducing pain symptoms, shrinking or slowing endometrial growths, preserving or restoring fertility, and preventing /delaying recurrence of the disease. These can be accomplished by using pain medication, hormonal therapy, surgical procedures, and alternative treatment.

The medications that are used to treat pain as well as inflammation are known as nonsteroidal anti-inflammatory drugs (NSAIDs). These agents (examples include Aleve®, Advil®, Naprosyn®, etc.) work by inhibiting the production of certain chemicals in the body that are responsible for producing pain and inflammation. However, these medications do not alter the course of the disease in any way other than by relieving pain. As a result, they are most commonly used in women with mild disease or in women who do not want to use more potent drugs. If a decision is made to stop taking these drugs, symptoms are more than likely to return.

Hormonal therapy is used in women who choose more aggressive medical intervention. Hormonal therapy is used to suppress elevated levels of estrogen, which maintains growth of the ectopic implants as well as the endometrial tissue in the uterus. There are two main classes of medications used to accomplish this: the gonadotropin-releasing hormone (GnRH) agonists and the androgen derivatives.

The GnRH agonists include leuprolide (Lupron®), goserelin (Zoladex®), and nafarelin (Synarel®). They work by reducing the production and release of luteinizing hormone (LH) and follicle-stimulating hormone (FSH) from the brain, which in turn reduces estrogen secretion from the ovaries. Treatment with these agents typically lasts for 6 months. A GnRH agonist may be used prior to surgery to shrink ectopic implants, or following surgery to eliminate any remaining implants.

The second class of medications used to treat endometriosis is the androgen derivative, danocrine (Danazol®). It works by slowing down the release of LH and FSH from the brain. This in turn, causes the ovaries to "rest" since they are not being hormonally stimulated. The result is an artificial menopause, where the woman is not producing estrogen, a primary hormone necessary for the growth and proliferation of ectopic implants. Besides inducing atrophy of implants, danocrine also provides pain relief. Unfortunately, this medication has many side effects

(refer to graph below). Duration of treatment with danocrine ranges from 6 to 9 months.

An alternative to GnRH agonists and danocrine are oral contraceptive pills (OCPs) and progestins. OCPs suppress LH and FSH production, which reduces estrogen levels and makes the ectopic endometrial tissue thin and compact. OCPs can be taken continuously without stopping treatment or cyclically, with a week of placebo pills (no drug) between treatment cycles. Treatment with OCPs typically lasts 6 to 12 months. Progestins such as medroxyprogesterone acetate-depot (Depo-provera®) and medroxyprogesterone (Provera®) act in much the same way as the OCPs. Depo-provera is given as an injection once every 3 months whereas Provera is taken in the tablet form daily.

The surgeries that are used to diagnose the disease are also used for treatment. The goal of surgery is to remove any ectopic endometrial lesions and/or adhesions. Laser laparoscopy is used to remove endometrial tissue and blockages from the body that are sparse and less dense. Laser laparotomy is used to remove dense or larger sites of endometrial tissue. Pregnancy rates following surgery and medication therapy vary considerably depending on the severity and location of adhesions. Speak with your healthcare provider regarding the treatment that is most appropriate for you.

Medications Used to Treat Endometriosis

Medication	*Dose/Duration/Administration*	*Side Effects*
Leuprolide (Lupron®)	3.75 - 11.25 mg IM every month for 6 months	Depression, pain, hot flashes, weight gain, nausea and vomiting
Gosarelin (Zoladex®)	3.6 mg SQ injection into upper abdominal wall every 28 days	Hot flashes, decrease in libido, and rash
Nafarelin (Synarel®)	1 spray (200 mcg) in 1 nostril in the AM and the other nostril in the PM for 6 months	Headache, mood swings, acne, hot flashes, decrease in libido and breast size and nasal irritation
Danocrine (Danazol®)	200-800 mg twice daily for 6-9 months	Oily skin, acne, abnormal hair growth, breakthrough bleeding, weight gain, voice deepening

Oral Contraceptive Pills	1 pill per day (continuous or cyclic)	Headache, nausea, hypertension
Medroxyprogesterone acetate (Depo-provera®)	100 mg IM every 2 weeks for 2 months, then 200 mg IM every month for 4 months or 150 mg IM every 3 months	Breakthrough bleeding, spotting, weight gain
Medroxyprogesterone (Provera®)	5-20 mg orally every day	Similar to Depo-provera

Back To Top Talk About It

Summary

Endometriosis is a common condition that can exert a significant physical and emotional toll on patients. One of the most common complications associated with the disease is a high prevalence of infertility due to numerous lesions and adhesions from ectopic sites. Unfortunately, there is still no cure, but progress is being made in identifying the causes of the disease. The most promising chance for finding a cure or effective treatment lies with future research on the role of the immune system in the development and progression of endometriosis.

Back To Top Talk About It

Your Next Stop

-In Therapies, we take you on a guided tour of the currently available treatment options. It is important to remember that the appropriate treatment options for you or your partner will largely be determined by the diagnosis you receive and the treatment strategy you and your team develop. Treatments include:

- Ovulation Induction
- Artificial Insemination
- ART (Including: ICSI, IVF, ZIFT, and GIFT)

-The costs associated with Treatment are discussed in The Family Investment.

-For more about the medications used in Fertility therapy, proceed to At The Pharmacy.

Back To Top Talk About It

Pregnancy Pathways™ ▶ At The Doctors

Brought to you by CVS ProCare Pharmacy

Home | Ovulation-Calculator | Fertility Products | Pharmacy Program | Back to Top