



**Collage of medicine**

**Department of general surgery**

**Review article in**

**Risk factor and Management of breast  
cancer**

**Project submitted to the council of college medicine**

**University of Diyala**

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

اقْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ (١) خَلَقَ الْإِنْسَانَ مِنْ عَلَقٍ (٢)  
اقْرَأْ وَرَبُّكَ الْأَكْرَمُ (٣) الَّذِي عَلَّمَ بِالْقَلَمِ (٤) عَلَّمَ الْإِنْسَانَ مَا  
لَمْ يَعْلَمْ (٥)

صدق الله العظيم

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## Breast cancer

is one of the most common cancers among women worldwide and the leading cause of death among Iraqi women. Breast cancer cases in Iraq were found to have increased from 26.6/100,000 in 2000 to 31.5/100,000 in 2009. The present study aims to assess the established risk factor of breast cancer among Iraqi women

Anything that increases the risk of getting a disease is risk factor

Having one or more of the following risk factors doesn't mean that you will definitely get breast cancer. Many people who have these factors never get it and some people with no risk factors develop it

## overweight or obese

Women who are overweight after their menopause have a higher risk of breast cancer than women who are not overweight. Men also have an increased risk of breast cancer if they are overweight or obese. For both men and women, the risk increases as more weight is. Body mass index (BMI) is a measure that uses your height and weight to work out whether you are a healthy weight. For most adults, an ideal (BMI) is between 18.5 to 24.9. Being overweight means having BMI of between 25 and 30.



Obesity means being very overweight with a BMI of 30 or higher

## **Alcohol**

Drinking alcohol increases the risk of breast cancer in women. The risk increases with each extra unit of alcohol per day. The number of units in a drink depends on the size of the drink, and the volume of alcohol

## **Famaliy history and inherited genes**

Some people have a higher risk of developing breast cancer than the general population because other members of their family have had particular cancers. This is called a family history of cancer

Having a mother, sister or daughter diagnosed with breast cancer increases the risk of breast cancer. This risk is higher when more close relatives have breast cancer, or if a relative developed breast cancer under the age of 50. But most women who have a close relative with breast cancer will never develop it

Some people have an increased risk of breast cancer because they have an inherited gene fault. We know about several gene faults that can increase breast cancer risk and there are tests for some of them. Having one of these faulty



genes means that you are more likely to get breast cancer than someone who doesn't. But it is not a certain

Two of these faulty genes are known as BRCA1 and BRCA2. These are not common. Only about 2 out of every hundred (about 2%) of breast cancers are

related to a change in the BRCA1 or BRCA2 gene

### **Contraceptive pill**

There is a very small increased risk of breast cancer when you take the contraceptive pill. This increase in risk goes

Remember .back to normal 10 years after you stop taking it that breast cancer is rare in young women. Most women who take the pill are in their late teens, twenties and early thirties. So a small increase in this risk

### **Getting older**

Most breast cancers occur in women over 50 and it is less common in women under 40

### **inactive Being**

There is a small increased risk of breast cancer if you're inactive, this means doing less than 150 minutes of moderate exercise a week. Daily physical activity is recommended to gain health benefits. It can be easier than you think to increase your activity even if you don't do much at the moment



Activity doesn't just mean sport and exercise. Anything that makes you a bit warmer and slightly out of breath counts as moderate activity.

### **Hormone replacement therapy**

Many women take hormone replacement therapy (HRT) to reduce menopausal symptoms. There are 2 main types of HRT

combined HRT( oestrogen and progesterone )

oestrogen only HRT

The risk of breast cancer increases for postmenopausal women using any type of HRT. But it is biggest for those using combined HRT

Risk is also higher in those who use HRT for more than 5 years. And for these women, the risk remains increased for at least 10 years after they stop using it

### **Age when period started and stoped**

You have an increased risk of breast cancer if your periods started early (before the age of 12). Having a late menopause (after the age of 55) can also increase your breast cancer risk

This increased risk is likely due to longer exposure to the hormone oestrogen.



## **Dense breast tissue**

Breast cancer risk is higher in women with the most dense breast tissue compared to less dense tissue. Women with dense breast tissue have less fat and more breast cells and connective tissue in their breasts

Our genetic make up affects breast density

## **Ethnicity**

breast cancer is higher in white women than any other ethnic group.

## **No having children or having them later in life**

Whether you can have children or when you have them may not be something you can control. Women who have children have a slightly lower risk of breast cancer than women who don't have children. The risk reduces further the more children you have

## **Height**

Women who are taller than average have a slightly increased risk of breast cancer after the menopause

It is not clear why but it could be due to different hormone levels in taller women

## **Previous cancers**

Having had breast cancer increases your risk of getting another breast cancer. It might occur in the same breast or in the other breast





Your specialist will keep a close eye on you with regular check up. So, a new cancer should be picked up early

Having other types of cancer can also increase your risk

People who had radiotherapy to the chest for Hodgkin lymphoma when they were young have a higher breast cancer risk

Breast cancer risk is also higher in people who have had any of the following

melanoma skin cancer

lung cancer

bowel cancer

womb cancer

a type of leukaemia called chronic lymphocytic leukaemia

### **diagnose breast cancer include**

**Breast exam.** check both of your breasts and lymph nodes in your armpit, feeling for any lumps or other abnormalities

**Mammogram.** A mammogram is an X-ray of the breast. Mammograms are commonly used to screen for breast cancer

**Breast ultrasound.** Ultrasound uses sound waves to produce images of structures deep within the body. Ultrasound may be used to determine whether a new breast lump is a solid mass or a fluid-filled cyst



Removing a sample of breast cells for testing (biopsy).

A **biopsy** is the only definitive way to make a diagnosis of breast cancer. During a biopsy, uses a specialized needle device guided by X-ray or another imaging test to extract a core of tissue from the suspicious area. Often, a small metal marker is left at the site within your breast so the area can be easily identified on future imaging tests

Biopsy samples are sent to a laboratory for analysis where experts determine whether the cells are cancerous. A biopsy sample is also analyzed to determine the type of cells involved in the breast cancer, the aggressiveness (grade) of the cancer, and whether the cancer cells have hormone receptors or other receptors that may influence your treatment options

### **Breast magnetic resonance imaging (MRI).**

An MRI machine uses a magnet and radio waves to create pictures of the interior of your breast. Before a breast MRI, you receive an injection of dye. Unlike other types of imaging tests, an MRI doesn't use radiation to create the images

### **Treatment**

options based on your type of breast cancer, its stage and grade, size, and whether the cancer cells are sensitive to hormones. Most women undergo surgery for breast cancer and many also receive additional treatment after surgery, such as chemotherapy, hormone therapy or radiation.



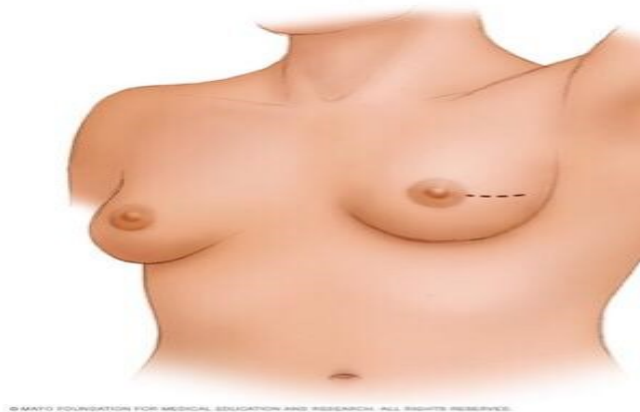
Chemotherapy might also be used before surgery in certain situations

## Breast cancer surgery

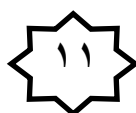
### lumpectomy

During a lumpectomy, which may be referred to as breast-conserving surgery or wide local excision, removes the tumor and a small margin of surrounding healthy tissue

A lumpectomy may be recommended for removing smaller tumors. Some people with larger tumors may undergo chemotherapy before surgery to shrink a tumor and make it possible to remove completely with a lumpectomy



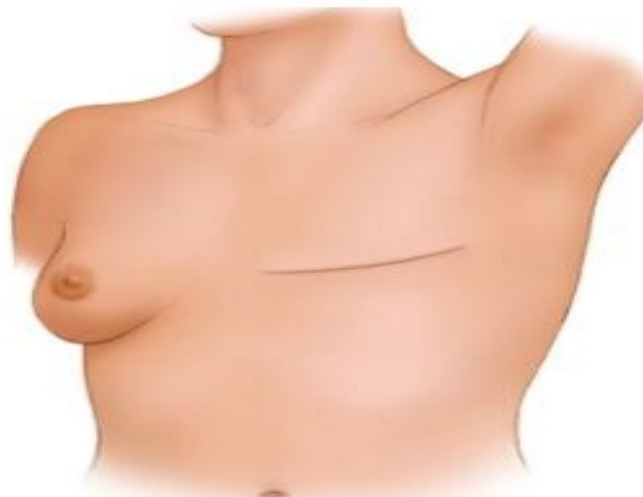
## **Lumpectomy**



## Removing the entire breast (mastectomy).

procedure A mastectomy is an operation to remove all of your breast tissue. Most mastectomy procedures remove all of the breast tissue — the lobules, ducts, fatty tissue and some skin, including the nipple and areola (total or simple mastectomy)

Newer surgical techniques may be option in selected cases in order to improve the appearance of the breast. Skin-sparing mastectomy and nipple-sparing mastectomy are increasingly common operations for breast cancer



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# **Mastectomy**



## Removing a limited number of lymph nodes (sentinel node biopsy).

To determine whether cancer has spread to your lymph nodes, will discuss with you the role of removing the lymph nodes that are the first to receive the lymph drainage from your tumor

If no cancer is found in those lymph nodes, the chance of finding cancer in any of the remaining lymph nodes is small and no other nodes need to be removed

Complications of breast cancer surgery depend on the procedures you choose. Breast cancer surgery carries a risk of pain, bleeding, infection and arm swelling lymphedema

Consider a referral to a plastic surgeon before your breast cancer surgeryTreatment

## Radiation therapy

Radiation therapy uses high-powered beams of energy, such as X-rays and protons, to kill cancer cells. Radiation therapy is typically done using a large machine that aims the energy beams at your body (external beam radiation). But radiation can also be done by placing radioactive material inside your body (brachytherapy)

External beam radiation of the whole breast is commonly used after a lumpectomy.

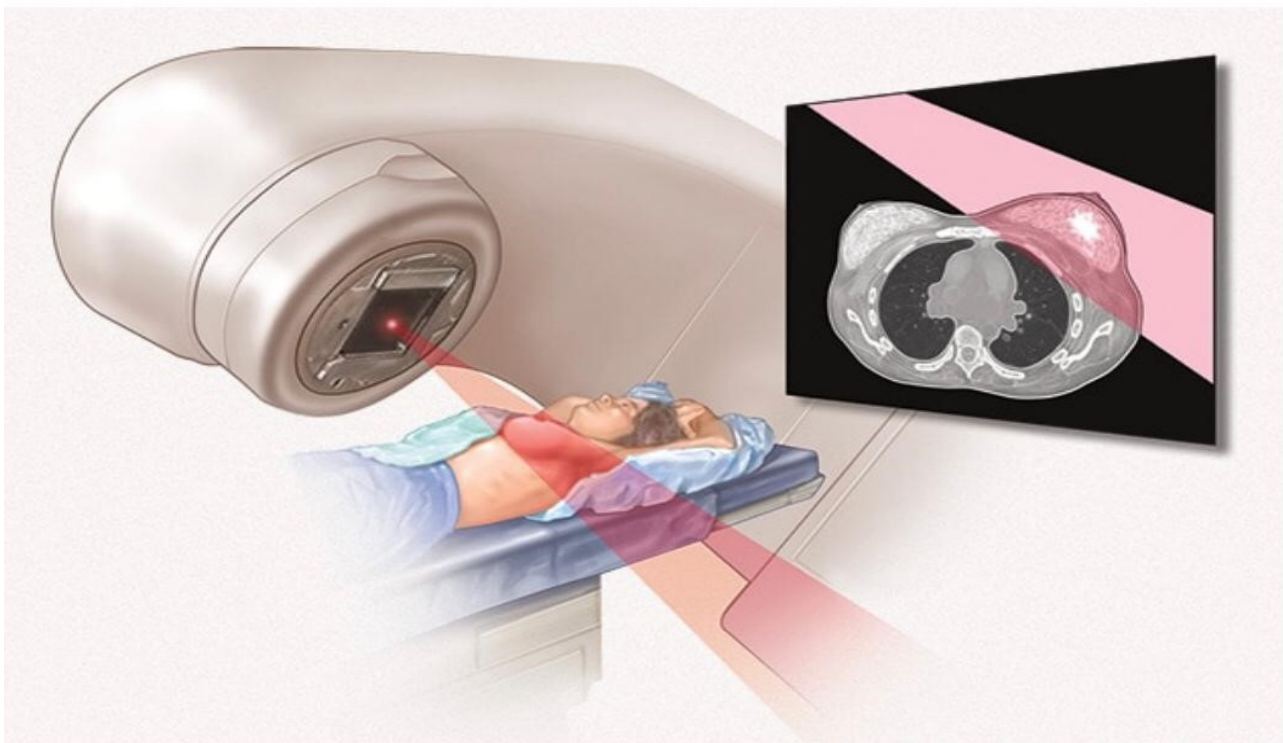
Breast brachytherapy may be an option after a lumpectomy if you have a low risk of cancer recurrence



recommend radiation therapy to the chest wall after a mastectomy for larger breast cancers or cancers that have spread to the lymph nodes

Breast cancer radiation can last from three days to six weeks, depending on the treatment

Side effects of radiation therapy include fatigue and a red, sunburn-like rash where the radiation is aimed. Breast tissue may also appear swollen or more firm. Rarely, more-serious problems may occur, such as damage to the heart or lungs or, very rarely, second cancers in the treated area



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## Radiation therapy

## Chemotherapy

Chemotherapy uses drugs to destroy fast-growing cells, such as cancer cells. If your cancer has a high risk of returning or spreading to another part of your body, recommend chemotherapy after surgery to decrease the chance that the cancer will recur

Chemotherapy is sometimes given before surgery in women with larger breast tumors. The goal is to shrink a tumor to a size that makes it easier to remove with surgery

Chemotherapy is also used in women whose cancer has already spread to other parts of the body. Chemotherapy may be recommended to try to control the cancer and decrease any symptoms the cancer is causing

Chemotherapy side effects depend on the drugs you receive. Common side effects include hair loss, nausea, vomiting, fatigue and an increased risk of developing an infection. Rare side effects can include premature menopause, infertility (if premenopausal), damage to the heart and kidneys, nerve damage, and, very rarely, blood cell cancer

## Hormone therapy

Hormone therapy — perhaps more properly termed hormone-blocking therapy — is used to treat breast cancers that are sensitive to hormones. Doctors refer to these cancers as estrogen receptor positive (ER positive) and progesterone receptor positive (PR positive) cancers



Hormone therapy can be used before or after surgery or other treatments to decrease the chance of your cancer returning. If the cancer has already spread, hormone therapy may shrink and control it

:Treatments that can be used in hormone therapy include

- Medications that block hormones from attaching to cancer cells (selective estrogen receptor modulators)
- Medications that stop the body from making estrogen after menopause (aromatase inhibitors)
- Surgery or medications to stop hormone production in the ovaries

### **Hormone therapy side effects**

\_depend on your specific treatment, but may include hot flashes, night sweats and vaginal dryness. More serious side effects include a risk of bone thinning and blood clots

### **Targeted therapy drugs**

Targeted drug treatments attack specific abnormalities within cancer cells. As an example, several targeted therapy drugs focus on a protein that some breast cancer cells overproduce called human epidermal growth factor receptor 2 (HER2). The protein helps breast cancer cells grow and survive. By targeting cells that make too much HER2, the drugs can damage cancer cells while sparing healthy cells Targeted therapy drugs that focus on other abnormalities within cancer cells are available



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