

OVARIAN CANCER IS A MAJOR CAUSE OF MORBIDITY
AND MORTALITY
IN WOMEN

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Background

The ovaries are two of the female organs found in the lower abdomen. The ovaries are both an egg-releasing and hormone-producing organ of the female reproductive tract. They are about the size of an almond and are attached to each side of the uterus, located in the pelvic region.

Ovarian cancer is a malignant growth that develops in a woman's ovaries. Normally, cells divide in a planned way making more cells only when needed.

However, cancer happens when cells in the ovaries grow and divide without control or order, forming too much tissue and resulting in a lump.

This growth may be an ovarian cyst, which is a fluid filled sac or a solid tumor.

Ninety percent of all ovarian cancers are found as a tumor developing in the cells

lining the surface, or epithelium of the ovaries and therefore are called epithelial cell tumors (Nagel, 2000).

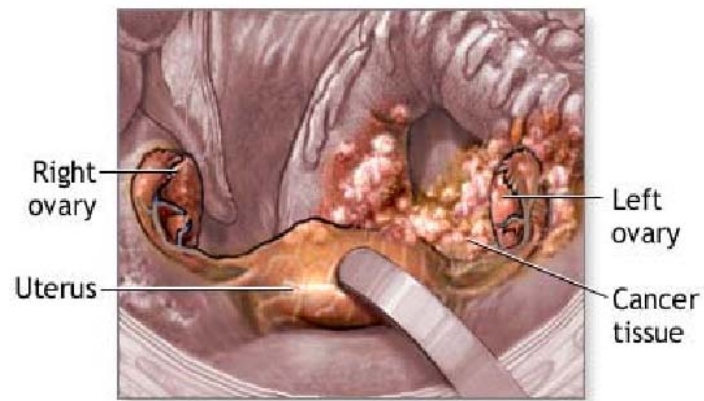


Figure 1. Cancer of the ovaries showing the close proximity to many other abdominal organs (Anwar, 2002).

Figure 1 shows the abnormal growth of the cancer cells around the left ovary. Cancer cells may continue to grow in the healthy tissues or they may break away from the tumor. The cells that break away may travel through the bloodstream or lymphatic system to other parts of the body. Ovarian cancer cells may “seed” into the abdomen and attach to other organs such as the fallopian tubes, uterus, stomach, liver or even the lung. Cancer cells may also spread to the ovaries from some other part of the body such as the breast, uterus, or intestine (Nagel, 2000).

Ovarian cancer accounts for an estimated 25,000 new cases per year and approximately 14,000 deaths per year (Calonge, 2005). This type of cancer is the fifth most common cause of cancer related deaths among U.S. women after lung, breast, colon, and pancreatic cancer (Yawn, 2004). It is also the second most common gynecological cancer, which is cancer of the female reproductive system. Ovarian cancer accounts for four percent of all cancers in women.

Because of poor early detection, the death rate for ovarian cancer is higher than for that of any other cancer among women. Only fifty percent of the women who are diagnosed with ovarian cancer will survive five years after the initial diagnosis (Rastegari, 2001). For those whose

cancer has spread beyond the ovaries, the survival rate is much lower. This is due to the cancer being at an advanced stage at the time of diagnosis. The earlier ovarian cancer is found and treated, the better the chances for long-term survival. Studies show that over ninety percent of women diagnosed with early stage disease (stage I and II) can expect a five year survival. As figure 2 shows, women diagnosed at stage

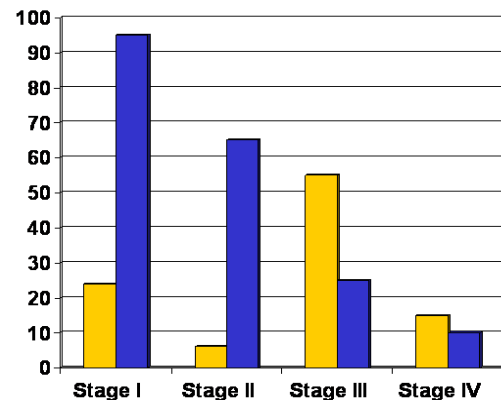


Figure 2. Early detection improves survival (Chan, 2007).

III have about a twenty five percent chance of survival and women at stage IV have only about a ten percent chance of survival (Anwar, 2002).

Etiology

The actual cause of ovarian cancer is not known, but you cannot catch it from someone else. “As with most cancers the risks of getting ovarian cancer increases with age, and more than half the cases occur in women over the age of sixty” (Carter, 2004, p. 533). A strong family history of ovarian cancer or breast cancer is the most important risk factor. The odds of developing ovarian cancer are thirty percent higher for women with a history of endometriosis

(Hollander, 2005). Heredity only plays a role in about five to ten percent of the cases of ovarian cancer. Because of a longer period of exposure to the effects of estrogen, early menstruation (before age twelve) and late menopause put women at a higher risk of developing ovarian cancer. Infertility (not having children) or if the first child was born after age thirty also increases the risk of a woman developing ovarian cancer. A high fat diet and obesity have also been reported to increase the risk. Female workers exposed to asbestos have a higher than normal risk; therefore, the use of talc powder in the genital area has been implicated in ovarian cancer because it contains particles of asbestos (Rastegari, 2001). Caucasian women especially of Northern European or of Jewish descent are also at a higher risk.

Symptoms

Ovarian cancer is known as the “silent” cancer or the “silent killer” because there are often no obvious signs or symptoms until the later stages of the disease (Anwar, 2002). It is not uncommon that many women are either unaware of having anything wrong with them, or they have vague symptoms that are not accurately diagnosed until the disease is in its advanced stages. One study, done on women with ovarian cancer who did come to their doctors with some type of early symptom, found that most had complaints that were characterized as abdominal or gastrointestinal, and usually nonspecific in nature (Calonge, 2005). Consequently, the symptoms were either not properly diagnosed or were recognized as being attributable to cancer of the ovaries only after a significant length of time had passed. Because of this, most women with ovarian cancer do not have a localized disease at the time of diagnosis.

Often the most significant sign of ovarian cancer is abnormal uterine bleeding; possibly accompanied by lower abdominal or lower back pain, with or without a palpable mass in the lower abdominopelvic quadrants. Other common symptoms which may be warning signs of ovarian cancer, but are often misdiagnosed because of their similarities to other causes, include:

loss of appetite, indigestion or a feeling of fullness after a light meal, bloating and flatulence, cramping, pelvic pressure, frequent urination, unexplained changes in bowel habits, fatigue, unexplained weight loss or weight gain, leg pain or swelling, and pain during intercourse (Rastegari, 2001). If the cancer has spread to the lungs it may cause shortness of breath due to loss of normal lung architecture and build up of fluid in the lungs. Symptoms are most common in women with diabetes, thyroid disease, and irritable bowel syndrome. Symptoms tend to be more severe, more frequent and have a shorter duration in women with malignant masses than in woman with benign masses (Wellbery, 2005).

Urinary symptoms and abdominal pain are the most common symptoms in patients with stages I and II ovarian cancer, whereas, abdominal pain and increased abdominal girth are the most common symptoms in patients with stage III and IV cancer. Both stage I and II cancers are associated with symptoms, but few symptoms are directly related to the reproductive pelvic organs or are unique to ovarian cancer (Yawn, 2004). However, when recurrent, unresolved, or unexplained, these symptoms require exclusion of ovarian cancer as an etiology. This diagnosis, in a timely manner, will reduce the time interval between the first sign or symptom and treatment.

Diagnostic Parameters

Staging is the term used to determine if the cancer is localized or if it has spread. If cancer has spread, then staging is used to determine how far, and to which organs. Staging helps define the malignancy of the cancer and determine the appropriate type of treatment. Staging includes measuring the lump and examining tissue samples that have been taken from the ovary, lymph nodes, and nearby organs where the cancer is suspected to have spread. This may include the diaphragm, lungs, stomach, intestines and the tissues covering internal organs. The National Cancer Institute stages ovarian cancer as follows: stage I, the cancer is confined to one or both

ovaries; stage II, the cancer is found in one or both ovaries and/or has spread to the uterus, fallopian tubes, and/or other parts within the pelvic cavity; stage III, cancer is found in one or both ovaries and has spread to lymph nodes or other body parts within the abdominal cavity, such as the surface of the liver or intestines; and stage IV, the cancer is found in one or both ovaries and has spread to other organs such as the liver or lung. The prognosis for ovarian cancer is very much dependent on the stage at which it is first diagnosed (Rastegary, 2001). Refer to Figure 3.

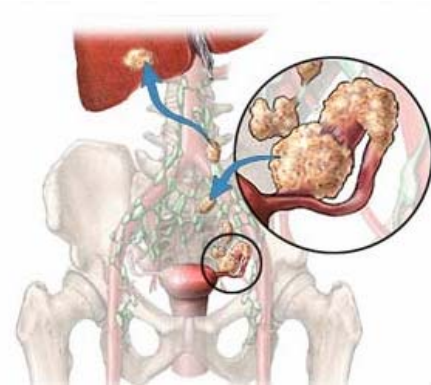


Figure 3. Ovarian Cancer Metastasis (Anwar, 2002).

The American Cancer Society recommends annual pelvic examinations for all women over age forty in hopes to increase the chances of early detection of ovarian cancer. Unfortunately, there are no effective or proven tests for detecting the disease early, such as there is for the cases of mammography and breast cancer (Anwar, 2002). The Pap test is very effective in detecting cervical cancer but only rarely detects ovarian cancer, and if it does, the ovarian cancer is usually in its late stages. It is important to obtain a complete family history during risk assessment. The American Cancer Society states that women with a strong family history of this disease may be screened; however, it is not recommended in women without known strong risk factors of ovarian cancer. If ovarian cancer is suspected on the basis of symptoms and physical examinations there are further tests and exams performed. The health care provider may ask for more extensive pelvic exams, blood tests, x-rays such as a chest x-ray, a barium enema study, CT scans, ultra sounds and MRIs (Anwar, 2002). Patients must see their health care provider as soon as possible if there is any unusual vaginal bleeding, especially after menopause. Ovarian cancer should be considered in any pre-menopausal woman with an

enlargement of the ovary or any postmenopausal women with a palpable ovary. If all efforts are made by the patients, physicians and health care providers to detect the disease in its earlier stages there is a better chance for successful treatment and survival.

Treatment

Treatment offered will primarily depend on the stage of the cancer and also on the women's age. There are different ways to treat ovarian cancer, the most common being surgery, radiation therapy, and/or anticancer medication (chemotherapy). Often, two or more types of treatments are often used together, e.g. chemotherapy combined with radiation therapy or chemotherapy combined with surgery. If cancer is detected early, surgery is always the preferred treatment (Rastegari, 2001). The exact type of surgery will depend on the extent of the disease and the patients underlying health. In most cases, the ovaries, the uterus, and the fallopian tubes are completely removed. In rare cases only the cancerous ovary is removed while the other ovary, uterus and fallopian tubes are left intact. If the woman is very young and the ovarian cancer is diagnosed early all attempts will be made to spare the uterus and reproductive function. Unfortunately, ovarian cancer spreads easily and quickly so usually this is not an option, and it becomes necessary to remove all reproductive organs. Some surgeries cannot be curative, but are instead performed as a palliative measure to remove as much of the tumor as possible; this is called tissue debulking. The removal of an ovary is called an oophorectomy and the removal of both ovaries is called a bilateral oophorectomy. The removal of the fallopian tubes and ovaries is called a bilateral salpingo-oophorectomy. Unless it is very clear that the cancer has not spread then the fallopian tubes are usually removed. Removal of the uterus is called a hysterectomy. If a woman is at high risk for ovarian cancer, then having a hysterectomy is advised. After surgery, chemotherapy is usually administered (Carter, 2004). If the ovaries are removed it is usually

also advisable to take oral hormones to replace those which are normally produced by the ovaries.

Chemotherapy targets the cancer cells that remain in the body and cause the cancer to come back or spread. This includes cancer cells that have traveled to other organs and throughout the body via the lymphatic system or the blood stream. Chemotherapy drugs are designed to kill cancer cells; however, they are also harmful to the healthy cells. Managing these ill effects is an important part of the cancer treatment. Currently chemotherapy drugs are used in combinations. After the full course of the chemotherapy has been given there may be a second surgery to examine the abdominal cavity again in order to evaluate the success of the treatment.

Radiation therapy involves the use of high-energy, highly focused x-rays to target very specific areas of the cancer. For patients with incurable ovarian cancer, radiation therapy may be used to shrink tumor masses in order to provide pain relief and improve the quality of life. Once the full course of this treatment has been undertaken it is very important to have regular follow-up care to monitor for any long-term side effects as well as for future relapse or metastases.

Prevention

Since the cause of ovarian cancer is unknown it is not possible to fully prevent the disease. However, there are ways to reduce the risks of developing the disease. Multiple pregnancies appear to reduce the risk of ovarian cancer as does lactation or breast feeding. The risk of ovarian cancer decreases with the number of years using birth control (Hollander, 2005). Oral contraceptives are often prescribed as a treatment for endometriosis. Women who have been sterilized or have undergone tubal ligation have a reduced risk of ovarian cancer. Strategies to reduce the likelihood of ovarian cancer are critical in all women, especially in women at an identifiably increased risk.

Conclusion

Accepting the diagnosis of cancer is hard. A cancer victim, and close friends and relatives, may feel scared, angry, sad or depressed. These are normal feelings, and a woman with ovarian cancer, or any other cancer, must take care of herself by expressing her fears and her concerns. There are numerous cancer support groups for women with ovarian cancer, and patients are encouraged to talk about their feelings with their family, friends, religious leaders and caregivers. Support groups help women learn about cancer treatment while spreading the message about the importance of ovarian cancer in a population where increasing numbers of women are having earlier menarche, later menopause, and few, or no children. At present, ovarian cancer cannot be prevented; however, there are precautions that can be taken in order to increase the chances of early detection which will in turn give a better chance for survival and an improved quality of life.

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