

PREVENTION OF BREAST CANCER

Breast cancer is like any other cancer in the sense that it is an irregular growth of abnormal cells. Breast cancer, though, is unique in that 99% of breast cancers are found in women and that it occurs mainly in the milk ducts where the cells are the most subject to hormonal and chemical changes.

With the knowledge that there are certain substances, either from our diet or from the environment, which can promote breast cancer, we can make choices in order to lessen the chances of breast cancer occurring. This is the preventive approach. For example, there is strong evidence that excess estrogen is one of the prime promoters of breast cancer; if we know what foods and drugs contain estrogen, we can eliminate or at least cut down our intake of these. As well, if we know that the liver has mechanisms by which it breaks down estrogen to a safer end product, and that certain vitamins and foods help this process, we can incorporate these nutrients into our diet.

The following are suggestions for ways in which we can help our bodies maintain its defences against breast cancer or against recurrence of breast cancer. Many of the studies on which these suggestions are based are speculative. Research into cancer prevention is a relatively new field and has not received the massive amounts of money which has gone into research about cancer treatments.

DIET

Restrict fat intake: numerous studies have linked high fat diets to increased risk of breast¹ and other cancers, although the precise mechanism by which excess fat may promote development of cancer is not known. This means we should lower our consumption of fatty foods — red meats, whole-milk dairy products, butter, cooking oils and fats, mayonnaise and eggs. Apparently there is no difference between saturated and polyunsaturated oils in terms of the harmful effects of their excessive use. (Unheated — either by processing or cooking — vegetable oils are probably not risky.) Fats should be no more than 20% of the total diet, instead of the 40% common in the North American diet.

Increase complex carbohydrates (vegetables, whole unprocessed grains, fruit): vegetarians get less breast cancer than meat-eaters, which may in part be due to lowered intake of fats, but which may also be connected with the increased intake of the vitamins and minerals which are increasingly thought to have a role in cancer prevention. Cabbage, brussels sprouts, broccoli, cauliflower, radishes and other vegetables of the crucifer family seem to help the body deactivate cancer-causing substances.

Increase fibre: eating more complex carbohydrates increase our intake of fibre. A high fibre diet reduces or eliminates constipation. Constipation has been linked with breast disease, including breast cancer, because excess estrogen which should be eliminated is reabsorbed into the body and because bacteria in the colon can convert fatty acids into cancer-causing substances.²

Avoid sugar: several studies have shown a link between high intake of sugar and breast cancer.³ According to a twenty year study, the highest number of breast cancer deaths in women over 65 occur in countries

Use seaweeds: they are a rich source of iodine and iodine deficiency is connected with excess estrogen levels. Iodine is necessary for the healthy functioning of the thyroid gland and low thyroid function (hypothyroidism) has been linked to breast cancer. Incidence of breast cancer is low in Japanese women on a traditional Japanese diet which is high in seaweed, and is high in areas where the soil is lacking in iodine. Seaweeds also have the ability to bind and eliminate toxic substances in the body. Kelp and dulse are seaweeds which are available in powdered form and which can be used as salt substitutes in soups, stews, etc.⁴

Reduce or avoid methylxanthines (caffeine, theophylline and theobromine), the active agents in coffee, tea, chocolate and cola drinks. Methylxanthines stop the action of certain enzymes which degrade (change to a less complex form) certain chemicals found in high levels in cancerous tissue. Blocking this mechanism leads to accumulation within the cells of these chemicals which stimulate abnormal cell growth.⁵ A casual link between methylxanthines and cancer has not been proven, but there is enough evidence that they are related to abnormal cell growth to make their use a concern.

Avoid foods with chemical additives and preservatives: although no clear links have been made between any particular food additives and breast cancer, many food additives are suspected of being carcinogenic (cancer-causing) and should be avoided as much as possible.

VITAMINS AND MINERALS

Although specific vitamins and minerals are mentioned here as having particular relevance to cancer prevention, it is important to know that all the vitamins work together and are all necessary for good health. We should try to get as many of our required nutrients as possible from our food, but given the generally depleted state of the nutrient levels in the foods generally available to us, supplementary vitamins and minerals become a necessity. A good multi-vitamin/mineral tablet contains all the essential nutrients, although it is sometimes necessary to supplement them with more of a specific nutrient, depending on our individual needs.

Vitamin A: many studies, dating back to the thirties, show that Vitamin A deficiency seems to increase susceptibility to cancer, and that Vitamin A has some kind of protective role as an inhibitor of tumour growth.⁶ Some recent studies have linked Vitamin A deficiency to breast cancer. Most of the latest research focuses on the benefits of beta-carotene, which is converted to usable Vitamin A in the body. Beta-carotene is found in foods such as carrots, sweet potatoes, dark leafy green vegetables, apricots, cantaloupe and winter squash. Beta-carotene is not toxic but, as with most things, we can get too much of it. One sweet potato can provide enough beta-carotene for one day's supply. The daily use of foods rich in beta-carotene is encouraged. Vitamin A in supplement form can be toxic in large doses (more than 50,000 I.U. a day); the usual recommended daily dosage in 10,000-20,000 I.U. a day.

Vitamin C also seems to inhibit the growth of tumours and to have protective qualities. Low Vitamin C has

Daily dosage should be at least 1,000 mg a day (some people take a lot more), taken in smaller amounts at intervals throughout the day.

Vitamin E works in a similar way to Vitamins A and C. It protects the cell membrane against invasions by cancer-causing chemicals and stimulates the body's immune system. The suggested daily dosage is 200-400 I.U. People with diabetes, high blood pressure, rheumatic heart condition, and anyone taking drugs derived from digitalis (digitoxin and digoxin) should not take Vitamin E except under medical supervision, and then only very small doses.

Selenium, a mineral, is also an antioxidant like Vitamins A, C and E, and may be the most important one. Antioxidants protect body cells against unwanted reactions with oxygen. Some studies have shown that selenium can prevent breast tumours in rats, and one study found that breast cancer patients have significantly less selenium in their blood than do healthy women.⁸ Selenium works together with Vitamin E and sometimes Vitamin E tablets also contain selenium. Selenium supplements should be used with caution as it is very toxic. The daily dose should not exceed 50 mcg. Garlic is the richest food source of selenium; it is also found in bran, wheat germ, brewers yeast, broccoli, onions and tomatoes.

The **B-complex vitamins** are also under study for their role in boosting the body's immune system. They are very important for the liver to perform adequately its role in degrading excess estrogen. The B-complex vitamins work together and should always be taken together when taken in supplement form. Brewers yeast is a good source of B vitamins.

Zinc is another mineral which may be significant in cancer prevention. Zinc is required for the absorption of Vitamin A and is essential for a healthy immune system.

WEIGHT

The delicate relationship between the fatty nature of breast tissues and circulating hormones makes the breasts more vulnerable than other tissue to the harmful influences of carcinogens (cancer-causing substances) that enter and circulate throughout the body. Fat soluble carcinogens are easily stored by breast fat. Obesity, therefore, will increase the risk of breast cancer in certain women. Obesity is also linked to excess estrogen activity because adipose (fat) tissue manufactures estrogen, thus elevating its levels in the body.

By obesity we mean excessive amounts of fat tissue, not merely being large or heavy which may be due to muscle and bone mass. Our cultural standard of how slender an attractive healthy body should be is quite extreme and many women have ruined their health through constant dieting and through extreme fluctuations in weight since weight lost through dieting alone usually returns. A sensible diet with lots of complex carbohydrates (vegetables, fruit, whole grains) combined with regular exercise will help us lose unnecessary fat tissue without harming our health.

Women going through or past menopause should note that they need the extra fat tissue often gained in those years because it is a source of estrogen after the ovaries have slowed down estrogen production.

SMOKING

Various studies have tried to look for a possible link between breast cancer and smoking, but their findings have been contradictory.⁹ We do know that nicotine increases the amount of estrogen in the cells of chemical

which encourage abnormal cell growth and metabolism by stimulating the release of epinephrine (a hormone). Also, cancer-causing agents in cigarette smoke can become concentrated in breast tissue. Smoking is also implicated in premature menopause, osteoporosis (bones becoming porous and fragile: a condition often found in postmenopausal women), infertility and lung cancer, so there are many good reasons not to smoke.

ALCOHOL

A Boston University study found 1½-2 times more breast cancer in alcohol users. Alcohol depletes the body of magnesium, zinc and B vitamins, and can harm the liver. A healthy liver is essential for processing excess estrogen.

BREASTFEEDING

Studies indicate that women who nurse their babies have a much lower risk of developing breast cancer than women who bottle feed their babies or who have never had children.

ROUTINE MAMMOGRAPHY

A mammogram is a breast x-ray. Breast lumps which cannot be felt in a physical exam can be detected by a mammogram and localized cancerous lumps can be removed before the cancer has spread to the lymph nodes and other tissue. Unfortunately repeated x-rays also increase the risk of cancer because they can themselves cause cancer. Breast tissue is highly sensitive to the cancer-causing effects of radiation. Because cancers caused by radiation from x-rays can take 20-30 years to develop, routine mammograms do not pose the same health risks for women over 50 as they do for younger women. Avoiding routine mammograms may prevent many breast cancers and women should consider seriously whether this form of cancer detection is worth the risk.

If a mammogram (or any other x-ray) seems unnecessary, drink lots of miso soup before and after the x-ray. Miso seems to have the ability to flush radioactive particles from the system, according to research done in Japan.

ENVIRONMENTAL HAZARDS

Although not many environmental hazards have been linked specifically to breast cancer, it is known that our environment is full of potential carcinogens (cancer-causing substances), such as exhaust from cars, fumes from factories, asbestos, the chemicals in certain dyes, cleaning products, cosmetics, pesticides and food additives.¹⁰ Hair dyes were linked to breast cancer in some studies, but recent studies have refuted them.

Ionizing radiation such as used in x-rays and nuclear power plants are known to cause cancer, although the level of radiation necessary is still a point of much debate. Non-ionizing radiation is of a lower frequency and longer wavelength; some sources are microwave ovens, TVs, radar and high voltage power lines. We are constantly exposed to these radiowaves and microwaves which create heat which in turn cause stress in the body.¹¹ The relationship of non-ionizing radiation to cancer and other diseases is an area of much controversy and study.

We cannot possibly avoid all the carcinogens in the environment. We can increase our knowledge about them and try to eliminate as many as we can from our home and workplace. We can also use this knowledge to become more health conscious in our daily lives.

increasing amount of hazards in our environment through community political action. And we can do whatever we can to maintain our health so that our bodies can better resist the adverse effects of the many pollutants we come in contact with.

STRESS REDUCTION

Some researchers have tried to show that certain "personality types" are more prone to breast cancer. Although it is becoming more and more evident that emotions and attitude can play a role in promoting disease and in the healing process, this information can easily be presented in a way which seems to blame the victim for bringing on her disease. Even if it can be demonstrated, as some studies have tried to do, that repressed anger is linked to breast cancer, the research does not attempt to analyze why women are likely to repress their anger. Seen in a social context, it becomes clear that women in this society are taught that it is not "nice" or "feminine" to show anger or release aggression. It is therefore not a woman's fault if she has learned to control her feelings in ways which earn her society's approval but which may be detrimental to her health.

Not being able to express our feelings puts us under a great deal of stress, and stress, no matter what the cause, can undermine our health. One way in which stress may lead to breast cancer is that stress increases the output of a hormone called prolactin. Excess prolactin is thought to influence the growth of breast cancer cells. Stress also can hinder the body's immune or defence system.

It is impossible to avoid stress, given the kind of lives most of us lead and the social conditions we live in, but there are ways to reduce the effects of stress on our bodies so that we can cope better and help prevent illness. Stress reduction and relaxation techniques, self-hypnosis, autogenic training, yoga, meditation, exercise, massage, and finding others with whom we can talk openly and honestly (friends, support groups, peer counselling) are some ways we can try to reduce stress in our lives.

DRUGS TO AVOID

Estrogen: excess estrogen in the system is linked with various kinds of breast disease, both benign and malignant. Most oral contraceptives (the birth control pill) combine estrogen with progestin (a synthetic form of progesterone also linked to breast cancer) and have been linked with the increasing rate of breast cancer. So has Estrogen Replacement Therapy (ERT) which is given to menopausal women. Although these links have not been proven conclusively, there is enough evidence of their danger to warrant taking the studies which suggest these links seriously. It seems prudent to avoid all drugs containing estrogen and synthetic progesterone. There are safer methods of birth control than the Pill¹² and other ways to deal with the symptoms of menopause.¹³

Reserpine is a drug given for hypertension (high blood pressure). The possibility that its long term use increases the risk of breast cancer has been supported increasingly by continuing studies. There are many non-drug ways to deal with hypertension, including diet and the reduction of salt intake.

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