What Are the Early Signs of Breast Cancer?

Breast cancer is the second most common cancer found in women — after skin cancer — but that doesn't mean men aren't at risk as well. Although the percentage of cases in men is much lower than in women, male breast cancer accounts for a portion of new cases every year. The disease has no barriers when it comes to gender, ethnicity or race, and anyone could potentially develop it, particularly if they have certain risk factors, such as prior oral contraceptive or hormone use, genetic factors and family history.

Fortunately, scientists and researchers have made great strides in the treatment of breast cancer. Being vigilant and watching for the early signs of breast cancer is one of the most effective steps in successful treatment. Detecting breast cancer in the early stages before it progresses very far often leads to positive outcomes.

Breast Cancer Statistics and Facts

Approximately one out of every eight women in the United States will develop invasive breast cancer. This equates to an average risk of around 13%. Women who have a mother, sister or daughter with breast cancer are almost twice as likely to develop it as other women. The risk increases to about three times as likely if they have more than one relative in this close family group with breast cancer. However, most women who develop breast cancer don't have any family history at all. Only about 15% of women have other family members who were previously diagnosed with the disease.

For men, the risk of developing breast cancer is much lower than women, about 100 times lower for white men, in fact. Black men, on the other hand, are only about 70 times less likely to develop it than black women. On average, roughly one out of every 833 men will develop breast cancer.

Early Breast Cancer Symptoms

Breast cancer is obviously common enough, particularly in women, to cause concern, but early detection can tip the scales in favor of a positive outcome. For starters, it's important to pay attention to breast appearance, because one of the earliest signs of breast cancer is a change in breast size or shape due to swelling or other factors. Some women may notice pain or a red, irritated rash in a certain area that doesn't go away, and lumps may be felt or even be visible in the breast or the underarm area. Veins that become more prominent, dimpling in the breast tissue and nipple discharge are also signs that should be investigated.

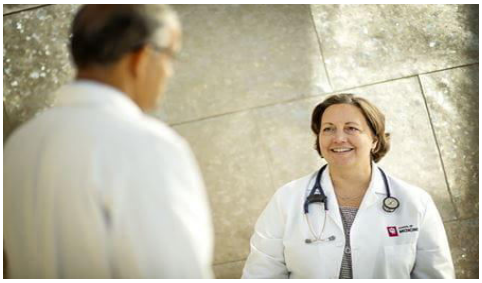
Women could have all the symptoms of breast cancer or only a few, so it's important to be diligent about all the potential signs. On the other hand, symptoms don't always mean you have breast cancer. Many of the symptoms could also be signs of other less serious conditions. The goal is to be proactive and work with your doctor to evaluate possible signs of breast cancer — but without panicking.

National Cancer Institute

Institute

Genomic medicine key to treating aggressive breast cancers disproportionately affecting African American women

Laura Gates Oct 09, 2020



A breast cancer diagnosis will disrupt the lives of about 325,000 women in the United States this year, and more than 42,000 are expected to die from the disease in 2020. Although breast cancer affects people of all ethnicities and from all walks of life, some populations are disproportionately impacted.

Compared to white women, the lifetime risk of developing breast cancer is slightly lower for African Americans; however, the risk of dying from the disease is higher for African American women. For years, the medical community thought these disparities could be solely attributed to socioeconomic factors, but current research tells a much more complex story. Biology and genomics are also at play.

“We have seen for decades that African American women have lower incidence of breast cancer but a higher mortality rate. For a long time, we thought that difference could all be attributed to access to care. Several studies tried to control for socioeconomic factors, and when you do that, the differences in mortality get smaller, but they don’t completely go away,” said Kathy Miller, MD, Ballvé Lantero Professor of Oncology at Indiana University School of Medicine and associate director of clinical research at IU Melvin and Bren Simon Comprehensive Cancer Center.

“The socioeconomic factors are certainly important and need to be addressed, but there are biologic factors as well.”

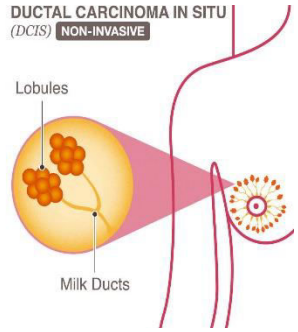
According to the American Cancer Society, 40 percent of racial variation in breast cancer subtypes may be due to inherited genetic mutations. Of all ethnicities, African American women are the most likely to develop *triple negative breast cancer*, an often deadly form of breast cancer that is not responsive to hormone therapies and is resistant to chemotherapy.

Types

Types of breast cancer include ductal carcinoma in situ, invasive ductal carcinoma, inflammatory breast cancer, and metastatic breast cancer.

What Is Ductal Carcinoma In Situ?

Ductal carcinoma in situ (DCIS) is a non-invasive cancer where abnormal cells have been found in the lining of the breast milk duct. The atypical cells have not spread outside of the ducts into the surrounding breast tissue. Ductal carcinoma in situ is very early cancer that is highly treatable, but if it's left untreated or undetected, it may spread into the surrounding breast tissue.



What does the term, "in situ" mean?

The earliest stages of cancers are called "carcinoma in situ." Carcinoma means "cancer" and in situ means "in the original place."

Lobular Carcinoma In Situ (LCIS)

What Is Lobular Carcinoma In Situ?

Lobular Carcinoma In Situ (LCIS) is a condition where abnormal cells are found in the lobules of the breast. The atypical cells have not spread outside of the lobules into the surrounding breast tissue. LCIS is highly treatable and seldom becomes invasive cancer. However, having LCIS in one breast increases the risk of developing breast cancer in either breast.

What Does The Term "In Situ" Mean?

The earliest stages of cancers are called "carcinoma in situ." Carcinoma means "cancer" and in situ means "in the original place."

What Is The Difference Between Invasive Lobular Carcinoma (ILC) and Lobular Carcinoma In Situ (LCIS)?

LCIS means the cancer is still contained in the milk glands and has not invaded any other area. ILC is cancer that began growing in the lobules and is invading the surrounding tissue. Cancer staging done by a physician, along with a physical exam and medical history can help identify the best treatment options.

Over 80% of the time, invasive lobular breast cancer is ER+ and HER2-. Sometimes invasive lobular breast cancer can be larger than it appears to be when reviewing a mammogram because of the way it grows. It can be commonly identified as a higher stage cancer. Invasive lobular carcinoma is known for being a slow growing tumor, usually grade I or II. Slow growing, grade I tumors don't usually respond well to chemotherapy, so hormonal therapy is key for this type of cancer. If it spreads to other organs, becoming Stage IV breast cancer, it typically goes to the colon, uterus, ovary, stomach, lung, bone, and other areas.

national cancer institute website

Johns Hopkins Medicine

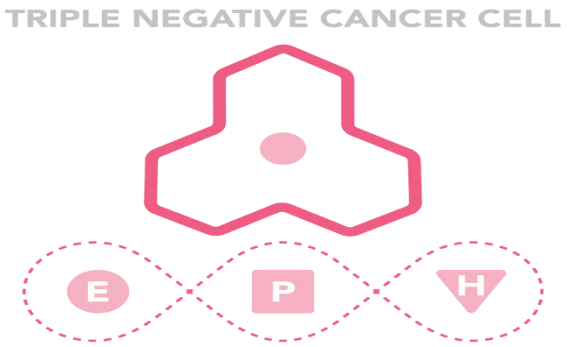
Triple Negative Breast Cancer?

Of all ethnicities, African American women are the most likely to develop triple negative breast cancer, an often deadly form of breast cancer that is not responsive to hormone therapies and is resistant to chemotherapy.

Miller is among several IU School of Medicine researchers studying why African American women are more likely to develop aggressive types of breast cancer and how treatments can be tailored to fight these cancers more effectively.

What Is Triple Negative Breast Cancer?

A diagnosis of triple negative breast cancer means that the three most common types of receptors known to fuel most breast cancer growth–estrogen, progesterone, and the HER-2/neu gene– are not present in the cancer tumor. This means that the breast cancer cells have tested negative for hormone epidermal growth factor receptor 2 (HER-2), estrogen receptors (ER), and progesterone receptors (PR).



Since the tumor cells lack the necessary receptors, common treatments like hormone therapy and drugs that target estrogen, progesterone, and HER-2 are ineffective. Using chemotherapy to treat triple negative breast cancer is still an effective option. In fact, triple negative breast cancer may respond even better to chemotherapy in the earlier stages than many other forms of cancer.

Who Is At Risk For Triple Negative Breast Cancer?

Triple negative breast cancer occurs in about 10-20% of diagnosed breast cancers and is more likely to affect younger people, African Americans, Hispanics, and/or those with a BRCA1 gene mutation.

What Is The Prognosis For Triple Negative Breast Cancer?

Triple negative breast cancer can be more aggressive and difficult to treat. Also, the cancer is more likely to spread and recur. The stage of breast cancer and the grade of the tumor will influence your prognosis. Research is being done currently to create drug therapies that are specific for triple negative breast cancer.

National Breast Cancer

Cancer (IBC)Inflammatory Breast

Inflammatory breast cancer is an an aggressive and fast growing breast cancer in which cancer cells infiltrate the skin and lymph vessels of the breast. It often produces no distinct tumor or lump that can be felt and isolated within the breast. But when the lymph vessels become blocked by the breast cancer cells, symptoms begin to appear.

Novartis Pharmaceuticals Corporation

Facts About Metastatic Breast Cancer:

For premenopausal women:

It is estimated that as of January 2017, more than 20,000 women with mBC in the United States were younger than 50.

The frequency of metastatic breast cancer in women under 40 years old has increased over the last 30 years.

Nearly 80% of young women diagnosed with breast cancer find abnormal changes in their breast themselves.

For postmenopausal women:

Metastatic breast cancer can occur 5, 10, or even 15 years after an early-stage diagnosis.

61 is the average age women are diagnosed with de novo metastatic breast cancer.

84% of metastatic breast cancer deaths occur in women over the age of 50.

Types of Metastatic Breast Cancer

There's more than one type of metastatic breast cancer. Each type is determined by whether or not certain proteins are found on or in cancer cells. These proteins include hormone receptors (HRs) and human epidermal growth factor receptor 2 (HER2). A plus sign means that your cancer has the protein, while a minus sign means that it has either a small amount of the protein or none at all.

Some Subtypes Are More Common Than Others

HR+, HER2- (hormone receptor-positive, human epidermal growth factor receptor 2-negative) is the most common type of breast cancer, affecting approximately 73% of all people with metastatic breast cancer. HR+ breast cancer can also be referred to as **ER+ (estrogen receptor-positive) or PR+ (progesterone receptor-positive)**. This means that the breast cancer is fueled by the hormone estrogen or progesterone.

Metastatic breast cancer can occur in any part of the body but most commonly affects the bones, brain, liver or lungs.

Indication

PIQRAY® (alpelisib) tablets is a prescription medicine used in combination with the medicine fulvestrant to treat women who have gone through menopause, and men:

who have hormone receptor (HR)-positive, human epidermal growth factor receptor 2 (HER2)-negative advanced breast cancer or breast cancer that has spread to other parts of the body (metastatic), with an abnormal phosphatidylinositol-3-kinase catalytic subunit alpha (PIK3CA) gene, and whose disease has progressed on or after endocrine therapy

Your health care provider will test your cancer for an abnormal "PIK3CA" gene to make sure that PIQRAY is right for you. It is not known if PIQRAY is safe and effective in children.

END

Center For Disease Control And Prevention CDC

The BRCA1 and BRCA2 Genes

The genes most commonly affected in hereditary breast and ovarian cancer are the breast cancer 1 (BRCA1) and breast cancer 2 (BRCA2) genes. About 3% of breast cancers (about 7,500 women per year) and 10% of ovarian cancers (about 2,000 women per year) result from inherited mutations in the BRCA1 and BRCA2 genes.

Normally, the BRCA1 and BRCA2 genes protect you from getting certain cancers. But some mutations in the BRCA1 and BRCA2 genes prevent them from working properly, so that if you inherit one of these mutations, you are more likely to get breast, ovarian, and other cancers. However, not everyone who inherits a BRCA1 or BRCA2 mutation will get breast or ovarian cancer.

Everyone has two copies of the BRCA1 and BRCA2 genes, one copy inherited from their mother and one from their father. Even if a person inherits a BRCA1 or BRCA2 mutation from one parent, they still have the normal copy of the BRCA1 or BRCA2 gene from the other parent. Cancer occurs when a second mutation happens that affects the normal copy of the gene, so that the person no longer has a BRCA1 or BRCA2 gene that works properly. Unlike the inherited BRCA1 or BRCA2 mutation, the second mutation would not be present throughout the person's body, but would only be present in the cancer tissue.

Breast and ovarian cancer can also be caused by inherited mutations in genes other than BRCA1 and BRCA2. This means that in some families with a history of breast and ovarian cancer, family members will not have mutations in BRCA1 or BRCA2, but can have mutations in one of these other genes. These mutations might be identified through genetic testing using multigene panels, which look for mutations in several different genes at the same time.

You and your family members are more likely to have a BRCA1 or BRCA2 mutation if your family has a strong history of breast or ovarian cancer. Family members who inherit BRCA1 and BRCA2 mutations usually share the same mutation. If one of your family members has a known BRCA1 or BRCA2 mutation, other family members who get genetic testing should be checked for that mutation.

If you are concerned that you could have a BRCA1, BRCA2, or other mutation related to breast and ovarian cancer, the first step is to collect your family health history of breast and ovarian cancer and share this information with your doctor.

Recurrent Breast Cancer

Recurrent breast cancer is breast cancer that comes back after initial treatment. Although the initial treatment is aimed at eliminating all cancer cells, a few may have evaded treatment and survived. These undetected cancer cells multiply, becoming recurrent breast cancer.

Recurrent breast cancer may occur months or years after your initial treatment. The cancer may come back in the same place as the original cancer (local recurrence), or it may spread to other areas of your body (distant recurrence).

Learning you have recurrent breast cancer may be harder than dealing with the initial diagnosis. But having recurrent breast cancer is far from hopeless. Treatment may eliminate local, regional or distant recurrent breast cancer. Even if a cure isn't possible, treatment may control the disease for long periods of time.

Local recurrence

In a local recurrence, cancer reappears in the same area as your original cancer.

If you've undergone a lumpectomy, the cancer could recur in the remaining breast tissue. If you've undergone a mastectomy, the cancer could recur in the tissue that lines the chest wall or in the skin.

Signs and symptoms of local recurrence within the same breast may include:

- A new lump in your breast or irregular area of firmness
- Changes to the skin of your breast
- Skin inflammation or area of redness
- Nipple discharge

Signs and symptoms of local recurrence on the chest wall after a mastectomy may include:

One or more painless nodules on or under the skin of your chest wall

A new area of thickening along or near the mastectomy scar

Regional recurrence

A regional breast cancer recurrence means the cancer has come back in the nearby lymph nodes.

Signs and symptoms of regional recurrence may include a lump or swelling in the lymph nodes located:

- Under you arm
- Near your collarbone
- In the groove above your collarbone
- In your neck

Distant recurrence

A distant (metastatic) recurrence means the cancer has traveled to distant parts of the body, most commonly the bones, liver and lungs.

Signs and symptoms include:

- Persistent and worsening pain, such as chest, back or hip pain
- Persistent cough
- Difficulty breathing

Loss of appetite

- Weight loss without trying
- Severe headaches
- Seizures

When to see a doctor

After your breast cancer treatment ends, your doctor will likely create a schedule of follow-up exams for you. During follow-up exams, your doctor checks for any symptoms or signs of cancer recurrence.

You can also report any new signs or symptoms to your doctor. Make an appointment with your doctor if you notice any persistent signs and symptoms that worry you.

Causes

Recurrent breast cancer occurs when cells that were part of your original breast cancer break away from the original tumor and hide nearby in the breast or in another part of your body. Later, these cells begin growing again.

The chemotherapy, radiation, hormone therapy or other treatment you may have received after your first breast cancer diagnosis was intended to kill any cancer cells that may have remained after surgery. But sometimes these treatments aren't able to kill all of the cancer cells.

Sometimes cancer cells may be dormant for years without causing harm. Then something happens that activates the cells, so they grow and spread to other parts of the body. It's not clear why this occurs.

Risk factors

- For breast cancer survivors, factors that increase the risk of a recurrence include:
- Lymph node involvement. Finding cancer in nearby lymph nodes at the time of your original diagnosis increases your risk of the cancer coming back.
- Larger tumor size. People with larger tumors have a greater risk of recurrent breast cancer.
- Positive or close tumor margins. During breast cancer surgery, the surgeon tries to remove the cancer along with a small amount of the normal tissue that surrounds it. A pathologist examines the edges of the tissue to look for cancer cells.
- If the borders are free of cancer when examined under a microscope, that's considered a negative margin. If any part of the border has cancer cells (positive margin), or the margin between the tumor and normal tissue is close, the risk of breast cancer recurrence is increased.

Lack of radiation treatment following a lumpectomy - Most people who choose a lumpectomy (wide local excision) for breast cancer undergo breast radiation therapy to reduce the risk of recurrence. Those who don't undergo the radiation therapy have an increased risk of local breast cancer recurrence.

Younger age - Younger people, particularly those under age 35 at the time of their original breast cancer diagnosis, face a higher risk of recurrent breast cancer.

Inflammatory breast cancer - People with inflammatory breast cancer have a higher risk of local recurrence.

Lack of endocrine therapy for hormone receptor-positive breast cancer - In people who have a certain type of breast cancer, not receiving endocrine therapy can raise their risk of recurrence.

Cancer cells with certain characteristics - If your breast cancer wasn't responsive to hormone therapy or treatments directed at the HER2 gene (triple negative breast cancer), you may have an increased risk of breast cancer recurrence.

Obesity - Having a higher body mass index increases your risk of recurrence.

Prevention

Strategies that have been linked to a reduced risk of breast cancer recurrence include:

Hormone therapy - Taking hormone therapy after your initial treatment may reduce the risk of recurrence if you have hormone receptor positive breast cancer. Hormone therapy may continue for at least five years.

Chemotherapy - For people with breast cancer who have an increased risk of cancer recurrence, chemotherapy has been shown to decrease the chance that cancer will recur, and those who receive chemotherapy live longer.

Radiation therapy - People who've had a breast-sparing operation to treat their breast cancer and those who had a large tumor or inflammatory breast cancer have a lower chance of the cancer recurring if they're treated with radiation therapy.

Targeted therapy - If your cancer makes extra HER2 protein, drugs that target that protein can help decrease the chance of the cancer recurring.

Bone-building drugs - Taking bone-building drugs reduces the risk of cancer recurring in the bones (bone metastasis) in people with an increased risk for breast cancer recurrence.

Maintaining a healthy weight - Maintaining a healthy weight may help decrease the risk of recurrent breast cancer.

Exercising - Regular exercise may reduce your risk of breast cancer recurrence.

Choosing a healthy diet - Focus on including lots of vegetables, fruits and whole grains in your diet. If you choose to drink alcohol, limit yourself to one drink a day.

End