Breast Cancer - Metaplastic - Diagnosis [1]

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ON THIS PAGE: You will find a list of the common tests, procedures, and scans that doctors can use to find out what?s wrong and identify the cause of the problem. To see other pages, use the menu on the side of your screen.

Doctors use many tests to diagnose cancer and find out if it has spread to another part of the body, called metastasis. Some tests may also determine which treatments may be the most effective. For most types of cancer, a biopsy is the only way to make a definitive diagnosis of cancer. If a biopsy is not possible, the doctor may suggest other tests that will help make a diagnosis. Imaging tests may be used to find out whether the cancer has spread. This list describes options for diagnosing this type of cancer, and not all tests listed will be used for every person. Your doctor may consider these factors when choosing a diagnostic test:

- Age and medical condition
- Type of cancer suspected
- Signs and symptoms
- Previous test results

In addition to a physical examination, the following tests may be used to diagnose metaplastic breast cancer:

Imaging tests

Diagnostic mammography [3]. Diagnostic mammography is similar to screening mammography except that more images of the breast are taken, and it is often used when a woman is experiencing signs, such as nipple discharge or a new lump. Diagnostic mammography may also be used if something suspicious is found on a screening mammogram.

Ultrasound [4]. An ultrasound uses sound waves to create a picture of the internal organs. An ultrasound can distinguish between a solid mass, which may be cancer, and a fluid-filled cyst, which is usually not cancer. Ultrasounds are not used for screening.

MRI [5]. An MRI uses magnetic fields, not x-rays, to produce detailed images of the body. An MRI can also be used to measure the tumor?s size. A special dye called a contrast medium is given into the patient?s vein before the scan to help create a clear picture of the possible cancer.

A breast MRI may be used after a woman has been diagnosed with cancer to check the other breast for cancer or to find out how much the disease has grown throughout the breast. It may also be used for screening, particularly along with mammography for some women with a higher risk of developing breast cancer (see Prevention [6]).

Surgical tests

Biopsy [7]. A biopsy is the removal of a small amount of tissue for examination under a microscope. Other tests can suggest that cancer is present, but only a biopsy can make a definite diagnosis. The sample removed during the biopsy is analyzed by a pathologist. A pathologist is a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease. A biopsy is specified by the technique and/or size of needle used to collect the tissue sample.

- A fine needle aspiration biopsy uses a thin needle to remove a small sample of cells.
- A core needle biopsy uses a wider needle to remove a larger sample of tissue. This is usually the preferred biopsy technique for finding out whether an abnormality on a physical examination or an imaging test is cancer. A vacuum-assisted biopsy removes several large cores of tissue. Local anesthesia, which is medication to block pain, is used to lessen a patient?s discomfort during the procedure.
- Image-guided biopsy is used when a distinct lump cannot be felt, but an abnormality is seen with an imaging test, such as a mammogram. During this procedure, a needle is guided to the location with the help of an imaging technique, such as mammography, ultrasound, or MRI. A stereotactic biopsy is done using mammography to help guide the needle. A small metal clip may be put into the breast to mark where the biopsy sample was taken, in case the tissue is cancerous and more surgery is needed. This clip is usually titanium so it will not cause problems with future imaging tests, but check with your doctor before you have additional imaging tests. An image-guided biopsy can be done using a fine needle, core, or vacuum-assisted biopsy (see above), depending on the amount of tissue being removed. Imaging tests may also be used to help do a biopsy on a lump that can be felt, in order to help find the best location.
- A surgical biopsy removes the largest amount of tissue. This biopsy may be incisional, which is the removal of part of the lump, or excisional, which is the removal of the entire lump. Because surgery is best done after a cancer diagnosis has been made, a surgical biopsy is usually not the recommended way to diagnose breast cancer. Most often, non-surgical core needle biopsies are recommended to diagnose breast cancer. This means that only one surgical procedure is needed to remove the tumor and to take samples of the lymph nodes.

If cancer is diagnosed, surgery is needed to remove the cancer in the breast. It is also needed to evaluate the lymph nodes for cancer in a procedure called a sentinel lymph node biopsy. Sometimes, treatment may be given before surgery, called neoadjuvant therapy, to shrink the cancer; see Treatment Options [8]. The goal of surgery is to achieve clear surgical margins, which means that there are no cancer cells at the edge of the tissue removed during surgery. If there is cancer in the lymph nodes, the cancer is called lymph node-positive breast cancer or node-positive; if there is no cancer in the lymph nodes, the cancer is called lymph node-negative breast cancer or node-negative. More information about lymph node evaluation can be found in the Stages [9] section.

Tumor features. The pathologist tests the tissue from the biopsy and the surgery to help guide treatment decisions. Looking at the tumor under the microscope helps the doctor learn if it is the metaplastic type of breast cancer and find out the tumor?s grade, which describes how different the cancer cells look from healthy cells, as well as whether the cancer has spread to the lymph nodes. The margins or edges of the tumor are also examined and their distance from the tumor is measured, which is called margin width.

Blood tests

The doctor may also need to do blood tests to learn more about the cancer.

Serum chemistry. These tests are often done to look at minerals in your blood, such as potassium and calcium, called electrolytes and specialized proteins called enzymes that can be abnormal if cancer has spread. However, it is important to note that many noncancerous conditions can cause variations in these tests, and they are not specific to cancer.

- Alkaline phosphatase is an enzyme that can be associated with disease that has spread to the liver, bone, or bile ducts.
- Blood calcium levels can be elevated if cancer has spread to the bone.
- Total bilirubin count and the enzymes alanine aminotransferase (ALT) and aspartate aminotransferase (AST) evaluate liver function. High levels of any of these substances can indicate liver damage, a sign that the cancer could have spread to the liver.

Blood tumor marker tests. A serum tumor marker, also called a biomarker, is a protein found in a person's blood that can be associated with cancer. High levels of a serum tumor marker may be due to cancer or a noncancerous condition. Tumor marker testing is not recommended for early-stage breast cancer, but they may be useful in the follow-up care of recurrent or metastatic disease. Learn more about tumor markers for breast cancer [10].

Additional tests

The doctor may recommend additional tests to evaluate the stage of the cancer depending on your medical history, symptoms, how much the disease has grown in the breast and lymph nodes, and results of the physical examination. Read the Stages [9] section for more information. These tests are not recommended for all patients.

- An x-ray is a way to create a picture of the structures inside the body, using a small amount

of radiation. A chest x-ray may be used to look for cancer that has spread from the breast to the lung.

- A bone scan [11] may be used to look for spread of cancer to the bones. A radioactive dye or tracer is injected into a patient?s vein, and then the scan is performed several hours later using a special camera. The tracer collects in areas of the bone that are healing, which occurs in response to damage from the cancer cells. The areas where the tracer collects appear dark, compared to healthy bone, which appears gray. However, some cancers do not cause the same healing response and will not show up on the bone scan. Also, areas of advanced arthritis or healing after a fracture will also appear dark.
- A computed tomography (CT or CAT) scan [12] may be used to look for tumors in organs outside of the breast, such as the lung, liver, bone, and lymph nodes. A CT scan creates a three-dimensional picture of the inside of the body with a special x-ray machine. A computer combines these images into a detailed, cross-sectional view that shows abnormalities, which includes most tumors. A CT scan can also be used to measure the tumor?s size and find out if it is shrinking with treatment. A contrast dye may be injected into a patient?s vein before the scan to provide better detail.
- A positron emission tomography (PET) scan [13] may also be used to find out whether the cancer has spread to organs outside of the breast. Similar to a CT scan, a PET scan is a way to create pictures of organs and tissues inside the body. A small amount of a radioactive sugar substance is injected into a patient?s vein. This sugar substance is then taken up by cells that use the most energy because they are actively dividing. Because cancer cells tend to use energy actively, they absorb more of the radioactive substance. A scanner then detects this substance to produce images of the inside of the body. Areas that are most active appear as bright spots, and the intensity of the brightness can be measured to better describe these areas. A combination PET/CT scan [14] may also be used to measure the size of tumors and to more accurately determine the location of the bright spots. A PET/CT scan will also show any abnormalities in the bone, similar to the bone scan.

After diagnostic tests are completed, your doctor will review all of the results with you. If the diagnosis is metaplastic breast cancer, these results also help the doctor describe the cancer and determine the most appropriate treatment; this is called staging. If there are suspicious areas found outside of the breast, at least one area will be biopsied if possible to confirm the diagnosis of cancer.

The next section helps explain the different stages for this type of cancer. Use the menu on the side of your screen to select Stages, or you can select another section, to continue reading this guide.

Links:
[1] http://www.cancer.net/cancer-types/breast-cancer-metaplastic/diagnosis
[2] http://www.cancer.net/about-us
[3] http://www.cancer.net/node/24584
[4] http://www.cancer.net/node/24714
[5] http://www.cancer.net/node/24578
[6] http://www.cancer.net/node/18607
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