

Random thoughts on Ovarian Cancer

Why is ovarian cancer so hard to detect?

Actually, most cancers are difficult to detect. Most of the time a cancer is not found until it produces some type of symptom and is already fairly advanced. This usually requires that the cancer 1) be fairly large so that it affects the function of an organ (e.g. ovarian cancer), 2) erode into a mucosal surface and cause bleeding (e.g. colon cancer), or 3) cause pain (e.g. bone metastases).

Ovarian cancer does not erode into organs and, therefore, does not cause any unusual bleeding from the colon or vagina. As it progresses ovarian cancer spreads along the surface of organs in the abdomen and does not produce any type of pain. It is only when the volume of the cancer is great enough to cause some abdominal distension that it makes itself obvious. Since the female pelvis is designed to accommodate large objects (e.g. pregnant uterus) the total amount of tumor present before any symptoms are produced can be in the kilogram range.

You may have read that the symptoms of ovarian cancer include abdominal bloating, constipation/diarrhea, and “gassiness”. However, if I was to take a poll of a random sample of men or women over age 50 how many would admit to these same symptoms on occasion? My guess is that most people would do so. There really is no specific early symptom of this cancer (or most cancers).

Is there a test that can screen for ovarian cancer risk?

Yes and no.

A screening test for **any** cancer should ideally meet several criteria:

1. The test should detect a **pre-cancerous** change. This would allow treatment before a cancer appears. After all, we want to prevent people from ever getting a cancer! Pap smears, for instance, are meant to detect changes in the cervix that precede the development of a cancer (the Pap smear is not very reliable once a cancer is already present).
2. The test should be inexpensive. One reason that yearly colonoscopies are not recommended for colo-rectal cancer screening is the cost of the procedure. Pap smears are probably the best example of a screening tool that is relatively inexpensive.
3. The test should be painless. This may seem obvious but it is one reason why many women do not get yearly mammography.

4. An abnormal test should be easily confirmed. Histologic confirmation of an abnormal screening test requires biopsy of the suspect organ. Some areas of the body are relatively easy to biopsy (e.g. breast, cervix, colon). Other areas of the body are not so easy to biopsy (e.g. brain, bone) and preclude any type of confirmatory test. We always hope that the results of a biopsy accurately predict what is happening in the organ being biopsied but this is not always the case. Biopsy of a small object such as a 5mm breast mass is more likely to accurately rule in/out the presence of an early cancer than is biopsy of a larger structure such as a 4cm ovary.

5. The test should have both a high positive and negative predictive value. Since no test is 100% sensitive and specific the predictive power of any test is far less than perfect. This downside is overcome by only using the test in a population of patients where the prevalence of the pre-malignant condition or cancer being studied is moderately high. Let's consider 2 examples, pre-malignant changes of the cervix and cancer of the ovary.

At any given time 1 in 20 (5%) sexually active women will have a pre-malignant abnormality of the cervix. A pap smear performed on these 20 women will detect the 1 woman with a real abnormality and will falsely predict that an additional 2 women have pre-malignant abnormality (90% specificity).

At any given time 1 in 2500 women will have an ovarian cancer. A screening test with the same specificity as a pap smear would falsely predict that 250 of these women have an ovarian cancer! Even if a screening test was 99% specific it would falsely predict a cancer in 25 women!

A screening test for ovarian cancer, like most cancers, is not a real possibility for the following reasons:

1. No pre-malignant change in the ovary has been identified (this is the case for most cancers).
2. Confirmation of a screening abnormality would require histologic confirmation. The only way to prove that an ovary is not harboring an early cancer is to remove the **entire** ovary for histologic evaluation. This would require surgical removal of both ovaries.
3. To date no population with a **moderately high** risk of ovarian cancer has been identified. Interestingly, a familial type of ovarian cancer genetic risk has been identified in some families. This familial tendency induces an **extremely high** lifetime risk of developing an ovarian malignancy. Women in these families are encouraged to have prophylactic removal of the ovaries once childbearing is completed.

It's not all bad news, however.

We actually can determine familial risk with a blood test that can detect mutations in a gene, BRCA1 that, if present, predisposes to the development of both breast and ovarian cancer. This test is very expensive (e.g. \$2000) and is only covered by most insurance plans and Medicare if an evaluation by a Genetic Counselor determines the likelihood of a familial tendency. We will talk to you about this test if other members of your family had had either of these cancers.

Is it true that ovarian cancer is a really “bad” cancer?

It all depends on how you look at it.

It is true that the majority of ovarian cancers are not diagnosed until fairly advanced. However, as noted above, the same can be said for most cancers!

It helps to put things in perspective.

Of all the cancers that arise in the abdominal cavity (e.g. colon, stomach, liver, uterus, etc) ovarian cancer has the **highest** cure rate stage-for-stage!

As an example, consider stage 1 cancers of the ovary (the cancer has not yet spread beyond the ovary). Only 5% of ovarian cancers will be found when still stage 1 but these women can expect a 90% likelihood of cure! This is higher than the cure rate of any other abdominal cancer found in Stage 1.

As another example, consider stage 3 cancers of the ovary (the cancer has grossly spread into the upper abdomen). The majority of ovarian cancer patients will present with stage 3 disease. These women can expect a 50% likelihood of cure. On the other hand, a patient with any other type of abdominal cancer presenting with disease this extensive can expect a 0% likelihood of cure!

Like most cancers there can be no “margin of error” in the proper treatment of an ovarian malignancy if these high cure rates are to be attained. Everything has to be done in the right way at the right time in order to optimize cure rates.

This means that the treatment of an ovarian cancer will almost always require an initial surgical procedure with a very simple goal.....removal of all visible tumor. Sometimes this is relatively easy to do and sometimes it is much more difficult. Surgery is followed by chemotherapy for 12 to 14 months. It's not easy but the outcome is worth it!

How do you follow me after completion of treatment?

Wouldn't it be nice to have a magical test that could detect the presence of one cancer cell? Well, until we have such a test we have to rely on a battery of less-than-perfect tests.

You will be seen for a follow-up visit at 3 month intervals after completion of chemotherapy until you hit the 2-year anniversary of your diagnosis. After that point you will be seen at 6 month intervals until the 5-year anniversary.

At each visit you will be given a pelvic exam to detect any “nodularity” in the bottom part of the pelvis (cul-de-sac). This is a sensitive indicator of recurrent tumor in the pelvis. You will also have a CA125 determination at each visit.

At regular intervals, usually about every 6 months, you will get a series of CT scans (chest, abdomen and pelvis). This is continued until the 2-year anniversary of your diagnosis. After this point the likelihood of a recurrence is small enough to stop routine surveillance CT scanning.

After 5 years of follow-up we pass the baton to your Primary Physician (after all, you don't want to have to see an Oncologist any longer than you absolutely have to!).