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An Essay on
Breast cancer

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1. Introduction to breast cancer

Breast cancer is a type of cancer originating from breast tissue, most commonly from the inner lining of milk ducts or the lobules that supply the ducts with milk.^[1] Cancers originating from ducts are known as ductal carcinomas, while those originating from lobules are known as lobular carcinomas. Breast cancer occurs in humans and other mammals. While the overwhelming majority of human cases occur in women, male breast cancer can also occur⁽²⁾.

The size, stage, rate of growth, and other characteristics of a breast cancer determine the kinds of treatment. Treatment may include surgery, drugs (hormonal therapy and chemotherapy), radiation and/or immunotherapy⁽³⁾. Surgical removal of the tumor provides the single largest benefit, with surgery alone curing many cases. To increase the likelihood of cure, several chemotherapy regimens are commonly given in addition to surgery. Radiation is used after breast-conserving surgery and substantially improves local relapse rates and in many circumstances also overall survival⁽⁴⁾. Some breast cancers are sensitive to hormones such as estrogen and/or progesterone, which makes it possible to treat them by blocking the effects of these hormones.

Worldwide, breast cancer accounts for 22.9% of all cancers (excluding non-melanoma skin cancers) in women⁽⁵⁾. In 2008, breast cancer caused 458,503 deaths worldwide (13.7% of cancer deaths in women)⁽⁵⁾. Breast cancer is more than 100 times more common in women than in men, although men tend to have poorer outcomes due to delays in diagnosis^(6,7).

Prognosis and survival rates for breast cancer vary greatly depending on the cancer type, stage, treatment, and geographical location of the

patient. Survival rates in the Western world are high⁽⁶⁾ for example, more than 8 out of 10 women (84%) in England diagnosed with breast cancer survive for at least 5 years⁽⁸⁾. In developing countries, however, survival rates are much poorer.

2. Symptoms of Breast Cancer

Initially, breast cancer may not cause any symptoms. 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 some 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. So it's important to have anything unusual checked by your doctor.

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 area