

Breast cancer treatment: Therapy

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INTRODUCTION

Treatment for breast cancer is interdisciplinary. The vast majority of women with early-stage breast cancer are candidates for breast-conserving surgery, which may include radiation or mastectomy. These methods have no effect on the probability of local recurrence or the likelihood of survival. Sentinel node biopsy is utilised for axillary staging, and customised methods are reducing the necessity for axillary dissection in women who test positive for sentinel nodes. Adjuvant systemic therapy is utilised in the majority of women since it has been shown to improve survival, and molecular profiling to individualise treatment based on risk is now a clinical reality for patients with hormone receptor-positive malignancies. A history, physical examination, and yearly mammography are all part of the follow-up surveillance. There is presently no evidence that regular imaging improves outcomes after adjuvant systemic therapy in the absence of symptoms. Novel methods for early tumour detection are desirable, but they must be clinically useful in prospective studies.

The diagnosis and treatment of invasive breast cancer necessitates a multidisciplinary approach including many subspecialties. Diagnostic imaging work-up and biopsy are critical in establishing a diagnosis and influencing surgical decisions on main tumour treatment, axillary staging, and therapeutic sequencing. Once a breast cancer diagnosis has been made, the extent of the illness is determined, which largely affects whether or not preoperative (neoadjuvant) systemic therapy is needed. Confirmed stage IV breast cancer is considered incurable; it is treated solely with systemic treatment unless palliative excision of the main tumour is indicated, and it will not be addressed further. Identifying clinical criteria of inoperability that warrant the use of neoadjuvant therapy is an important element of the first clinical examination of a patient with non-metastatic breast cancer. Inflammatory carcinoma, tumour attachment to the bony chest wall (ribs, sternum), significant skin involvement with ulceration or satellite skin nodules, fixed/matted axillary lymphadenopathy, involvement of neurovascular systems of the axilla, or lymphedema of the ipsilateral arm are all examples. On physical examination, all of these abnormalities are easily discernible and should trigger an imaging assessment for distant metastases.

In these situations, systemic medication is used as a first treatment to decrease tumour volume, making about 80% of patients operable. The order of surgical resection and systemic treatment in individuals with operable illness varies. Preoperative systemic treatment may be utilised to reduce tumour volume in the breast, allowing for breast conservation when mastectomy would otherwise be required, as well as to lessen the requirement for Axillary Lymph Node Dissection (ALND). Resection of the tumour is the first step in therapy for the majority of patients with stage I and II illness, and patients have the option of breast conservation or mastectomy.

BREAST-CONSERVING TREATMENT AND MASTECTOMY ARE TWO TYPES OF LOCAL THERAPY FOR INVASIVE BREAST CANCER

Breast-Conserving Therapy (BCT) and mastectomy are both well-known local treatments for invasive breast cancer. Multiple randomised clinical trials with up to 20-year follow-up have shown that BCT is safe and has survival outcomes comparable to mastectomy in stage I and II breast cancer. Although a few older trials indicated greater rates of Locoregional Recurrence (LRR) after BCT than after mastectomy (10%-22%), current research report substantially lower LRR rates. The introduction of microscopic confirmation of negative resection margins, as well as the widespread use of systemic treatment, can be related to the decrease in LRR. The 10-year local recurrence rates in patients with node-negative and node-positive breast cancer who received systemic treatment following BCT in five National Surgical Adjuvant Breast and Bowel Project (NSABP) regimens were 5.2% and 8.7%, respectively. These percentages are close to the known 10-year rates of isolated local recurrence following mastectomy, which are around 8%. It is now known that local control is not simply determined by disease load and surgical extent, but also by tumour genetic subtype and systemic treatment delivery. Local recurrence rates differ considerably amongst breast cancer subtypes, regardless of whether patients are treated with mastectomy or BCT. This insight eliminates the need for mastectomy in biologically aggressive tumours, and the vast majority of patients with stage I and II disease are eligible for BCT.

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