



Treatment and Management of Breast Cancer

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DESCRIPTION

Breast cancer refers to a group of breast tumour subtypes with different genetic and cellular origins and clinical characteristics. The majority of these are ductal or lobular epithelial tumours. Breast cancer is the most common life-threatening malignancy in women and the main cause of cancer death in women worldwide.

Breast cancer is the most commonly diagnosed life-threatening cancer in women today and is the leading cause of cancer death in women. For 20 years, research related to breast cancer has brought extraordinary advances in the understanding of breast cancer, leading to more efficient and less toxic treatments. Increased public awareness and improved screening have enabled early diagnosis at the appropriate stage to complete surgical resection and curative treatment. As a result, breast cancer survival has improved significantly, especially among young women. This article describes the types, causes, clinical symptoms, and different approaches of both non-drug therapies (such as surgery and radiation therapy) and drug therapies (including chemotherapy and gene therapy) for breast cancer.

Early-stage breast cancer is treated mostly with surgery; many patients are cured with surgery alone. Complete excision of the primary tumour with negative margins to limit the risk of local recurrences and pathologic staging of the tumour and axillary lymph nodes to provide crucial prognostic information are the goals of breast cancer surgery.

Breast cancer adjuvant therapy is used to treat micro metastatic illness (i.e., breast cancer cells that have escaped the breast and regional lymph nodes but which have not yet had an established identifiable metastasis). Radiation therapy and systemic therapy are used as adjuvant treatments for breast cancer (including a variety of chemotherapeutic, hormonal, and biologic agents).

Tumor gene-expression assays can be used to predict the likelihood of recurrence and consequently the potential benefit of adjuvant chemotherapy in early-stage breast cancer. A recurrence score of 0 to 10 predicts a 2% incidence of distant

recurrence at 10 years with a commercially accessible 21-gene assay, which is unlikely to be improved by adjuvant treatment.

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Early signs of breast cancer

Breast cancer symptoms can vary for each person. Possible signs of breast cancer include:

- A change in the size, shape or contour of your breast.
- A mass or lump, which may feel as small as a pea.
- A lump or thickening in or near your breast or in your underarm that persists through your menstrual cycle.
- A change in the look or feel of your skin on your breast or nipple (dimpled, puckered, scaly or inflamed).
- Redness of your skin on your breast or nipple.
- An area that's distinctly different from any other area on either breast.
- A marble-like hardened area under your skin.
- A blood-stained or clear fluid discharge from your nipple.

Some people don't notice any signs of breast cancer at all. That's why routine mammograms and are so important.

Breast cancer types

- Invasive Ductal Carcinoma (IDC)
- Ductal Carcinoma *in situ* (DCIS) (ductal breast cancer)
- Medullary carcinoma
- Mucinous (colloid) carcinoma
- Tubular carcinoma
- Papillary carcinoma
- Metaplastic Breast Cancer (MBC)
- Phyllodes tumours
- Mammary Paget Disease (MPD)
- Inflammatory breast cancer

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The following characteristics are critical in deciding on a treatment plan for any breast tumour:

- Size
- Surgical margin status
- Estrogen and progesterone receptors presence or absence
- HER2 status
- Nuclear and histologic grade
- Histologic grade
- Stage
- DNA content
- S-phase fraction
- Vascular invasion
- Tumor necrosis

Early breast cancers are often asymptomatic, with little or no pain or discomfort. The following symptoms may suggest the presence of breast cancer if a lump is discovered:

- Skin dimpling or alterations
- Recent nipple inversion or skin change, or nipple anomalies
- Single-duct discharge, especially if blood-stained
- Breast cancer diagnosis
- Physical examination

- Clinical examination
- Imaging
- Needle biopsy
- The physical findings below might cause concern:
- Skin tethering
- Nipple inversion
- Dilated veins
- Ulceration
- Paget disease
- Lump or shape change
- Edema or orange skin

Breast cancer may be present if a palpable lump is seen with any of the following characteristics:

- Fixation to skin or muscle
- Hardness
- Irregularity
- Focal nodularity

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.