

## Know Your Test: CA – 125

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CA-125 (Cancer antigen 125) is a protein found on the surface of many ovarian cancer cells. It can also be found in other cancers and in small amounts in normal tissue. A CA-125 test measures the level of this protein in the blood.

CA-125 is used as a "tumour marker", which means the test can help show if some types of cancer are present. In some cases, a CA-125 test may be used to look for early signs of ovarian cancer in women with a very high risk of the disease.

A CA-125 test isn't accurate enough to use for ovarian cancer screening in all women because many non-cancerous conditions can increase the CA-125 level. Many different conditions can cause an increase in CA-125 level, including normal conditions, such as menstruation and non-cancerous conditions, such as uterine fibroids. Certain cancers may also cause elevated levels of CA-125, including endometrial, peritoneal and fallopian tube cancers.

### WHY IS IT DONE?

One may have a CA-125 test for several reasons.

- **TO MONITOR CANCER TREATMENT.** If one has ovarian, endometrial, peritoneal or fallopian tube cancer, doctor may recommend a CA-125 test on a regular basis to monitor the condition and treatment.
- **TO SCREEN FOR OVARIAN CANCER FOR THOSE AT RISK.** If one has a strong family history of ovarian cancer, doctor may recommend CA-125 test as a one way to screen for ovarian cancer. However, some women with ovarian cancer may not have an increased CA-125 level.
- **TO CHECK FOR CANCER RECURRENCE.** Rising CA-125 levels may indicate that ovarian cancer has come back after treatment.

### HOW IS THE SAMPLE COLLECTED FOR TESTING?

A blood sample is obtained by inserting a needle into a vein in the arm.

### PREPARATION FOR THE TEST

No special preparation is needed.

### CONDITIONS WHICH MAY HAVE ELEVATED CA-125

#### (1) MALIGNANT DISEASE

- Ovarian cancer.
- Uterine cancer.
- Other intra-abdominal cancers (pancreas, stomach, colon, rectum) and metastases from other sites (e.g. breast).

## **(2) NON-MALIGNANT CONDITIONS**

- Benign ovarian tumour.
- Endometriosis.
- Pelvic inflammatory disease.
- Pregnancy and menstruation.
- Leiomyoma.
- Ascites.
- Pancreatitis.
- Pleural and pericardial disease.

## **WHAT AFFECTS THE TEST?**

Results of CA-125 test can be affected by;

- Medicines used to treat cancer.
- A recent radioactive scan, such as a bone scan.
- Abdominal surgery. The CA-125 test should be done at least 3 weeks after the surgery.

## **NORMAL RESULTS**

A level greater than 35 U/ml is considered abnormal. Normal ranges may vary slightly among different laboratories. Some labs use different measurements or test different samples. One's doctor should be consulted about the meaning of the specific test results.

## **WHAT DO ABNORMAL RESULTS MEAN?**

In a woman who has ovarian cancer, a rise in CA-125 usually means that the disease has progressed or come back. A decrease in CA-125 usually means the disease is responding to the treatment.

In a woman who has not been diagnosed with ovarian cancer, a rise in CA-125 may mean a number of things. While it can mean that she has ovarian cancer, it can also indicate other types of cancer, as well as several diseases such as endometriosis, which are not cancer.

In healthy women, an elevated CA-125 usually does not mean ovarian cancer is present. Most healthy women with an elevated CA-125 do not have ovarian cancer, or any other cancer.

Any women with an abnormal CA-125 test needs further tests.

## **SCREENING FOR OVARIAN CANCER**

As in the case with most cancers, early detection of ovarian cancers leads to a higher cure rate. Because there is not yet a highly effective screening test for ovarian cancer, and symptoms for this cancer are variable, many women are diagnosed at a later, less treatable stage.

Therefore, there is much effort directed towards being able to screen for this cancer, or at least detect it at its earliest and most treatable stage.

The CA-125 test alone has proven to be ineffective in screening for ovarian cancer in the general population. The relatively low prevalence of ovarian cancer means that the positive predictive value

of CA-125 as a screening test is extremely low. CA-125 is unreliable in differentiating benign from malignant ovarian masses in premenopausal women because of the increased rate of false positives and reduced specificity.

However, research is going on to look at other possibilities for ovarian cancer screening. One option that seems to hold promise is the use of several tests, including the CA-125 test, performed either in sequence or together as indicators of the presence of ovarian cancer. Some recent research has shown promise using the CA-125 test over time to look for changes within an individual patient followed by ultrasound in those with elevating values.

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