

## **Ovarian Cancer and Early Detection**

The chance that a woman will develop ovarian cancer during her lifetime is about 1 in 70. When caught early, before spreading to other organs, the survival rate is over 90%. Unfortunately almost 75% of ovarian cancer is not diagnosed until it has already spread, and the survival rate drops to less than 30%.

The key to survival is early detection. Until recently, it was thought that there are no early warning signs, but research now shows that ovarian cancer can be diagnosed earlier if women and their doctors pay attention to certain symptoms. The following symptoms are known to occur more frequently in women with ovarian cancer, even in the early stages of disease:

### **Early Warning Signs of Ovarian Cancer**

- Abdominal bloating or distension
- Difficulty eating, feeling full quickly
- Pelvic or abdominal pain
- Urinary urgency or frequency
- Fatigue
- Indigestion
- Back pain
- Pain with intercourse
- Constipation
- Menstrual irregularities
- Postmenopausal bleeding

These symptoms are fairly common and usually do not mean a woman has ovarian cancer. However, if you experience any of these symptoms for longer than 2-3 weeks, it could be an early sign of ovarian cancer and you should contact your health care provider. How do we determine if your symptoms should be cause for concern?

# Methods of Detecting Ovarian Cancer

## Pelvic Examination

An annual pelvic examination is recommended for all women as part of a general wellness program, but it is unlikely to detect ovarian cancer before it has spread. Particularly if a woman is overweight, it may be impossible to examine the ovaries adequately even if they are enlarged. For these reasons, a pelvic ultrasound may be ordered to image the ovaries directly.

## Pelvic Ultrasound

Pelvic ultrasound performed by an experienced technician gives an excellent examination of the ovaries, as well as the uterus, cervix, and other pelvic structures. For most women, performing this ultrasound transvaginally provides the best pictures of the pelvic organs, including the ovaries. Ovarian cancer found by ultrasound tends to be at an early stage.

## CA-125 Blood Test

This test detects a protein that is released by some types of cancer cells into the bloodstream. There are many other reasons why this protein may be present, particularly at low levels, including benign conditions like endometriosis or pregnancy. Unfortunately, CA-125 is more likely to be elevated with advanced stages of ovarian cancer than early stages. Doctors may order this blood test to help interpret abnormal findings seen using ultrasound, or measure these levels over several time periods to determine whether it is changing significantly.

## Combining Pelvic Ultrasound with the CA-125 test

A 2009 study from the UK suggests that combining transvaginal ultrasound with CA-125 screening is superior to using either test by itself to detect early ovarian cancer. Almost half of the cancers detected in that study were stage I or II. This European study is the largest randomized study of ovarian cancer screening to date. The study showed that while pelvic ultrasound alone is useful for detecting ovarian cancer, the need for surgery to remove an ovarian cyst can be reduced by adding the CA-125 blood test. This means that when you combine these tests, you have a good chance of detecting early cancer, and unnecessary surgery is less likely than if a single test is used. It is important to note that no method or combination of methods is known that will detect 100% of cases of early ovarian cancer. Bear in mind, ovarian cancer screening is not a one-time test. If one is to gain full benefit from this program, it should be performed every 6-12 months. Follow-up scheduling will depend on the individual's risk factors, and is determined based on personalized risk assessment, ultrasound, and blood test findings.

## Ovarian Cancer Screening at Women's Wellness Center

We offer screening for ovarian cancer using the combined approach: ultrasound and CA-125 test. The blood test may be drawn here in our office or at an approved outside lab. Ideally, it will be drawn approximately one week prior to your Ovarian Cancer Screening visit so the results may be available. During your visit, you will complete a brief risk assessment questionnaire to assess personal risk factors for ovarian cancer. Then, high-resolution transvaginal pelvic ultrasound will be performed in our facility. A board certified Ob/Gyn physician will oversee your ultrasound procedure and discuss findings, review CA-125 results, and review your risk assessment questionnaire. You will leave the office with the knowledge that your pelvic ultrasound and lab tests are reassuring and normal, or if any abnormality is detected, the doctor will personally discuss the findings and make recommendations.

### References:

1. Menon, U, et al. Sensitivity and specificity of multimodal and ultrasound screening for ovarian cancer, and stage distribution of detected cancers: Results of the Prevalence Screen of the UK Collaborative Trial of Ovarian Cancer Screening (UKCTOS). *Lancet Oncol* 2009; **10**: 327-40.
2. Padilla, L, et al. Accuracy of pelvic examination in detecting adnexal masses. *Obstet and Gynecol* 2000; **96**: 593-98.
3. Smith, L, et al. Ovarian cancer: can we make the clinical diagnosis earlier? *Cancer* 2005; **104**: 1398-407.

# More on the CA-125 Test and Ovarian Cancer Screening

## **What Is CA-125?**

This is a protein produced by some kinds of cancer cells, including most ovarian cancer cells. It is called a cancer marker because it is produced by cancer cells and is released into the bloodstream, so that it can be detected with a simple blood test.

## **Is the CA-125 test accurate for detecting early ovarian cancer?**

The CA-125 blood test is not adequate for early detection of ovarian cancer when used as a single screening tool. It would only correctly identify about 50% of stage I ovarian cancers. It would detect about 80% of stage II, III, and IV ovarian cancers. Twenty percent of patients with ovarian cancer will not show an abnormal CA-125 level.

There are several non-cancerous conditions that can cause elevated levels of CA-125. Examples are endometriosis, ovarian cysts, pregnancy, pelvic infection, and liver disease. Also, other cancers beside ovarian cancer can cause an elevated CA-125 level (colon cancer, pancreatic cancer and others). Because of all these limitations, the CA-125 test is not recommended for use as a single screening method for detecting early ovarian cancer. The chance of having a false positive result is very high, particularly for women under age 50.

If the CA-125 is combined with transvaginal pelvic ultrasound it gives greater accuracy for detecting early ovarian cancer. In addition, *serial* CA-125 testing increases the accuracy of the test. Serial testing involves having several blood tests over a period of time to observe whether or not the level increases.

## **What if the CA-125 level is abnormal?**

An elevated level of CA-125 could be a false positive (in which case we may not ever know why it is elevated) caused by a non-cancerous ovarian cyst, ovarian cancer or some other type of cancer. Once a positive test is obtained, surgery may be considered. In some cases women will undergo removal of the ovaries, finding them to be completely normal. Removal of the ovaries does not completely eliminate the risk of developing ovarian cancer in the future, but it reduces the risk by 90% or more.

## **What if the CA-125 level is normal?**

A normal level could be a true negative, or a false negative (meaning there is a cancer that is not producing this protein). The next step depends on the patient's personal and family health history, and the results of other testing such as a pelvic ultrasound. Generally screening is performed yearly, but may be recommended more often for some individuals.

## **Where do I have this test drawn and how am I notified of results?**

You may have your blood drawn at Women's Wellness Center at the time of your pre-consult visit. You will be notified of your results at your cancer risk assessment consultation.

## **How often do I need to have the CA-125 blood test?**

For those interested in ovarian cancer screening, this blood test should be done every 6-12 months, depending on individual risk factors. In some cases, more frequent testing is recommended.