

Breast cancer in geriatrics: Current and future prospects



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Abstract

The majority of women who get a breast cancer diagnosis live far into the age of 60, making it the most common illness in the world among female patients. The percentage of elderly women who get breast cancer diagnosis is increasing, as is the average life expectancy. Clinical practice guidelines do not sufficiently address the management of this patient group, and they are under-represented in therapeutic studies. Under treatment is common, mostly as a result of irrational concerns about ageing and associated comorbidities. Oncoplastic surgery and axillary care, however, may be customised according to the patient's unique needs and the specifics of their condition. The majority of targeted therapies, chemotherapeutic drugs, and anti-Human epidermal growth factor receptor-2 (HER2) treatments may be given to elderly patients in a safe manner; careful monitoring of any adverse effects and dose modifications may be required. Adjuvant radiation therapy has been shown to be safe and successful in modifying or even stopping the condition; at least in low-risk elderly adults. The whole range of treatments for breast cancer in the elderly, with a focus on adjuvant chemotherapy, radiation therapy and endocrine therapy during the initial tumour excision process, as well as the care of advanced-stage and recurring illnesses. Future studies on older breast cancer might look at the use of precision medicine techniques created specifically for the elderly. This would include the development of age-specific biomarkers and more accurate genetic profiling techniques to predict the tolerance and response to medication of elderly patients.

Keywords: Breast Cancer, Oncoplastic Surgery, Chemotherapeutic Drugs, HER2 Treatment, Radiation Therapy, Endocrine Therapy, Adverse Effect

1. Introduction

Worldwide, breast cancer diagnoses are more common among women. In United States (US), the median age of diagnosis is 63, and the prevalence increases with age (1). In Western countries, those over the age of 70 account for over half of breast cancer-related fatalities as well as about a third of patients with invasive breast cancer diagnoses (2). Breast cancer diagnoses among the elderly will increase in both number and percentage as life expectancy grows. The treatment of breast cancer in the elderly is a poorly understood topic; many of these patients are not eligible for clinical trials due to comorbid illnesses. Chemotherapy, radiation, chemotherapeutic therapies, and even surgical tumour excision are often postponed or avoided in this age group. The prognosis and results of therapy may suffer from such undertreatment (3).

2. Treatments for elderly breast cancer

2.1. Surgery

The cornerstone of breast cancer therapy remains resection surgery with proper surgical margins.

Thanks to advancements in anaesthesia and surgical methods, breast surgeries are generally regarded as safe, with very low rates of complications, regardless of the degree of the treatment (mastectomy or breast-conserving surgery) (4,5). Surgical resection may have a negative impact on treatment outcomes in these patients, regardless of hormone receptor status, age, tumour stage, or presence of the human epidermal growth factor receptor-2 (HER2) (6,7).

2.1.1. Options for primary disease surgery

The decision to have primary surgery for breast cancer is often impacted by an array of considerations, such as comorbidities, functional level, and tumour stage. However, medical staff still considers patient's age when deciding on the kind of procedure (8). According to Morgan et al. (8), a comprehensive retrospective research, patients that are at least 70 years old had a lower incidence of breast-conserving and were most likely to stay away from adjuvant exposure in order to reduce cumulative impact. These findings suggest that older age groups had a predilection for greater mastectomy (9).

2.1.2. Oncoplastic surgery

Reconstructive surgery outcomes for breast cancer in geriatrics were thoroughly examined, & findings were similar to those of younger age groups. Nevertheless, due to poor treatment quality, concerns about the dangers of surgery, preconceived conceptions about their bodies, and a patient's lack of involvement in the process of making decisions, patients in this patient group are less likely to undergo these operations (10). According to one study, older women rated their physical and mental health far better than younger women did after both conventional surgery and oncoplastic treatments (11).

When compared to standard breast-conserving surgery, Oncoplastic breast-conserving surgery resulted in comparable rates of local recurrence (if cancer resurfaced in the same breast) and disease-free survival (no breast cancer after initial treatment). It also reduced the requirement for a second re-excision surgery (which is sometimes necessary if the tumour is not completely removed during the first treatment). In the years after surgery, O-BCS may cause more complications and biopsies than S-BCS. The evidence for the claim that O-BCS enhances surgeon evaluations of breast appearance and patient satisfaction is of poor quality because to a lack of numerical data (12).

2.2. Chemotherapy

Adjuvant chemotherapy may increase the likelihood of survival for elderly patients, but it also increases risk of side effects, including acute renal impairment, dehydration, heart disease, & haematological abnormalities (13). Additional chemotherapy is more beneficial for patients with high-risk, HER2-positive or triple negative illness than for those having HER2-negative, hormone-sensitive breast cancer (14). Adjuvant chemotherapy improved survival versus no treatment for 592 Breast tumour patients over 70 having morbidity as well as lymphoma positive disease (15).

A patient over 65 having HER2-negative breast tumour is usually treated with one of several standard chemotherapy regimens or more traditional regimen that includes cyclophosphamide, methotrexate, & fluorouracil (CMF). The combination selection is influenced by several factors such as cardiac function, other comorbidities, sickness risk & clinical condition (16).

It is crucial to carefully evaluate possible side effects and comorbidities that are frequent in older patients' age range while determining whether to continue chemotherapy. Particularly for elderly patients, tailored chemotherapy regimens have been shown to provide substantial advantages, increasing survival rates without compromising quality of life (17). Research on improving chemotherapy techniques is ongoing as our knowledge of breast cancer in the elderly grows, enabling these patients to get more potent and well-tolerated medications.

2.3. Additional radiation

It has been shown that radiation therapy with adjuvant therapy reduces regional recurrence in cancers of the breast. Based on an evaluation of risk, radiation treatment may be advised for senior citizens; for low-risk individuals, it may be successfully discontinued (18). Geriatric people are more

vulnerable to radiation-related toxicities because of the combined effects of respiratory and cardiac conditions. However, novel approaches to radiation therapy and the use of state-of-the-art organ sparing techniques have advanced our understanding of the fundamental mechanisms generating putative toxicities (19,20).

2.3.1. Not using radiation therapy

The idea of skipping radiation therapy is still alluring for older individuals who are low-risk hormone receptor positive in order to prevent reduce visits to the hospital & radiation-related complications, even with the adjuvant radiation therapy's long-term local control benefit for early-stage cancer of breast (21), which observed in the older patients in a meta-analysis (22).

2.3.2. The adjunct radiation in the perspective of neoadjuvant oncology

It is well known that adjuvant chemotherapy and adjuvant radiation therapy may be used to treat carcinoma of the breast that has spread locally. However, Adjunct radiation therapy's function in response to neoadjuvant chemotherapy is not well understood during this phase. According to a recent meta-analysis, there was no statistically significant variation in the chance of locoregional recurrence after adjuvant regional radiation treatment for medically confirmed involvement of lymph nodes and full recovery following neoadjuvant chemotherapy (23,24).

2.4. Additive hormonal therapy

Hormonal therapy (primary endocrine therapy) the sole treatment option for geriatrics with the initial stages breast cancer. It may be used as the conventional adjuvant after surgery and chemotherapy or as a neoadjuvant, replacing more toxic chemotherapy or surgical resection alone (25). Given the conflicting results and the inability to develop a simulation accurate of reaction acceptance, and compliance to hormonal therapy, the selection of whether to provide additive hormonal treatment to older women should be made on an individual basis, taking into account the patient's preferences and a careful assessment of the potential for adverse reactions associated with treatment and the chance of cancer recurrence (26).

3. Conclusion

While treating breast cancer in the elderly is a challenging task, it is imperative that the care team understands it. In an ageing society, clinical decisions should be optimised based on several factors, not only the patient's age. These elements include the clinical and molecular characteristics of the patients' tumours, prognosis, performance status, and comorbidities. Only a small number of individuals do adequate geriatric evaluation, despite the fact it's an essential technique that keeps patients from suffering from intolerable toxicities or undergoing unnecessary undertreatment. The creation of "geriatric oncology" as a specialist and suitable, targeted education for cancer doctors in cancer domains should enhance the treatment of this very vulnerable patient group.

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