

Benign Breast Lumps

Mohadeseh girifar *, Amir azgar

Department of oncology, Isfahan, Iran.

*Corresponding Author : Mohadeseh girifar, Department of oncology, Isfahan, Iran. Email: mohadeseh@gmail.com

Received date: June 30,2017; Accepted date : August 30,2017; Published date: September 04,2017.

Citation for this Article: Mohadeseh girifar, Amir azgar, Benign Breast Lumps, J Cancer Research and Cellular Therapeutics,

Doi: [10.31579/2640-1053/014](https://doi.org/10.31579/2640-1053/014)

Copyright : © 2017 Mohadeseh girifar. This is an open-access article distributed under the terms of The Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Introduction

A tumor is an abnormal mass of tissue that has formed a lump. It's called a benign tumor if it grows slowly and is self-limiting; that is, if it doesn't have the capacity to invade nearby tissues and spread beyond its original site. A malignant, or cancerous, tumor, on the other hand, is innately dangerous because its cells can divide uncontrollably and produce virtually immortal daughter cells. Malignant tumor cells can penetrate and destroy adjacent tissue, and can metastasize, or travel through the circulation to distant parts of the body and form new tumors.

The lumps may be hard or rubbery and may be felt as a single (large or small) breast lump. Fibrocystic changes can also cause breast tissue to thicken. These changes are often most noticeable during your 40s. They are the most common cause of benign breast lumps in women ages 35 to 50.

By examining biopsy samples of a tumor using a microscope and molecular tests, pathologists can classify the tumor as benign or malignant, says Keith Ligon, MD, PhD, of the Center for Molecular Oncologic Pathology at Dana-Farber/Brigham and Women's Cancer Center. They further classify the tumor cells according to "grade," or degree of aggressiveness. "The overall goal is to try and predict how the tumor will behave and what treatment the patient will need," explains Ligon.

Often, benign tumors need no treatment, but they can become dangerous if they grow large enough to press on vital organs, blood vessels or nerves. In such cases they are generally removed through surgery, which also allows pathologists to confirm that they are not malignant.

Some lesions — sores or plaques of abnormal cells — and benign tumors have the potential to become malignant. These are known as "precancerous" or "dysplastic" tumors, and contain large numbers of primitive, abnormally shaped cells. Examples are precancerous polyps in the colon, growths in the cervix caused by the human papilloma virus (HPV), and dysplastic growths in the mouth and lungs. These may progress to cancer when some of the tumor cells undergo genetic changes such as mutations that give them malignant properties.

Meningiomas are a type of brain tumor that are generally benign but can become malignant. Dana-Farber researchers recently found mutations in meningiomas that are potential targets for drug therapy.

There are several common causes, including normal changes in breast tissue, breast infection or injury, and medicines that may cause lumps or breast pain.

Breast tissue changes during a woman's entire life. It is sensitive to changing hormone levels during the menstrual cycle.

Causes

Fibrocystic changes. For some women, changes in hormones during normal monthly menstrual cycles can create breast changes. These are known as fibrocystic breast changes. Women with fibrocystic breasts usually get lumps in both breasts that increase in size and tenderness just before they get their period. They sometimes have nipple discharge as well.

The lumps are milk ducts and tissues around them that have grown and gotten wider to form cysts. The cysts enlarge quickly in response to hormones released near your period. The lumps may be hard or rubbery and may be felt as a single (large or small) breast lump. Fibrocystic changes can also cause breast tissue to thicken.

These changes are often most noticeable during your 40s. They are the most common cause of benign breast lumps in women ages 35 to 50. Postmenopausal women are less likely to have these types of breast changes. That's because they don't have monthly changes in hormones.

Simple cysts. Simple cysts are fluid-filled sacs that usually happen in both breasts. There can be one or many. They can vary in size. Tenderness and size often change with your menstrual cycle.

Fibroadenomas. These are the most common benign tumors. If you push on them they are solid, round, rubbery lumps that move freely. They're usually painless. Fibroadenomas happen when your body forms extra milk-making glands. Women between 20 and 30 get them most often. They're also more common in African-American women.

Intraductal papillomas

These are small, wart-like growths in the lining of the mammary duct near the nipple. They usually affect women who are 45 to 50. They can cause bleeding from the nipple.

Traumatic fat necrosis

This happens when there is an injury to the breast, though you may not remember an injury happening. It causes fat to form in lumps that are generally round, firm, hard, and painless. You usually get one at a time.

Treatments

Fibrocystic breast changes do not require treatment, but your doctor may recommend things to help relieve monthly tenderness.

Simple cysts can be treated through fine needle aspiration. You don't need surgery to do this. A small needle is used to suck out some cells from the breast lump. If the lump is a cyst, they can suck out the fluid and the cyst will collapse. Cysts can also go away on their own, so your doctor may choose to wait before trying to get rid of it.

What Should I Do If I Find a Breast Lump?

See your doctor if you discover any new breast changes. A doctor should examine you if you find:



- An area that is clearly different from any other area on either breast
- A lump or thickening in or near the breast or underarm that persists through the menstrual cycle
- A change in the size, shape, or contour of the breast
- A mass or lump, which may feel as small as a pea
- A marble-like area under the skin
- A change in the feel of the skin on the breast or nipple or how it looks. It could be dimpled, puckered, scaly, or inflamed.
- Clear or bloody fluid coming out of the nipple
- Red skin on the breast or nipple.

Breast Fibroadenomas

Breast fibroadenomas are benign tumors consisting of glandular and connective tissue and are most commonly found in women in their 20s and 30s, but they can occur at any age. While fibroadenomas themselves are benign, they do increase a woman's risk of developing breast cancer in the future, about one and a half times (or more) than a woman with no changes in her breast.

Fibroadenoma Composition and Location

A fibroadenoma will feel like a round breast lump and is often quite firm. It can usually be moved around beneath the skin during a breast self-exam.

Fibroadenomas are often located near the surface of the breast and are then easily felt, although some may be too small to be felt. In this instance, a fibroadenoma may be incidentally found on a mammogram.

Fibroadenoma Diagnosis and Treatment

A biopsy is needed to diagnose a fibroadenoma; however, even with a biopsy, your doctor may recommend removal of the fibroadenoma to be absolutely certain there is no breast cancer (and if there is, to treat it, of course). In addition to a lumpectomy, radiofrequency ablation is sometimes used to treat a fibroadenoma. There are a number of other fibroadenoma treatments as well, though many of these are used less often.

Fibroadenomas require a biopsy for diagnosis. While they are benign, having one is associated with an increased risk for breast cancer.

Breast Cysts

A breast cyst is a benign (harmless) fluid-filled sac which can grow right within the breast tissue. Breast cysts are very common and rarely linked to breast cancer. They are most common in women in their 40s who are in perimenopause (the period of time before menopause when a woman stops having periods), but they can occur really at any age.

Composition of a Breast Cyst

A breast cyst often feels smooth and squishy. In other words, if you are pressing on a cyst, it will have some give to it, like a water balloon. Furthermore, a breast cyst may move around and can change in size during your menstrual cycle.

Breast cysts can also be painful if they are large and are pressing on a tender area. That said, you may only feel them or feel pain from them just before your menstrual period begins.

Location of Breast Cysts

Breast cysts can be located near the surface, or deeper inside, close to your chest wall. If the cyst is closer to the surface, it is easy to find and easy to distinguish from other lumps. However, if it is deeper inside, it's more difficult to distinguish it from other kinds of breast lumps, because when you press on it, you're actually trying to work through layers of breast tissue, which may be dense and firm.

Other Breast Lumps

There are many other conditions which may cause a benign, precancerous, or cancerous breast lumps. Some of these include:

Ductal or Lobular Hyperplasia

Atypical lobular hyperplasia and atypical ductal hyperplasia are conditions which are considered precancerous. In other words, these lumps are not cancer, but significantly increase the risk that you could develop breast cancer.

Lobular Carcinoma In Situ (LCIS) and Ductal Carcinoma In Situ (DCIS)

Both LCIS and DCIS are cancer, but since the tumors have not yet broken through something known as the "basement membrane," they are not considered invasive. (Stage I to IV of breast cancer are all considered invasive). Carcinoma in situ is considered stage 0 cancer.

Adenosis

Adenosis is a benign condition in which there is enlargement in the lobules of the breast. Adenosis can cause a lump that feels like a cyst or a tumor and is sometimes hard to distinguish from cancer since it usually causes calcifications on a mammogram.

Phyllodes Tumors

A phyllodes breast tumor is an uncommon tumor that can be either benign or malignant. Since benign phyllodes tumors have a tendency for becoming malignant, these tumors are treated in much the same way. Most breast cancers begin in cells called epithelial cells which form carcinomas. In contrast, phyllodes tumors occur in mesenchymal cells (connective tissue cells) and the tumors are actually sarcomas.

Intraductal Papillomas

Intraductal papillomas are tumors which begin in the milk ducts of the nipple and are most often noted by the presence of nipple discharge. While these tumors are most often benign, if they have regions of atypical hyperplasia, they may be associated with an increased risk of cancer.

Fat Necrosis and Oil Cysts

When the breasts are damaged by surgery or trauma, scar tissue may develop. Fat necrosis may occur which feels like a hard lump, or instead, benign oil cysts may occur. Fat necrosis can sometimes be frightening as, in addition, it may cause breast discharge and tethering of the nipple and skin, signs that women are taught to watch for when doing self breast exams. Even on a PET scan fat necrosis can mimic cancer, and sometimes a biopsy is needed to tell the difference.

Mastitis

An infection of the breast, mastitis is often accompanied by redness, swelling, and pain. Sometimes it may be difficult to distinguish between mastitis and inflammatory breast cancer, which usually begins with redness, tenderness, and a rash, rather than a lump.

Duct Ectasia

Mammary duct ectasia is a benign condition in which the milk ducts become clogged and swollen, often causing a grayish discharge. It may cause a small lump just under your nipple, and sometimes cause the nipple to be retracted inwards. It is most common in women who are around the age of menopause.

Radial Scars

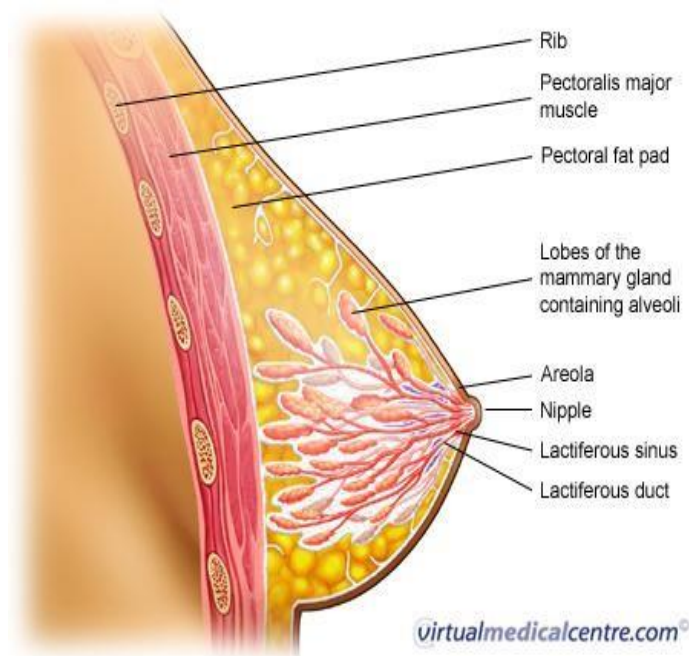
Radial scars are an uncommon condition which can be benign, precancerous, or cancerous. They do not usually cause a lump that you can feel but may appear as a lump on a mammogram. The mass associated with a radial scar on mammogram is often spiky and can easily be mistaken for cancer. A biopsy is usually needed, especially because cancer cells may be mixed with the radial scar.

Other Benign Breast Changes

Lipomas or other benign tumors or lumps include hamartomas, breast hematomas, hemangiomas, adenomyoepitheliomas, and neurofibromas may occur.

Metastatic Cancer

On rare occasions, metastases from cancers in other regions of the body, such as colon cancer or lung cancer, may give rise to a new breast lump.



Breast Cancer

Breast cancer is a malignant lump that is made of abnormal breast tissue cells, growing in an uncontrolled way that may spread to the adjacent tissues or other organs.

symptoms

Breast cancer symptoms vary widely — from lumps to swelling to skin changes — and many breast cancers have no obvious symptoms at all.

In some cases, a lump may be too small for you to feel or to cause any unusual changes you can notice on your own. Often, an abnormal area turns up on a screening mammogram (X-ray of the breast), which leads to further testing.

In other cases, however, the first sign of breast cancer is a new lump or mass in the breast that you or your doctor can feel. A lump that is painless, hard, and has uneven edges is more likely to be cancer. But sometimes cancers can be tender, soft, and rounded.

According to the American Cancer Society, any of the following unusual changes in the breast can be a symptom of breast cancer:

- swelling of all or part of the breast
 - skin irritation or dimpling
 - breast pain
 - nipple pain or the nipple turning inward
 - redness, scaliness, or thickening of the nipple or breast skin
 - a nipple discharge other than breast milk
 - a lump in the underarm area⁴
- These changes also can be signs of less serious conditions that are not cancerous, such as an infection or a cyst. Again, it's important to get any breast changes checked out promptly by a doctor.
- Breast self-exam should be part of your monthly health care routine, and you should visit your doctor if you experience breast changes. If you're over 40 or at a high risk of breast cancer, you should also have an annual mammogram and physical exam by a doctor. The earlier breast cancer is found and diagnosed, the better your chances of beating it.

- A lump in the breast or underarm that persists after your menstrual cycle. This is often the first apparent symptom of breast cancer. Lumps associated with breast cancer are usually painless, although some may cause a prickly sensation. Lumps are usually visible on a mammogram long before they can be seen or felt.
- Swelling in the armpit.
- Pain or tenderness in the breast. Although lumps are usually painless, pain or tenderness can be a sign of breast cancer.
- A noticeable flattening or indentation on the breast, which may indicate a tumor that cannot be seen or felt.
- Any change in the size, contour, texture, or temperature of the breast. A reddish, pitted surface like the skin of an orange could be a sign of advanced breast cancer.
- A change in the nipple, such as a nipple retraction, dimpling, itching, a burning sensation, or ulceration. A scaly rash of the nipple is symptomatic of Paget's disease, which may be associated with an underlying breast cancer.
- Unusual discharge from the nipple that may be clear, bloody, or another color. It's usually caused by benign conditions but could be due to cancer in some cases.

Composition and Location of Breast Cancer

A malignant breast lump will have an irregular shape (though at times it can be round) with a pebbly surface, somewhat like a golf ball. It is often very hard, like a slice of raw carrot. It may not be movable during a breast self-exam, but since tissue around it may move, it's sometimes hard to know if the lump is moving or if healthy tissue around it is moving. Most often breast cancer is painless, though breast cancer can sometimes cause breast pain, so whether or not a breast lump is tender cannot confirm a diagnosis.

Breast cancer can be located near the surface or deeper inside the breast, close to the chest wall. It can also occur in the armpit area, where there is more breast tissue (the "tail" of the breast). The most common location is the upper, outer quadrant of the breast, but a tumor may occur anywhere.

Breast Cancer Diagnosis and Treatment

A clinical breast exam and a mammogram may help with the diagnosis, though sometimes an ultrasound or MRI are needed. Even with all of these imaging studies, it may be difficult to know whether a lump is benign or malignant.

A biopsy is most often needed to provide more information about the lump and is the only way to distinguish between cancer and a non-cancerous condition. There are a number of different methods for doing a breast biopsy, including a needle biopsy, core biopsy, or open biopsy, and the best option will depend on the location of the tumor and more.

A biopsy is required to diagnose whether a suspicious lump is breast cancer or not.

The treatment for breast cancer depends on the stage at diagnosis. In addition to surgery, treatments may include chemotherapy, hormonal therapy, radiation therapy, targeted therapies, or newer medications, which are being studied in clinical trials.

References

1. [Http://Www.Danafarberbostonchildrens.Org/Finddoctor/Details.aspx?ID=29821](http://Www.Danafarberbostonchildrens.Org/Finddoctor/Details.aspx?ID=29821)
2. [Https://Www.Breastcancer.Org/Symptoms](https://Www.Breastcancer.Org/Symptoms)
3. [Https://Www.Verywellhealth.Com/Understanding-Breast-Lumps-Both-Benign-And-Cancerous-430415](https://Www.Verywellhealth.Com/Understanding-Breast-Lumps-Both-Benign-And-Cancerous-430415)
4. [Https://Www.Webmd.Com/Breast-Cancer/Understanding-Breast-Cancer-Symptoms](https://Www.Webmd.Com/Breast-Cancer/Understanding-Breast-Cancer-Symptoms)
5. [Https://Worldwidebreastcancer.Org/Symptoms/](https://Worldwidebreastcancer.Org/Symptoms/)
6. [Https://Www.Breastcancercare.Org/Information-Support/Have-I-Got-Breast-Cancer/Signs-Symptoms-Breast-Cancer](https://Www.Breastcancercare.Org/Information-Support/Have-I-Got-Breast-Cancer/Signs-Symptoms-Breast-Cancer)