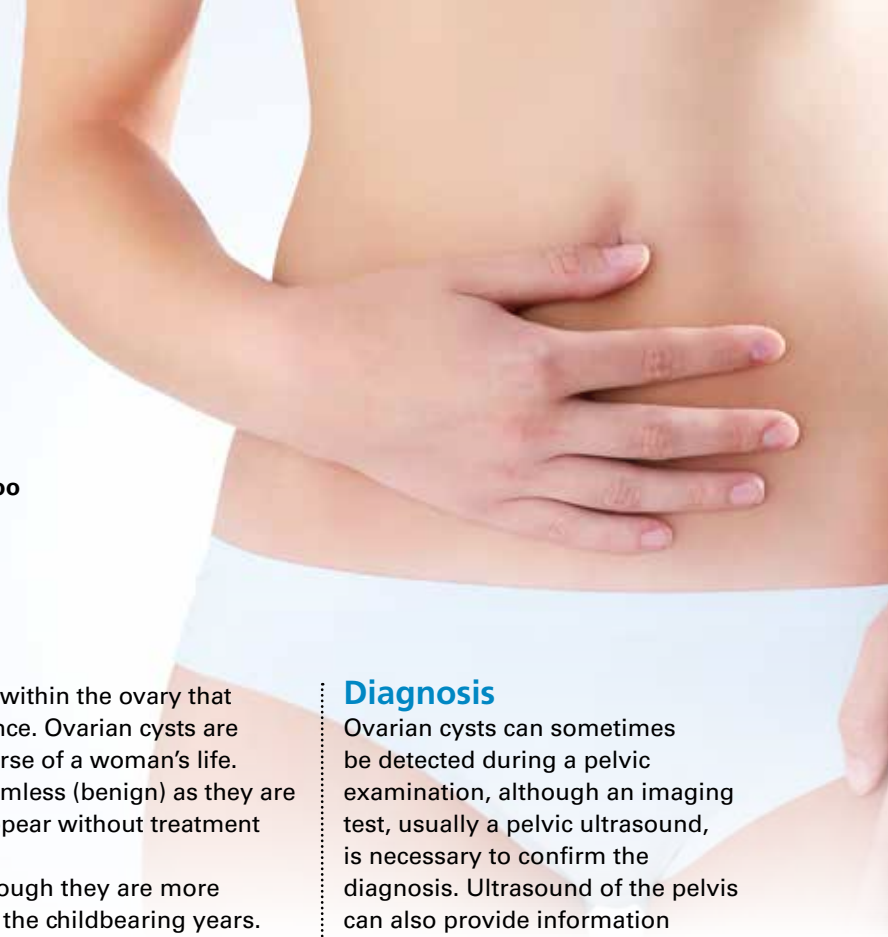

Ovarian Cysts

by Dr Ng Ying Woo

Beyond the basics

Ovarian cysts are closed, sac-like structures within the ovary that are filled with a liquid or semisolid substance. Ovarian cysts are common and develop over time in the course of a woman's life. Fortunately, the vast majority of such cysts are harmless (benign) as they are functional cysts. These functional cysts often disappear without treatment within a few months.

Ovarian cysts occur in women of all ages, although they are more prevalent during infancy, adolescence and during the childbearing years. Some women with ovarian cysts may have pain or pelvic pressure, while many others have no symptoms. Occasionally, surgery may be required to remove cysts larger than 5cm in diameter, especially if there are concerns of malignancy.

Ovarian cysts may be classified according to whether they are a variant of the normal menstrual cycle (i.e. functional cysts), or not. Functional cysts include the commonly seen follicular cysts or corpus luteum cysts after ovulation. Theca lutein cysts are found in early pregnancy due to excessive HCG levels.

Non-functional Cysts

- **Polycystic ovaries.** In polycystic ovary syndrome (PCOS), these follicles remain at the surface of the ovary, creating a "many cysts" image on an ultrasound scan.
- **Endometriosis.** In women with endometriosis, tissue from the lining of the uterus grows in other areas of the body such as the ovaries. It can be very painful and can affect fertility. These women can develop a type of ovarian cyst called an endometrioma, or "chocolate cyst".
- **Cystadenomas (non-cancerous growths).** These cysts form out of cells on the surface of the ovary. They are often fluid-filled.
- **Dermoid cysts.** This type of cyst contains tissue similar to that in other parts of the body. That includes skin, hair, and teeth. Most dermoid cysts are benign, but rarely, they can be cancerous.

Signs and Symptoms

Ovarian cysts often don't cause any symptoms. However, they can cause problems if they twist, bleed, or rupture. These events lead to sudden sharp pain and bloating in the abdomen. Women with torsion (twisting) of an ovary may feel pain along with nausea and vomiting.

Occasionally, large ovarian cysts may press on the bladder, causing frequent urination or difficulty in emptying the bladder completely.

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. Ultrasound of the pelvis can also provide information about the cyst's size, location, and other important characteristics that may raise suspicions of cancer. Doppler flow studies are often coupled with the ultrasound examination to improve sensitivity. Computed tomography (CT) scan or magnetic resonance imaging (MRI) is sometimes used, but less commonly.

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. Nevertheless, ovarian cancer is more likely in those with:

- A family history of ovarian cancer.
- Previous personal history of breast or gastrointestinal cancer.
- Complex cysts (cysts with solid areas, nodules on the surface or multiple fluid-filled areas).
- Fluid collection in the pelvis or abdomen (ascites).

The following additional blood tests may be done:

- A "Ca-125 test", to look for possible cancer if you have an

abnormal ultrasound or during or after menopause.
- Hormone levels (such as LH, FSH, estradiol and testosterone).
- Pregnancy test (serum HCG).

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. There is no effective medical treatment for ovarian cysts.

Next steps

Depending on the results of the imaging test, age of the patient, symptoms, results of blood tests, and family history, we may recommend either watchful waiting or surgery.

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

Surgery is more likely to be needed for:
- Complex ovarian cysts that do not resolve
- Cysts that are causing symptoms and do not resolve
- Simple ovarian cysts that are larger than 10cm
- Women who are near or past menopause

Laparoscopy is now the preferred approach for benign ovarian cysts because it is associated with a smaller scar, faster recovery, lower cost, and lower frequency of postoperative adhesion formation.

Surgery

In the last decade, we have seen a paradigm shift from open surgery to laparoscopic surgery. Laparoscopy is now the preferred approach for benign ovarian cysts because it is associated with a smaller scar, faster recovery, lower cost, and lower frequency of postoperative adhesion formation. Fortunately, most ovarian surgeries are for benign disease and can be performed laparoscopically. Traditional open method is still safer and more appropriate when there are dense adnexal adhesions, or when there is a high suspicion of malignancy.

A "Scarless" Way to Make Cysts Disappear

SILS, or single incision laparoscopic surgery, is a new laparoscopic treatment for ovarian cysts **[Figure 1].** This approach aims to maximise the cosmetic benefit of laparoscopy and reduce morbidities for patients.

The surgery involves a single, small (< 2cm) incision at the umbilicus. This incision is well "hidden" within the umbilicus resulting in an excellent cosmetic outcome for our patients. Coupled with the use of chemo-coagulation agents, the surgery offers an almost "scarless" outcome with minimal damage to the ovarian tissue. An initial pilot study done at our centre showed excellent cosmetic outcome and high patient satisfaction.

Conclusion

Although ovarian cysts are commonly found in many of our female patients, a majority of them do not require any intervention. The general approach is to reassure and continue the surveillance with a high index of suspicion for possible malignancy. If surgery is needed, it is appropriate to time it with the fertility consideration of the patient. With the introduction of SILS, we have raised the bar in the treatment of ovarian cysts, thereby ensuring high patient satisfaction. MG

Figure 1. ***Single incision laparoscopic surgery (SILS) is a new laparoscopic treatment for ovarian cysts.***

Dr Ng Ying Woo is a Consultant at the National University Hospital. He is also an Assistant Professor at the National University of Singapore. His current practice at NUH includes all areas of general Obstetrics and Gynaecology, with special interest in single incision laparoscopic surgery (SILS). He has performed more than 200 cases of SILS to date.