

Breast cancer Leno Gideon*

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Abstract

Breast cancer is the most common non-skin cancer diagnosed in women. Guidelines recommend that interventions be reserved for women who are most at risk for breast cancer in order to reduce the disease's burden, conserve resources, and reduce unnecessary treatments. Risk assessment, which includes breast cancer risk factors and risk assessment models, is critical in identifying women who will benefit the most from risk reduction strategies. Shared decision-making principles should guide practitioners in incorporating patients' values, goals, and objectives in decisions regarding genetic testing, pharmacologic intervention, enhanced surveillance, and other risk-reduction strategies.

Keywords: Breast cancer; Breast cancer risk assessment; Breastfeeding; Genetic testing; High-risk breast disease; Pharmacologic prevention; Risk assessment models; Risk reduction strategies

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Introduction

Breast cancer is a type of cancer that arises from breast tissue. A lump in the breast, a change in breast shape, dimpling of the skin, milk rejection, fluid coming from the nipple, a newly inverted nipple, or a red or scaly patch of skin are all signs of breast cancer. Patients with distant disease spread may experience bone pain, swollen lymph nodes, shortness of breath, or yellow skin. Obesity, a lack of physical activity, alcoholism, hormone replacement therapy during menopause, ionising radiation, an early age at first menstruation, having children late in life or not at all, older age, having a prior history of breast cancer, and a family history of breast cancer are all risk factors for developing breast cancer. An inherited genetic predisposition, such as BRCA mutations, accounts for about 5-10% of cases. Breast cancer is most commonly found in cells from the lining of milk ducts and the lobules that supply milk to these ducts [1-4]. Cancers that arise from the ducts are referred to as ductal carcinomas, while those that arise from the lobules are referred to as lobular carcinomas. There are over 18 different types of breast cancer. Some cancers, such as ductal carcinoma in situ, begin as pre-invasive lesions. A biopsy of the suspicious tissue confirms the diagnosis of breast cancer. Following the diagnosis, additional tests are performed to determine whether the cancer has spread beyond the breast and which treatments are most likely to be effective [5-8].

The benefits versus risks of breast cancer screening are debatable. According to a 2013 Cochrane review, it is unclear

whether mammographic screening causes more harm than good because a large proportion of women who test positive do not have the disease. A 2009 review for the US Preventive Services Task Force discovered evidence of benefit in those aged 40 to 70, and the organisation recommends screening every two years in women aged 50 to 74. Tamoxifen or raloxifene may be used to help prevent breast cancer in people who are at high risk of developing it. In some high-risk women, surgical removal of both breasts is another preventive measure. Cancer patients may receive a variety of treatments, including surgery, radiation therapy, chemotherapy, hormonal therapy, and targeted therapy. The procedures range from breast-conserving surgery to mastectomy. Breast reconstruction can be done during surgery or at a later time. Treatments for those whose cancer has spread to other parts of the body are primarily aimed at improving quality of life and comfort [9-10].

Discussion

Breast cancer outcomes vary depending on the type of cancer, the extent of the disease, and the person's age. In England and the United States, five-year survival rates range between 80 and 90%. Five-year survival rates are lower in developing countries. Breast cancer is the most common type of cancer in women worldwide, accounting for 25% of all cases. It resulted in 2 million new cases and 627,000 deaths in 2018. It is more common in developed countries and affects women 100 times more than men.

Risk factors

Risk factors can be divided into two categories:

Modifiable risk factors (things that people can change themselves, such as alcohol consumption) and

Fixed risk elements (things that cannot be changed, such as age and physiological sex).

Being female and being older are the two most important risk factors for breast cancer. Genetics, lack of childbearing or breastfeeding, higher levels of certain hormones, certain dietary patterns, and obesity are all potential risk factors. According to one study, exposure to light pollution is a risk factor for the development of breast cancer.

If all adults lived the healthiest lifestyles possible, such as not drinking alcoholic beverages, maintaining a healthy body composition, never smoking, eating healthful foods, and taking other steps, nearly a quarter of all breast cancer cases worldwide could be avoided. Lifestyle changes will not prevent the remaining three-quarters of breast cancer cases.

Treatment of breast cancer

Understanding breast cancer treatment options can assist family physicians in providing care to their patients during and after cancer treatment. This article discusses common treatments according to stage, histology, and biomarkers. In situ lobular carcinoma does not require treatment. Ductal carcinoma in situ can progress to invasive cancer and is treated with breast-conserving surgery and radiation therapy without the need for additional lymph node exploration or systemic therapy. Breast cancers in stages I and II are typically treated with breast-conserving surgery and radiation therapy. Following breast-conserving surgery, radiation therapy reduces mortality and recurrence. Sentinel lymph node biopsy is considered for most breast cancers with clinically negative axillary lymph nodes, and it does not cause arm swelling or pain like axillary lymph node dissection. Adjuvant systemic therapy is chosen based on lymph node involvement, hormone receptor status, ERBB2 (formerly HER2 or HER2/neu) overexpression, patient age and menopausal status, and patient age and menopausal status. Chemotherapy, endocrine therapy (for hormone receptor-positive cancer), and trastuzumab are commonly used to treat node-positive breast cancer (for cancer overexpressing ERBB2). Chemotherapeutic regimens containing

anthracyclines and taxanes are effective against breast cancer. Induction chemotherapy is typically used in stage III breast cancer to shrink the tumour and allow for breast-conserving surgery. Although considered stage III, inflammatory breast cancer is aggressive and necessitates induction chemotherapy followed by mastectomy rather than breast-conserving surgery, as well as axillary lymph node dissection and chest wall radiation. Women with recurrent or metastatic (stage IV) breast cancer have a poor prognosis, and treatment options must weigh the benefits of increased life expectancy and reduced pain against the risks of treatment.

Conclusion

Understanding breast cancer treatment options can assist family physicians in providing care to their patients during and after cancer treatment. This article discusses common treatments according to stage, histology, and biomarkers. In situ lobular carcinoma does not require treatment. Ductal carcinoma in situ can progress to invasive cancer and is treated with breast-conserving surgery and radiation therapy without the need for additional lymph node exploration or systemic therapy. Breast cancers in stages I and II are typically treated with breast-conserving surgery and radiation therapy. Following breast-conserving surgery, radiation therapy reduces mortality and recurrence. Sentinel lymph node biopsy is considered for most breast cancers with clinically negative axillary lymph nodes, and it does not cause arm swelling or pain like axillary lymph node dissection. Adjuvant systemic therapy is chosen based on lymph node involvement, hormone receptor status, ERBB2 (formerly HER2 or HER2/neu) overexpression, patient age and menopausal status, and patient age and menopausal status. Chemotherapy, endocrine therapy (for hormone receptor-positive cancer), and trastuzumab are commonly used to treat node-positive breast cancer (for cancer overexpressing ERBB2). Chemotherapeutic regimens containing anthracyclines and taxanes are effective against breast cancer. Induction chemotherapy is typically used in stage III breast cancer to shrink the tumour and allow for breast-conserving surgery. Although considered stage III, inflammatory breast cancer is aggressive and necessitates induction chemotherapy followed by mastectomy rather than breast-conserving surgery, as well as axillary lymph node dissection and chest wall radiation. Women with recurrent or metastatic (stage IV) breast cancer have a poor prognosis, and treatment options must balance benefits in length of life and pain reduction against the risks of treatment.

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