

Your
Journal

Breast Cancer: Early Detection

The TV Series

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UNDERSTANDING BREAST CANCER

Breast cancer is the most common cancer in women and women living in North America have the highest rate of breast cancer in the world. The rate has been steadily rising since 1980 and continues to rise in women aged 50 or older. And in Europe, while Western European women are diagnosed with breast cancer more often, there is a higher rate of cancer related mortality among Eastern European women. In 2005, it is estimated that more than one million women around the world will be diagnosed with breast cancer.

Breast cancer is the illness that many women fear most, yet there's more reason for optimism today. In the past thirty years, healthcare workers have made great strides in the diagnosis and treatment of the disease. In the past a diagnosis of breast cancer usually meant radical mastectomy. Today, radical mastectomy is rarely performed. Instead, there are more and better treatment options, and many women are candidates for breast-sparing operations.

Since there is no way to prevent breast cancer early detection is key. Early detection and improved treatment have likely contributed to a 2% annual decrease in breast cancer deaths for American women over the past decade.

Risk Factors

When a woman hears she has breast cancer, she may wonder if she did something wrong, something that caused her to have cancer. But in fact, the exact cause of breast cancer is unknown. Heredity, early puberty, late childbearing, and lifestyle factors can play a role but, the biggest risk for breast cancer is growing older.

Women who are at high risk for breast cancer include those who:

- are over age 60
- have already had cancer in one breast
- have never had a full term pregnancy or were 30 years old or more when their first child was born
- who began their menstrual cycle before age 12 or who started menopause after 50
- who have the BRCA1 or BRCA2 gene or another form of inherited breast cancer

Signs and Symptoms

The early stages of breast cancer may not have any symptoms. This is why it is important to follow screening recommendations. As the cancer grows in size, it can produce a variety of symptoms including:

- a lump or thickening in the breast or underarm
- a change in size or shape of the breast
- nipple discharge or nipple turning inward
- redness or scaling of the skin or nipple
- ridges or pitting of the breast skin

Detection

Looking for evidence of breast cancer before symptoms appear is critical to finding the disease in its early stages. Screening for breast cancer depends on the risk factors and the age of the patient. Typical screenings include breast self-examination, clinical breast exam (by a healthcare professional), or by mammograms (mammography).

Doctors say that all women between the ages of 40 to 69 should have a mammogram every year and some women in high-risk categories should discuss possible early mammography with their doctors. While the vast majority of mammogram findings are not cancer, if cancer is suspected a biopsy must be done to confirm the diagnosis and stage the disease.

DIAGNOSIS & MANAGEMENT

Stages

'Staging' is a method that has been developed to describe the extent of cancer growth. Breast cancer is 'staged' by information that is obtained from surgical and other findings. In order to guide treatment and offer some insight into prognosis, breast cancer is staged into five different groups.

Early stage is stage 0, 1 or 2, where the breast cancer is largely localized to the breast, but may also involve some lymph nodes. Intermediate stage, stage 3 is when there's a large cancer in the breast or there is extensive lymph node involvement. Advanced stage cancer is stage 4, where the cancer has spread beyond the breast and the lymph nodes to distant sites like the bones or the liver.

Treatment

The war against breast cancer is waged on many fronts. There are literally dozens of options for women today that include some combination of surgery, radiation therapy, chemotherapy, hormone therapy and in some cases, targeted therapy.

The majority of women with breast cancer will have some type of surgery in the course of their treatment. The purpose of surgery is to remove as much of the cancer as possible, and there are many different ways that the surgery can be carried out. Some women will be candidates for BCT (breast conservation therapy). In BCT, surgeons perform a lumpectomy which means they remove the tumor with a little bit of breast tissue around it without removing the entire breast. During surgery, the surgeon may also dissect the lymph nodes under the arm so the pathologist can review them for signs of cancer. More advanced breast cancers are usually treated with a modified radical mastectomy. Modified radical mastectomy means removing the entire breast and dissecting the lymph nodes under the arm.

Despite the fact that the cancers are removed by surgery, there is always a risk of recurrence because there may be microscopic cancer cells that have spread to distant sites in the body. In order to decrease a patient's risk of recurrence, many breast cancer patients are offered chemotherapy and/or radiation therapy (radiotherapy). Radiation therapy is used in all patients who receive breast conservation therapy (BCT). Radiation is important in reducing the risk of local recurrence and is often offered in more advanced cases to kill cancer cells that may be living in lymph nodes.

Since the female hormone estrogen helps breast cancers grow and spread, hormone therapy may be suggested for treatment. Hormonal therapies may be used in addition to surgery, chemotherapy, and radiotherapy for treating breast cancer. The aim of hormonal therapies is to:

- destroy any cancer cells that could be left in the breast after surgery and/or radiotherapy
- destroy any cancer cells that may have spread outside the breast and armpit, but cannot be detected
- reduce the risk of a new breast cancer developing in either breast.

Hormone medications may reduce a woman's risk of developing breast cancer by 50 percent. Hormone medications are one example of targeted therapies. Other targeted therapies include medications designed especially to attack cancers with a specific mutation. One example of this is the HER-2 gene mutation. Research has found that there's one particular subtype of breast cancer than has an alteration in a gene called HER-2. HER-2 positive breast cancers occur in about 25 percent of women diagnosed with the disease. They can be very aggressive cancers that recur much more rapidly and much more often and they spread to other sites in the body rapidly as well. Targeted therapies specifically attack this genetic mutation and research suggests this treatment can control the potential spread of the disease as well as limit the possibility that it will recur.

In brief

Treatment in developed nations like the United States and those in Western Europe is often successful and can result in long term survival free of disease because of dramatic improvements in breast cancer therapy. Experts believe that as women understand the progress that's been made in treating breast cancer over the past 30 years, the pervasive fear of the disease will begin to diminish. And as more women live many years past a breast cancer diagnosis, they can help other women navigate through the experience and look forward to the future.

FREQUENTLY ASKED QUESTIONS

Q In what part of the breast does cancer usually originate?

A In breast cancer, cancer cells in the breast tissue divide and grow in an uncontrolled manner. About 20% of breast cancers originate in the milk-producing glands (lobules). About 80% originate in the mammary ducts, the milk passages that connect the lobules and the nipple.

Q Does cancer in the breast grow rapidly or slowly?

A Cancerous tumors in the breast usually grow very slowly. By the time one is large enough to be felt as a lump, it may have been growing for as long as ten years.

Q What are BRCA1 and BRCA2?

A In 1994, scientists discovered a single gene, BRCA1 that, when mutated, appeared to greatly increase a person's chances of developing breast cancer. The discovery of this gene was quickly followed by the discovery of another gene, BRCA2 that also predisposed people to breast cancer. Both BRCA1 and BRCA2 mutations are passed along through family history from one generation to another.

Q What are lymph nodes?

A Lymph nodes are small, pea-sized pieces of tissue that filter and clean the lymph. Most lymph nodes that drain the breast are under the arm in what is called the axilla.

Q What is a mammogram?

A A mammogram is an x-ray of the breast; the principle method of detecting breast cancer in women over 40. Mammograms are made using a special type of x-ray machine which can show a developing breast tumor before it is large enough to be felt by a woman or even by a health care professional.

Q What is chemotherapy?

A Chemotherapy is the use of drugs to kill cancer cells. The drugs given in many forms including: pill, injection, or by catheter, enter the bloodstream and travel through the body attacking mostly cancer cells, but they may also harm some healthy cells. Harm to healthy cells is what causes side effects. These cells usually repair themselves after chemotherapy.

Q What does radiation therapy involve?

A Radiation therapy (also called radiotherapy) is a cancer treatment in which high levels of energy rays are used to destroy or shrink cancer cells; radiation is usually dispensed from inside the body or directly into the tumor.

Q What is targeted cancer therapy?

A Targeted cancer therapy uses drugs that block the growth and spread of cancer. Targeted cancer therapy interferes with specific molecules involved in carcinogenesis and tumor growth.

DATA. RESOURCES. HOTLINES. PUBLICATIONS and MEDIA CONTACTS

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Living Beyond Breast Cancer

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www.lbbc.org

National Alliance of Breast Cancer Organizations

9 E. 37th Street
10th Floor
New York, NY 10016
(P) 888-80-NABCO
www.nabco.org

Sisters Network, Inc.

8787 Woodway Drive
Suite 4206
Houston, TX 77063
(P) 713-781-0255
www.sistersnetworkinc.org

Susan G. Komen Breast Cancer Foundation

5005 LBJ Freeway
Suite 250
Dallas, TX 75244
(P) 1-800-IM AWARE
www.komen.org

The Breast Cancer Fund

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San Francisco, CA 94115
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Women's Information Network Against Breast Cancer

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(P) 626-332-2255
www.winabc.org

Y-Me National Breast Cancer Organization

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Chicago, IL 60607
(P) 800-221-2141
www.Y-ME.org

American Cancer Society

1599 Clifton Road NE
Atlanta, GA 30329
(P) 800-ACS-2345
www.cancer.org

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www.nci.nih.gov

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■ For a DVD copy of a 30 minute documentary style program "Breast Cancer" call 1-800-380-6500 or visit www.healthybodyhealthymind.com

