

Risk Factors for Increasing of the Cancer Developing

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Abstract

The current informational review or survey addresses the risk factors for increasing the risk of developing malignance, tumors have several causes that lead to the occurrence of a tumor. There are a group of interrelated factors, including the genetic factor, the hormonal factor, environmental factors, social biology, and physiology of organs, which can affect its development, in addition to other risk factors, such as: disorders of breast proliferation that are related to the development of Breast malignance, especially if the biopsy shows A typical hyperplasia. However, 70% of malignance patients cannot identify risk factors. Advanced-stage malignance s can erode the skin to cause open sores (ulcers), but they are not necessarily painful. Women with non-healing wounds in the breast should have a biopsy. Breast malignance may spread to other places in the body and lead to other symptoms. The most common first site of spread is often the lymph nodes under the arm, although malignance -carrying lymph nodes may be imperceptible. Over time, malignance cells may spread to other organs, including the lungs, liver, brain and bones. Once in these places, new symptoms related to the malignance, such as bone pain or headaches, may develop.

Key words: review; breast malignance; chemical cancerous; tumor.

Introduction

There are many causes of malignance, tumors, including fibrosis or inflammation, which later turns into a malignance (tumor), and some of them lead to the appearance of lumps on the breast, and most of them are not malignance. Up to 90% of breast lumps are not malignance. Non malignance breast abnormalities include benign lumps such as lymphomas, cysts, and infections. Breast malignance can take many forms, which underlines the importance of a complete medical examination. Women with persistent abnormalities (usually lasting longer than a month) should have diagnostic tests that include a mammogram and in some cases a biopsy to determine whether the lump is malignant (malignance) or benign. Breast malignance risk factors can be divided into preventable and unavoidable factors. Their study belongs to the field of epidemiology. Breast malignance, like other types of malignances, is the result of multiple environmental and genetic factors. Although many epidemiological risk factors are known, the cause is not known for every breast malignance. Epidemiological research reported patterns of breast malignance incidence among specific populations rather than independent individuals. Approximately 5% of recent cases of breast malignance are attributed to genetic syndromes, while known risk factors account for approximately 30% of cases.

Genetic predisposition to malignance risk:

Having a family history of breast malignance in first-degree relatives (mother, sister, daughter) increases the risk of breast malignance. The risk depends on whether the malignance was bilateral in the breasts and occurred in the premenopausal or postmenopausal period; The risk is up to three times higher for those without a family history. The probability of the presence of a genetic factor ranges between 5-10% of breast malignance cases, and the probability of the presence of this factor increases with the presence of many affected relatives, and the occurrence of malignance at a younger age. Two genes (BRACA1, BRACA2 and p53) are the cause of most hereditary breast malignance cases.

Hormonal factors to malignance risk:

Regulating the level of the hormone is very important in the development of breast malignance; Early pregnancy and early oophorectomy reduce the incidence of breast tumors. On the other hand, late menopause is associated with an increased incidence of breast malignance. It is noteworthy that many hormonal factors such as: the length of reproductive activity, multiple births, and the delay in having the first child, lead to increased exposure to high levels of estrogen during the menstrual cycle. Ovarian tumors that increase the level of estrogen are

also associated with an increased incidence of breast malignance in postmenopausal women. Among the factors that affect hormonal balance and increase the risk of breast malignance are the use of oral contraceptives and hormone therapy after menopause; To relieve menopausal symptoms. A slight increase in the risk of breast malignance has been observed in women who use oral contraceptives, and this risk decreases after stopping their use, and after 10 years of stopping their use, the risk becomes less noticeable.

The use of oral contraceptives at an advanced age has also been associated with an increase in the number of diagnosed breast malignance cases. It is reported that users of hormone replacement therapy, whether current or recent, are at greater risk of developing breast malignance than women who have not previously used. The risk increases with the length of use of the hormone, knowing that the risk decreases significantly with the cessation of use, and with the passage of five years after the cessation of use, the increased risk resulting from this use disappears.

Fat absorption:

Nutritional effects have been examined for decades, with conflicting results, whose reliability has not been largely confirmed. One recent study suggests that low-fat diets may significantly reduce the risk of breast malignance or its recurrence. Another study showed no contribution of dietary fat to the incidence of breast malignance in more than 3,000,000 women. A randomized study failed to prove that a low-fat diet reduced the risk of breast malignance in the low-fat diet group, although the author found evidence of benefit for women in the strict diet group. A prospective study group, the nurse health study II, found an increased incidence of breast malignance in premenopausal women only, with a higher intake of animal fats, but not vegetable fats. Taken as a whole, these results suggest a possible relationship between dietary fat intake and breast malignance risk, although these interactions are difficult to measure in a large group of women.

Specific Dietary Fatty Acids

Despite the many allegations that have been made in the popular literature, there is no strong evidence linking fats and breast malignance. A study published in 2001 found that there are high levels of monounsaturated fatty acids (MUFAs), especially oleic acid, in the membranes of red blood cells, in women with advanced breast malignance after menopause or menopause. In the same study, it was shown that a diet rich in monounsaturated fats (MUFAs) is not a primary cause of red blood cell membrane formation, while most of the oils in mammalian tissues are composed of saturated fat residues. Regulates the transformation of other saturated fats such as (SFAs) (myristic and palmitic) The study argued that the facts contained in the diet have an important effect on the activity of Delta9-d, while high levels of SFAs increase the activity of Delta9-d to two or three times, while the Polyunsaturated fatty acids (PUFAs) decrease. This finding partially contrasts with a recent study, which shows a direct relationship between high consumption of omega-6 fatty acids, and postmenopausal breast malignance and menopause in women.

Phytoestrogen:

Phytoestrogens have been extensively studied in animal and human subjects in laboratory and epidemiological studies. Studies have failed to note any positive or negative breast malignance -causing effects of phytoestrogens. Research supports the following findings: Taking phytoestrogens in early adolescence may protect against breast malignance later on. The potential risks of isoflavones on breast tissue in women at risk of developing breast malignance remains unclear.

Vitamin D

Vitamin D is associated with a reduced risk of breast malignance and can increase the rate of treatment acceptance in a study conducted at the University of Richest Medical Center in 2011, it was found that low levels of vitamin D among women with breast malignance were directly proportional to more aggressive tumors and less acceptance of treatment. A study also showed that the level of vitamin D in the event that it is less than the required level, leads to worse results in the level of enzymes that help the doctor to anticipate the results after treatment in breast malignance. The principal investigator stated that based on these results, doctors should note the vitamin D level in breast malignance patients and correct it when necessary.

Hypotheses:

Vitamin D metabolites improve cellular differentiation and are important for chemoprevention. Low distribution levels of D in adolescence may be a significant predisposing factor for breast malignance risk in life. Also In the past, it was often assumed that breast cancer was a divine trial or punishment. From the time of ancient Greek medicine to the end of the seventeenth century, the prevailing explanation was the imbalance of the four body humors: (blood - phlegm - yellow - black). At the beginning of the eighteenth century, humorism was generally rejected. Many theories have emerged often associated with sexual activity: in 1713 Bernardino Ramazzini stated that breast cancer grows at higher rates in nuns than in married women because nuns do not engage in any sexual activity, and that lack of sexual activity is unnatural causes breast instability, and others responded the reason is excessive sexual activity. Other theories from the 18th century included various kinds of problems with the movement of bodily fluids, such as: lymphatic embolism, clotting of breast milk or turning into pus after an infection. In the modern era, women often blame themselves. Perhaps the result of the diet they are following, the date of childbearing and the decision about breastfeeding the child or her level of fitness is the cause.

Cabbage Vegetables

In a study published in the Journal of the American Medical Association, biomedical investigators found that the intake of cabbage vegetables (broccoli, cauliflower, cabbage, turnip, and sprouts) is inversely proportional to the development of malignance. The relative risk among the ten women who ate cruciferous vegetables (average 1.5 per day) compared to the lowest ten (and almost none) was 0.54 and women who ate about 1.5 cruciferous vegetables each day had a lower risk of breast malignance They have 42% more than the others, These lumps are usually benign and non-cancerous, and are caused by hormonal fluctuations at this age, or infection, and these benign lumps usually go away on their own without the need for treatment, but some cases may require intervention for treatment. Most lumps in teenage girls are fibroadenomas, which are noncancerous. These tumors are usually solid and mobile. Fibroids account for about 91% of solid breast lumps in girls under the age of 19. Breast cancer usually affects women between the ages of 40 and 50, but it may affect girls younger than thirty, and it may reach the age of 17. The reason is related to hormonal changes that occur in a woman's body, because these masses increase their symptoms with an increase in the proportion of estrogen It decreases with the increase in progesterone. The shape of a breast cancer pill is in the form of a lump with different tissue from the rest of the cells surrounding it in the breast, and it can be distinguished when touched. Figure, we would like to point out that sometimes appear under the armpit.

The Country's Diet

The environment has a significant impact as it is likely responsible for the different rates of breast malignance between countries according to different dietary habits. Researchers have long measured that breast malignance rates in immigrants change until they reach rates similar to

those in the host country after a few generations. Japanese women after their arrival in the United States., Also There are several viruses suspected of causing breast cancer, including papillomavirus, cytomegalovirus and Epstein-Barr virus. The human papillomavirus is known for its ability to immortalize breast cancer cells by replication, which was used in the research, but the role of these viruses in the formation of breast cancer in humans remains a topic, unlike humans. Domestic mice) are susceptible to breast cancer caused by infection with the mouse breast tumor virus MMTV or Butner virus, according to its discoverer, Hans Buettner, by random genetic mutations. The conclusions that have been reached indicate that the organic virus in human breast cancer is likely, especially since there is no firm evidence pointing to this claim that MMTV causes breast cancer in humans, for example, there may be critical and dangerous differences between the causes of cancer in both Humans and mice A similar version of the human virus in mammals was described in 1973 and has been linked to human breast cancer in several small epidemiological studies.

Mushroom

In a 2009 study observing the eating habits of 2,018 women suggested that women who ate mushrooms had a reduced risk of breast malignance by half. Women who ate mushrooms and green tea had a 90% lower risk of breast malignance. In a controlled case study of 362 Korean women, an association was also reported between mushroom consumption and a reduced risk of breast malignance., It is rare for girls to develop breast cancer in their teens; The incidence of women diagnosed with breast cancer before the age of 35 years is only 2%; Therefore, breast cancer screening is not usually done before this age, but teenage girls may notice lumps in the chest area.

Over weight:

Weight gain after menopause increases the risk in women. In a 2006 study, a woman's weight gain of 9.9 kilograms (22 pounds) after menopause was found to increase the risk of breast malignance by 18%. Lack of exercise linked to breast malignance, according to the American Institute for Malignance Research Several scientific studies have linked obesity to an increased risk of breast malignance. There is some evidence that people with excess body fat at the time of their breast malignance diagnosis have a higher rate of malignance recurrence and death. Studies have also shown that obese women are more likely to have larger tumors. Higher weight after diagnosis has also been linked to higher rates of breast malignance recurrence and death, but these findings are often not consistent with less severe weight gain with new chemotherapy treatments. However, one study found a significant risk of breast malignance with mortality in women who gained weight compared to those who maintained their weight. However, cohort studies and clinical trials have not shown a significant relationship between weight gain after diagnosis and breast malignance mortality. Weight loss after diagnosis has not been shown to reduce the risk of breast malignance recurrence or mortality, on the other hand, physical activity is associated with a reduced risk of breast malignance for affected people, and does not lead to death due to weight loss. There are no accurate statistics linking the relationship between weight loss Weight and physical activity and their impact on breast malignance diagnosis There is controversy about the association of obesity with a higher incidence of breast malignance, and this is due to the biological difference of the malignance itself, or differences in other factors such as health practices. It has been suggested that obesity may be a limiting factor for breast malignance screening by mammography. Seventeen scientific studies in the United States found that as obesity increases in women over the age of 40, the rate of mammography decreases significantly. When categorized by ethnicity (white versus black), there is a stronger association between obesity and less mammography among white women. Another study found lower rates of mammography among those who were overweight and obese compared

to women with a normal body mass index—and this effect was seen only in white women. Obese women are often the ones most likely to cite pain associated with mammograms as a reason for not getting checked. Slim women also find pain as a reason not to get tested. Other reasons why obese women may not be screened may be lack of health insurance, low income or embarrassment from the examination itself. Despite accounting for these factors, the impact of lower screening rates remains significant. On the contrary, other studies of mammography confirmed that there is no difference indicating the existence of biological differences in the formation of malignance in obese women than in women of healthy weight.

Hormonal Disturbance

A persistently augmented glassy of estrogen in the blood is associated with an increased risk of breast malignance, as is an increase in the level of the androgens and testosterone (which are converted directly by the aromatase enzyme to estrogen and estradiol in succession.) Increased progesterone in the blood in postmenopausal women is associated with a decrease Breast malignance risk. A range of conditions increase exposure to endogenous estrogen, including not having children, delaying the birth of the first child. Not breastfeeding, early menstruation and late menopause, all of these conditions are expected to increase the risk of breast malignance for life. On the other hand, not only the sex hormones but also the level of insulin is related to the risk of breast malignance

High-temperature food preparation:

High-temperature food preparation, such as grilling meat, can result in the formation of minute amounts of several powerful carcinogens that are similar to those in cigarette smoke (eg, benzo[a]pyrene). Cooking food over a fire is similar to exposure to coke and the pyrolysis of tobacco, and produces similar carcinogens. There are many carcinogenic pyrolysis products, such as polynuclear aromatic hydrocarbons, which human enzymes convert into epoxides, which permanently irritate DNA. Cooking meat in the microwave for 2-3 minutes before grilling reduces the time spent on a hot pan , removes heterocyclic amine precursors, which can help reduce the formation of these carcinogens. The Food Standards Agency reports that acrylamide, which is a known animal carcinogen, is generated in fried foods or carbohydrate foods cooked at high heat (such as French fries and potato chips) and studies are currently being conducted in the Food and Drug Administration and European regulatory agencies to assess the potential risks to humans., Dr. T. points out. Colin Campbell in a Chinese study that casein, the protein in milk and many prepared foods, is also a carcinogen. Otherwise, other studies suggest that casein and other milk proteins protect against malignance.

Drinking tea and caffeine:

Several recent studies have shown that moderate amounts of red and green tea (3 cups and more per day) can reduce the risk of breast cancer by 37% among women under 50 years of age. Compared to those who never drank tea, but there was no relationship between all women anyway, this study was criticized as inaccurate, in addition to another study that recommended no link between breast cancer and overall tea intake, but found that there was an inverse association between caffeinated beverages and risk of postmenopausal breast cancer for green tea. Specifically, one study found a significant inverse association between breast cancer risk and green tea intake by Asian women with low soy intake.

Tobacco smoking:

Tobacco smoking increases the risk of breast cancer, as the higher the quantity and the earlier the start of smoking, the higher the risk of infection, and for long-term smokers, the risk increases from 35% to 50%. Lack of exercise has been linked to 10% of cases. Sitting for long periods increases breast cancer mortality rates. Exercising does not eliminate the

risk of breast cancer, but rather reduces it. There may be a link between oral contraceptive use and the development of premenopausal breast cancer. But the use of birth control pills causes premenopausal breast cancer and is a controversial topic. But it is still a question of whether there is a link, the effect is very weak. For those who carry genetic mutations or have a family history of breast cancer. Studies have shown that the use of birth control pills does not affect their risk of developing breast cancer. The relationship between breastfeeding and breast cancer has not clearly defined; Some studies have found a relationship while others have not. In the 1980s, the breast cancer abortion hypothesis that induced abortions increased the risk of breast cancer was postulated. This hypothesis has been the subject of extensive scientific research, concluding that abortion is not associated with an increased risk of breast cancer. There is a relationship between diet and breast cancer, including

an increased risk of infection with a high fat content in the diet, alcohol intake, and obesity, all of which are associated with an increase in the level of cholesterol in the body. A lack of iodine intake in the diet may play a role as well. Other factors Increased risk of breast cancer includes: radiation, shift work. Also, a number of chemicals including: polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), organic solvents and a number of pesticides. Although the amount of radiation a mammogram (Breast screening devices) is considered few, but it is estimated annually that examining women between the ages of 40-80 years can cause approximately 225 cases of fatal breast cancer per millions of women examined, or approximately 0.0255% of women who undergo breast cancer screening. Examination annually.

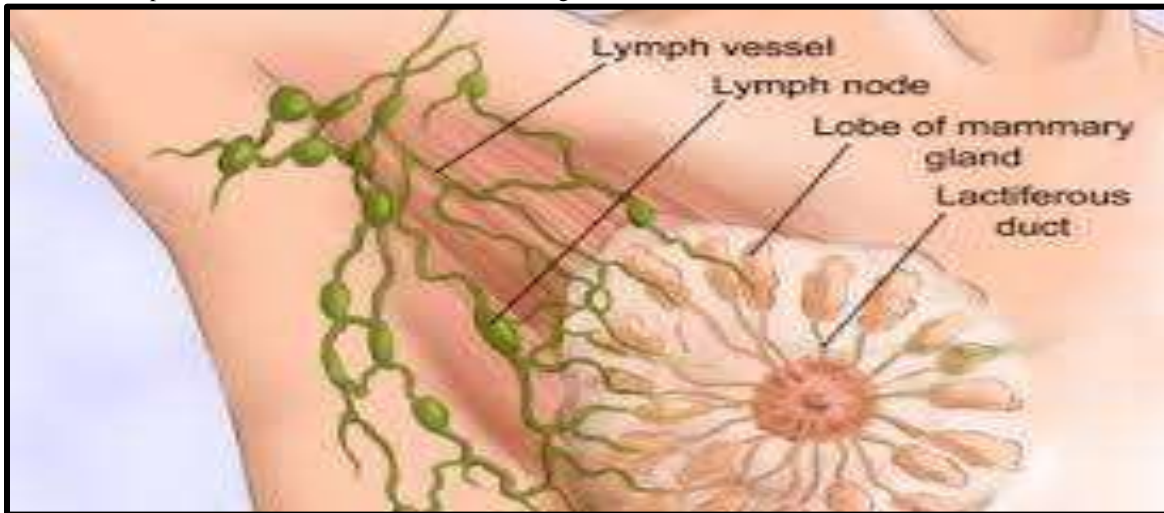


Figure (1): *The influence of genetics on the risk of malignance developing*

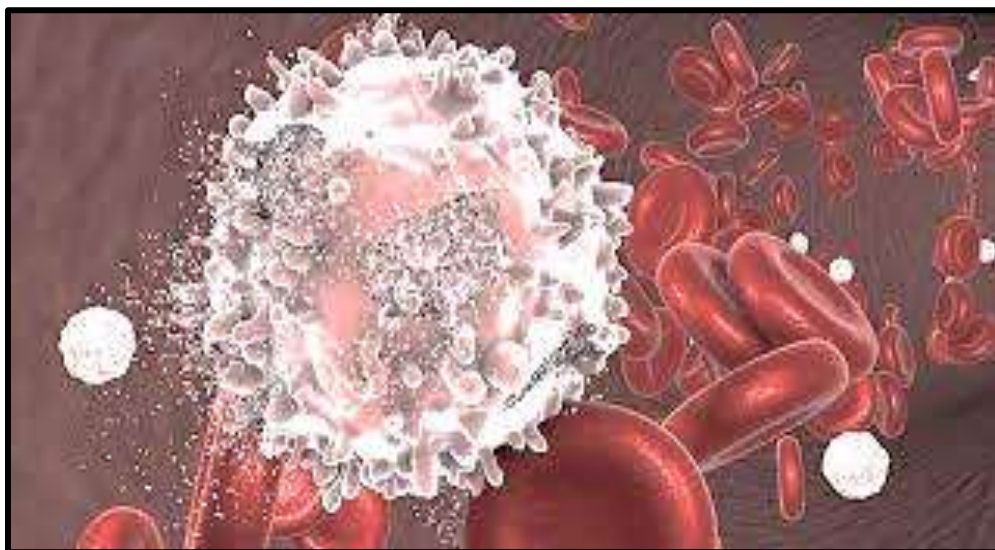


Figure (2): *Blood Cancer due to radiation*

Conclusion

The results of a recent study conducted recently in America on about 160,000 women over a period of five years; To assess the benefits and risks of using combined hormonal therapy, the risk of breast malignance was 26% higher in women who used combined hormonal therapy (which contains both estrogen and progesterone) compared to those who did not.

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