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Patient information: Ovarian cysts (Beyond the Basics)

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OVARIAN CYST OVERVIEW

Ovarian cysts are fluid-filled sacs that develop in or on the ovary (figure 1). Ovarian cysts occur commonly in women of all ages. Some women with ovarian cysts have pain or pelvic pressure, while others have no symptoms. Irregular menstrual periods are not usually related to an ovarian cyst.

Fortunately, most ovarian cysts do not require surgical removal and are not caused by cancer. Cysts can vary in size from less than one centimeter (one-half inch) to greater than 10 centimeters (4 inches).

This topic discusses the various causes of ovarian cysts, how ovarian cysts are diagnosed, and what follow up testing and/or treatment might be recommended.

OVARIAN CYST CAUSES

The most common causes of ovarian cysts depend upon whether you are still having menstrual periods (premenopausal) or have stopped menstruating for at least one year (postmenopausal). (See "Differential diagnosis of the adnexal mass".)

Premenopausal women — For premenopausal women, the most common causes of ovarian cysts include:

- Ovulation — "Functional" ovarian cysts develop when a follicle (sac) grows, but does not rupture to release the egg. These cysts usually resolve without treatment.

- Dermoid cysts — Dermoid cysts (teratomas) are one of the most common types of cysts found in women between age 20 and 40 years. A dermoid cyst is made up ovarian germ cells (germ cells are reproductive cells, eg, eggs) and can contain teeth, hair, or fat. Most dermoid cysts are benign, but rarely, they can be cancerous. (See "Ovarian germ cell neoplasms: Pathology, clinical manifestations, and diagnosis", section on 'Mature cystic teratoma (dermoid cyst)'.)
- Polycystic ovary syndrome (PCOS) — Women with PCOS may have many small cysts. These cysts do not need to be removed or treated with medication, but women with PCOS may need treatment for other PCOS problems, such as irregular menstrual periods. (See "Patient information: Polycystic ovary syndrome (PCOS) (Beyond the Basics)".)
- Endometriosis — Women with endometriosis can develop a type of ovarian cyst called an endometrioma, or "chocolate cyst." (See "Patient information: Endometriosis (Beyond the Basics)".)
- Pregnancy — An ovarian cyst normally develops in early pregnancy, to help support the pregnancy until the placenta forms. In some cases, the cyst stays on the ovary until later in the pregnancy.
- Severe pelvic infections — Severe pelvic infections may spread to involve the ovaries and fallopian tubes. As a result, pus-filled cysts form close to the ovaries and/or fallopian tubes.
- Non-cancerous growths
- Cancer — Cancer is a relatively uncommon cause of ovarian cysts in premenopausal women; less than 1 percent of new growths on or near the ovary are related to ovarian cancer.

Postmenopausal women — In women who have stopped having menstrual periods, the most common causes of ovarian cysts include:

- Non-cancerous growths
- Fluid collection in the ovary

In postmenopausal women, new growths on or around the ovary are somewhat more likely to be caused by cancer than in premenopausal women.

Do I have ovarian cancer? — Although ovarian cancer is not the most common cause of ovarian cysts, many women who are diagnosed with a cyst are concerned that they could have cancer. Ovarian cancer is more likely in women who have:

- A genetic predisposition to ovarian cancer (eg, family history of ovarian or related cancers)
- A previous history of breast or gastrointestinal cancer
- A cyst that appears complex (a cyst with solid areas, nodule on the surface, or multiple fluid-filled areas)
- A fluid collection (called ascites) found in the pelvis or abdomen during the imaging test

However, women without cancer may also have these characteristics. In most cases, further testing will be recommended to gauge the likelihood of cancer.

If your doctor is concerned that you could have ovarian cancer, he or she may recommend that you meet with a physician specialist, called a gynecologic oncologist. These physicians have been trained in the surgical treatment of ovarian cancer, and can improve your chances of survival. (See "Patient information: First-line medical treatment of epithelial ovarian cancer (Beyond the Basics)".)

OVARIAN CYST SYMPTOMS

Ovarian cysts may be either symptomatic or asymptomatic. Women with symptoms from ovarian cysts typically experience pain or pressure in the lower abdomen on the side of the cyst. This pain may be dull or sharp; it may be constant or come and go. Crampy lower abdominal pain is not usually related to ovarian cysts. If an ovarian cyst ruptures, a woman may experience a sudden sharp pain, which may be severe. Women with torsion (twisting) of an ovary may feel pain along with nausea and vomiting. Abnormal periods or vaginal bleeding is not usually related to ovarian cysts.

OVARIAN CYST DIAGNOSIS

Ovarian cysts can sometimes be detected during a pelvic examination, although an imaging test, usually a pelvic ultrasound, is necessary to confirm the diagnosis. Computed tomography (CT) scan or magnetic resonance imaging (MRI) are also sometimes used, but less commonly. These imaging tests can also provide information about the cyst's size, location, and other important characteristics. (See "Sonographic differentiation of benign versus malignant adnexal masses".)

Blood testing — One or more blood tests may be recommended if you are found to have an ovarian cyst. The blood test(s) can help to determine the nature of the cyst.

- Pregnancy testing — A blood or urine pregnancy test is often performed in premenopausal women with an ovarian cyst. Ovarian cysts are common during pregnancy.
- CA 125 — CA 125 is a blood test that is sometimes drawn in women with ovarian cysts. However, ovarian cancer cannot be diagnosed based upon the results of a CA 125 test. Many women with early ovarian cancer will have a normal CA 125 level. CA 125 is abnormally elevated in about 80 percent of women with advanced ovarian cancer.

  Also, non-cancerous conditions can cause CA 125 to be elevated, including endometriosis, uterine fibroids, pelvic infections, heart failure, and liver and kidney disease. As a result, measurement of the CA 125 is not recommended in every case. (See "Patient information: Ovarian cancer screening (Beyond the Basics)".)

- CA 125 is often recommended for postmenopausal women with an ovarian cyst.
- CA 125 may be recommended for premenopausal women whose ovarian cyst appears very large or suspicious for cancer on ultrasound.
- CA 125 is not usually recommended for premenopausal women with ovarian cysts that are small and do not appear suspicious for cancer.

- Other blood tests are also available for testing women with an ovarian cyst for ovarian cancer.

Next steps — Depending upon the results of the imaging test, your age, symptoms, results of blood tests, and your family history, your healthcare provider may recommend watchful waiting or surgery. (See "Approach to the patient with an adnexal mass".)

OVARIAN CYST TREATMENT

Ovarian cysts do not always require treatment. In premenopausal women, ovarian cysts often resolve on their own within one to two months, without treatment. In postmenopausal women, ovarian cysts are less likely to resolve.

If a cyst is large, causing pain, or appears suspicious for cancer, treatment usually involves surgery to remove the cyst or the entire ovary.

Watchful waiting

Premenopausal women — In premenopausal women, watchful waiting usually involves monitoring for symptoms (pelvic pain or pressure) and repeating the pelvic ultrasound after six to eight weeks. If the ovarian cyst does not enlarge or if it resolves during the period of watchful waiting, it does not usually require surgical removal. Some premenopausal women will be advised to take a birth control pill during this time to help prevent new ovarian cysts from developing.

If a cyst decreases in size or does not change, the ultrasound is often repeated at regular intervals until your healthcare provider is certain that the cyst is not growing. If the cyst resolves, no further testing or follow-up is required. (See 'Ovarian cyst follow-up' below.)

Postmenopausal women — In postmenopausal women, the decision to undergo watchful waiting depends upon the initial testing (ultrasound and CA 125). If the cyst does not appear to be cancerous, watchful waiting may be an option, and includes a pelvic ultrasound and measurement of CA 125 every three to six months for one year, or until the cyst resolves. However, ovarian cysts do not always resolve in postmenopausal women.

If the CA 125 levels increase or the cyst grows or changes in appearance, then surgery to remove the cyst may be recommended.

Surgery

Surgery — Surgery may be recommended in the following situations:

- A cyst is causing persistent pain or pressure, or may rupture or twist.
- A cyst appears on ultrasound to be caused by endometriosis and is removed for fertility reasons.
- Large cysts (>5 to 10 cm) are more likely to require surgical removal compared to smaller cysts. However, a large size does not predict whether a cyst is cancerous.

- If the cyst appears suspicious for cancer. If you have risk factors for ovarian cancer or the cyst looks potentially cancerous on imaging studies, your healthcare provider may recommend surgery.
- If the suspicion for ovarian cancer is low but the cyst does not resolve after several ultrasounds, you may choose to have it removed after a discussion with your healthcare provider. However, surgical removal is not usually necessary in this case.

Surgery to remove ovarian cyst — If surgery is needed to remove an ovarian cyst, the procedure is usually done in a hospital or surgical center. Whether the surgery involves removing only the cyst or the entire ovary depends upon your age and what is found during the procedure. (See "Oophorectomy and ovarian cystectomy".)

For example:

- If there is suspicion of cancer, the whole ovary must be removed since cutting into a cancerous cyst may lead to cancer spread. In some cases, the whole ovary is removed and the cyst turns out to be benign. Having one ovary removed will not cause you to go through menopause and will not cause you to be infertile.
- If the cyst appears non-cancerous and is able to be removed through small incisions, it may be removed laparoscopically (through several small incisions) and you may be able to go home the same day.
- If the cyst is large or appears suspicious for cancer, it may be necessary to have an open incision (called a laparotomy) and the surgeon may need to remove the entire ovary and surrounding tissues. You will need to stay in the hospital for one or more nights after a laparotomy.

OVARIAN CYST FOLLOW-UP

After an ovarian cyst resolves, you will not need further imaging tests if you do not have symptoms.

Some types of ovarian cysts are more likely to recur than others. This includes endometriomas and functional ovarian cysts. If you are premenopausal and are concerned about recurrent cysts, taking a birth control pill or other hormonal form of birth control may help to prevent ovarian cysts from developing. (See "Patient information: Hormonal methods of birth control (Beyond the Basics)".)

WHERE TO GET MORE INFORMATION

Your healthcare provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our web site (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

Patient information: Ovarian cysts (The Basics)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

Patient information: Polycystic ovary syndrome (PCOS) (Beyond the Basics)
Patient information: Endometriosis (Beyond the Basics)
Patient information: First-line medical treatment of epithelial ovarian cancer (Beyond the Basics)
Patient information: Ovarian cancer screening (Beyond the Basics)
Patient information: Hormonal methods of birth control (Beyond the Basics)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

Diagnosis and management of ovarian endometriomas
Differential diagnosis of the adnexal mass
Evaluation and management of ruptured ovarian cyst
Management of pregnant women undergoing nonobstetric surgery
Oophorectomy and ovarian cystectomy
Ovarian and fallopian tube torsion
Approach to the patient with an adnexal mass
Sonographic differentiation of benign versus malignant adnexal masses
Ovarian germ cell neoplasms: Pathology, clinical manifestations, and diagnosis

The following organizations also provide reliable health information.

- National Library of Medicine

(www.nlm.nih.gov/medlineplus/healthtopics.html)

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Literature review current through: Aug 2013. | This topic last updated: Dec 19, 2012.
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