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Screening for Ovarian Cancer

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Although ovarian cancer is not a common disease, it is a cause of great fear and anxiety along with much misinformation published in the media. I hope to shed a little light on the subject.

There are over thirty-five kinds of ovarian cancer. Some are more common in younger women, but most tend to strike females in their middle years. In total, ovarian cancer comprises about 1 ½ % of all cancers in U.S. women. Although some are more dangerous than others, the most common kind, *serous cystadenocarcinoma*, is also one of the most aggressive.

Because most of these cancers have already spread when they are first diagnosed, an early detection method could improve survival.

The whole point of any test screening is to find disease in its early stages when it is still easy to cure. An ideal test should be inexpensive, have little or no side effects, and should be both sensitive (*able to find most of the disease within a screened population*) and accurate (*minimized false positive results when there is actually no disease present*). Pap smears are a good example. **They are easy to do, harmless, and can detect very early stages of pre-cancer that can be cured.**

Below are some of the tests used for detecting ovarian cancer.

CA-125:

CA-125 is an enzyme produced by the intestine. Years ago it was discovered that women who had advanced cases of metastasis ovarian cancer (spread throughout the abdomen, bowels and liver), had elevated levels of the enzyme. The cancer irritates the intestines, which releases the enzyme. It was also determined that after treatment (e.g., surgically removing as much as possible, followed by chemotherapy or radiation), the levels of the enzyme would fall. CA-125 levels are used to follow the levels of metastatic disease. If levels start to rise again in a treated patient, this could indicate new spread or recurrence of the disease. **Cancer chemotherapy doctors use levels of CA-125 to follow the progress of their therapy.**

Around the time comedian Gilda Radner died (in the late 80s), doctors were experimenting with the possibility of using CA-125 as a test to identify cancer of the ovaries. Doctors were hopeful that some patients would show rising levels of the enzyme while the cancers were still small and easier to cure. Gilda's husband, actor Gene Wilder, went around the country to promote the use of CA-125 as a screening test. Unfortunately, things did not work out.

False Positives:

There are many other diseases that can elevate CA-125. Since it is an intestinal enzyme, anything that irritates the bowels can cause release of the enzyme. Endometriosis, bowel inflammation, colitis, regional enteritis and bowel infections can all cause a false positive test (elevated levels of enzyme when there is no evidence of ovarian cancer).

False Negatives:

It is only when the cancer has spread to the intestine that the CA-125 levels are increased. That means that an early cancer which is still just confined to the ovary, will not have elevated CA-125 levels. An early cancer may be there, yet it is not detected yet.

Experiments were done in the 1980s and thousands of women underwent CA-125 tests. Everyone that had a positive result received exploratory surgery – results revealed that many *positive tests* were due to other benign diseases. The few ovarian cancers found were mostly in the late stages already. **There had been lots of unnecessary surgery and few, if any, lives were saved.** The American Congress of Obstetricians and Gynecologists (ACOG) no longer recommend the use of CA-125 as a screening test for ovarian cancer.

Vaginal Ultrasound

Taking an ultrasound picture of the ovaries with a probe passed through the vagina is safe, usually painless, and convenient. It is more expensive than most blood tests or a Pap smear. The hope is that early cancers can be detected. Normal, postmenopausal ovaries are small and can be hard to find. Cysts and cystic cancers are usually fairly easy to uncover.

False Positives:

It is now known that many menopausal women may have small, simple benign cysts. Old fibroids, cysts of the fallopian tubes and cysts near the tubes can be misinterpreted as cancer, leading to surgery for a benign condition.

False Negatives:

It is possible that a small cancer can be missed, hiding among the bowels and other organs.

In women with a strong family history for some types of cancer or with symptoms of abdominal discomfort or bloating, CA-125 and vaginal ultrasound can be obtained, but it must be understood that they are far from perfect tests. Suspicious results can occur, possibly leading to surgery, where it may be discovered there was no disease or benign condition. On the other hand, normal tests do not rule out the possibility of a hidden ovarian cancer.

I continue to do CA-125 and vaginal ultrasound. They are both safe and can be positive when there is evidence of ovarian cancer. Unfortunately, both tests can have many false positives (indicating a problem when there is actually no cancer) and occasional false negatives (interpreted as normal, but is actually cancer).

The Future:

The search for the ideal Pap smear or the nearly perfect screening test for ovarian cancer still continues. Research is ongoing at Yale Medical School working with a group of six blood tests done simultaneously. It is hoped that a computer analysis of the levels for these six tests will prove to be a more accurate screening than using the CA-125 alone.