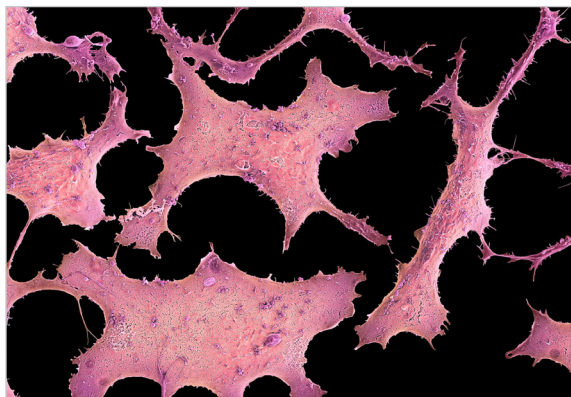


## Inflammatory Breast Cancer



### What is inflammatory breast cancer?

Inflammatory breast cancer is a rare and very aggressive disease in which cancer cells block lymph vessels in the skin of the breast. This type of breast cancer is called “inflammatory” because the breast often looks swollen and red, or inflamed.

Inflammatory breast cancer is rare, accounting for 1 to 5 percent of all breast cancers diagnosed in the United States. Most inflammatory breast cancers are invasive ductal carcinomas, which means they developed from cells that line the milk ducts of the breast and then spread beyond the ducts.

Inflammatory breast cancer progresses rapidly, often in a matter of weeks or months. At diagnosis, inflammatory breast cancer is either stage III or IV disease, depending on whether cancer cells have spread only to nearby lymph nodes or to other tissues as well.

Additional features of inflammatory breast cancer include the following:

- Compared with other types of breast cancer, inflammatory breast cancer tends to be diagnosed at younger ages.
- Inflammatory breast cancer is more common and diagnosed at younger ages

in African American women than in white women.

- Inflammatory breast tumors are frequently hormone receptor negative, which means they cannot be treated with hormone therapies, such as tamoxifen, that interfere with the growth of cancer cells fueled by estrogen.

- Inflammatory breast cancer is more common in obese women than in women of normal weight.

Like other types of breast cancer, inflammatory breast cancer can occur in men, but usually at an older age than in women.

### What are the symptoms of inflammatory breast cancer?

Symptoms of inflammatory breast cancer include swelling (edema) and redness (erythema) that affect a third or more of the breast. The skin of the breast may also appear pink, reddish purple, or bruised. In addition, the skin may have ridges or appear pitted, like the skin of an orange (called peau d’orange). These symptoms are caused by the buildup of fluid (lymph) in the skin of the breast. This fluid buildup occurs because cancer cells

have blocked lymph vessels in the skin, preventing the normal flow of lymph through the tissue. Sometimes the breast may contain a solid tumor that can be felt during a physical exam, but more often a tumor cannot be felt.

Other symptoms of inflammatory breast cancer include a rapid increase in breast size; sensations of heaviness, burning, or tenderness in the breast; or a nipple that is inverted (facing inward). Swollen lymph nodes may also be present under the arm, near the collarbone, or both.

It is important to note that these symptoms may also be signs of other diseases or conditions, such as an infection, injury, or another type of breast cancer that is locally advanced. For this reason, women with inflammatory breast cancer often have a delayed diagnosis of their disease.

### How is inflammatory breast cancer diagnosed?

Inflammatory breast cancer can be difficult to diagnose. Often, there is no lump that can be felt during a physical exam or seen in a screening mammogram. In addition, most women



diagnosed with inflammatory breast cancer have dense breast tissue, which makes cancer detection in a screening mammogram more difficult. Also, because inflammatory breast cancer is so aggressive, it can arise between scheduled screening mammograms and progress quickly. The symptoms of inflammatory breast cancer may be mistaken for those of mastitis, which is an infection of the breast, or another form of locally advanced breast cancer.

To help prevent delays in diagnosis and in choosing the best course of treatment, an international panel of experts published guidelines on how doctors can diagnose and stage inflammatory breast cancer correctly. Their recommendations are summarized below.

Minimum criteria for a diagnosis of inflammatory breast cancer include the following:

- A rapid onset of erythema (redness), edema (swelling), and a peau d'orange appearance (ridged or pitted skin) and/or abnormal breast warmth, with or without a lump that can be felt.
- The above-mentioned symptoms have been present for less than 6 months.
- The erythema covers at least a third of the breast.
- Initial biopsy samples from the affected breast show invasive carcinoma.

Further examination of tissue from the affected breast should include testing to see if the cancer cells have hormone receptors (estrogen and progesterone receptors) or if they have greater than normal amounts of the HER2 gene and/or the HER2 protein (HER2-positive breast cancer).

Imaging and staging tests include the following:

- A diagnostic mammogram and an ultrasound of the breast and regional (nearby) lymph nodes
- A PET scan or a CT scan and a bone scan to see if the cancer has spread to other parts of the body

Proper diagnosis and staging of inflammatory breast cancer helps doctors develop the best treatment plan and estimate the likely outcome of the disease. Patients diagnosed with inflammatory breast cancer may want to consult a doctor who specializes in this disease.

### How is inflammatory breast cancer treated?

Inflammatory breast cancer is generally treated first with systemic chemotherapy to help shrink the tumor, then with surgery to remove the tumor, followed by radiation therapy. This approach to treatment is called a multimodal approach. Studies have found that women with inflammatory breast cancer who are treated with a multimodal approach have better responses to therapy and longer survival. Treatments used in a multimodal approach may include those described below.

- **Neoadjuvant chemotherapy:** This type of chemotherapy is given before surgery and usually includes both anthracycline and taxane drugs. Doctors generally recommend that at least six cycles of neoadjuvant chemotherapy be given over the course of 4 to 6 months before the tumor is removed, unless the disease continues to progress during this time and doctors decide that surgery should not be delayed.
- **Targeted therapy:** Inflammatory breast cancers often produce greater

than normal amounts of the HER2 protein, which means that drugs such as trastuzumab (Herceptin) that target this protein may be used to treat them. Anti-HER2 therapy can be given both as part of neoadjuvant therapy and after surgery (adjuvant therapy).

- **Hormone therapy:** If the cells of a woman's inflammatory breast cancer contain hormone receptors, hormone therapy is another treatment option. Drugs such as tamoxifen, which prevent estrogen from binding to its receptor, and aromatase inhibitors such as letrozole, which block the body's ability to make estrogen, can cause estrogen-dependent cancer cells to stop growing and die.

- **Surgery:** The standard surgery for inflammatory breast cancer is a modified radical mastectomy. This surgery involves removal of the entire affected breast and most or all of the lymph nodes under the adjacent arm. Often, the lining over the underlying chest muscles is also removed, but the chest muscles are preserved. Sometimes, however, the smaller chest muscle (pectoralis minor) may be removed, too.

- **Radiation therapy:** Post-mastectomy radiation therapy to the chest wall under the breast that was removed is a standard part of multimodal therapy for inflammatory breast cancer. If a woman received trastuzumab before surgery, she may continue to receive it during postoperative radiation therapy. Breast reconstruction can be performed in women with inflammatory breast cancer, but, due to the importance of radiation therapy in treating this disease, experts generally recommend delayed reconstruction.

- **Adjuvant therapy:** Adjuvant systemic therapy may be given after surgery to

reduce the chance of cancer recurrence. This therapy may include additional chemotherapy, hormone therapy, targeted therapy (such as trastuzumab), or some combination of these treatments.

### **What is the prognosis of patients with inflammatory breast cancer?**

The prognosis, or likely outcome, for a patient diagnosed with cancer is often viewed as the chance that the cancer will be treated successfully and that the patient will recover completely. Many factors can influence a cancer patient's prognosis, including the type and location of the cancer, the stage of the disease, the patient's age and overall general health, and the extent to which the patient's disease responds to treatment.

Because inflammatory breast cancer usually develops quickly and spreads aggressively to other parts of the body, women diagnosed with this disease, in general, do not survive as long as women diagnosed with other types of breast cancer.

It is important to keep in mind, however, that survival statistics are based

on large numbers of patients and that an individual woman's prognosis could be better or worse, depending on her tumor characteristics and medical history. Women who have inflammatory breast cancer are encouraged to talk with their doctor about their prognosis, given their particular situation.

Ongoing research, especially at the molecular level, will increase our understanding of how inflammatory breast cancer begins and progresses. This knowledge should enable the development of new treatments and more accurate prognoses for women diagnosed with this disease. It is important, therefore, that women who are diagnosed with inflammatory breast cancer talk with their doctor about the option of participating in a clinical trial.

*For full-length article and references, please see the online version of this article.*

**Source:** National Cancer Institute. ■

## **RELATED FACT SHEET**

You may be interested in the following fact sheets from *Oncology Nurse Advisor*

- **Surgery to Reduce the Risk of Breast Cancer** <http://bit.ly/2hLfH0x>
- **Adjuvant and Neoadjuvant Therapy for Breast Cancer** <http://bit.ly/2kjeYVf>
- **Breast Cancer Risk in American Women** <http://bit.ly/2xdD7T6>