

Occurrence of Recurrent Breast Cancer after Multimodality Treatment

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Abstract

Background: Locally advanced breast cancer is common in developing countries. The advancement of the disease leads to decreased probability of radical cure and increase in treatment cost.

Aims: To study about the rate of occurrence of recurrent breast cancer after multimodality treatment and to compare the efficiency of treatment modality by way of incidence of recurrence.

Methods: A total of 60 patients underwent surgery, followed by chemotherapy and radiotherapy was studied in detail as they presented for regular follow-up. The selection criteria of patients were based on TNM classification of breast cancer from Stage II B, Stage III A, and Stage III B. Definite prognostic indicators could not be assessed as the period of study was of order of 2 years only.

Result: About 22 patients were treated with surgery and chemotherapy, 16 patients were treated with neoadjuvant, surgery, chemotherapy, and radiotherapy. Others were treated with surgery, chemotherapy, and radiotherapy. Recurrence rate was found to be 18% in the arm of surgery followed by chemotherapy; 16% in the arm of neoadjuvant followed by surgery; 9% in the arm of neoadjuvant followed by surgery, chemotherapy, and radiotherapy; 16% in the arm of surgery followed by chemotherapy and radiotherapy. This study showed re-recurrence rate is low in the treatment of locally advanced breast cancer (LABC) with neoadjuvant chemotherapy followed by surgery followed by chemotherapy and radiotherapy. The longest disease-free survival of 10 months was noted in this group.

Conclusion: The LABC is one of the most common forms of carcinoma breast in this institute. Tumor size, nodal metastasis remains the most important predictor lokoregional recurrence (LRR) in LABC. Multimodality therapy administered with meticulous follow-up provided acceptable rate of LRR. The disease-free interval is 10-month.

Key words: Breast cancer, Multi modality treatment, Recurrence

INTRODUCTION

Breast cancer in women is associated with a more aggressive disease and worst clinical outcomes. The present article aims to provide an overview of literature using the keyword indexed search strategy focused on recurrence and survival rates in women with an early stage breast cancer. The treatment of locally advanced breast cancer

(LABC) has changed dramatically over the last few decades. The introduction of neoadjuvant chemotherapy in LABC offered advantages like initiation of early systemic therapy and downstaging of tumors, which makes inoperable tumors operable and renders tumors suitable for breast conserving therapy.^{1,2} LABC refers to a term that includes a heterogeneous group of diseases. A subset of Stage IIB (T3N0), Stage III disease, and inflammatory breast cancer are included here. Data from the National Cancer Institute's Surveillance, epidemiology and end results program indicated that approximately 7% of breast cancer patients have Stage III disease at diagnosis. Median survival time is 4.9 years while the 5 years relative survival rate for this group of women is 55% when treated with multimodality treatment not including biologics.³ Tumor size and lymph

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node involvement are the main prognostic factors while the prognostic value of tumor grade, estrogen receptor/progesterone recep, and human epidermal growth factor receptor 2/neu status is not fully clarified.^{4,5} In the selected group of patients improving overall and disease-free survival (DFS) are major goals. The conversion of an initially inoperable breast cancer to an operable one or even more to conservatively operable is also of crucial importance. Both the lokoregional and systemic control represent major clinical problems in LABC. Neoadjuvant chemotherapy integrated into a multimodality program is the established treatment in LABC.^{6,7}

Aim

To study about the rate of occurrence of recurrent breast cancer after multimodality treatment and to compare the efficiency of treatment modality by way of incidence of recurrence.

METHODS

Observational case series study is based on the follow-up of patients with locally advanced breast cancer who were studied during the period between July 2008 and July 2010. A total of 60 patients underwent surgery, followed by chemotherapy and radiotherapy was studied in detail as they presented for regular follow-up. The selection criteria of patients were based on TNM classification of breast cancer from Stage II B, Stage III A and Stage III B. The modality of diagnosis and treatment of breast cancer was followed in institution. Meticulous history followed by thorough clinical examination and routine biochemical and radiological examination, invasive procedures for a diagnosis like FNAC. The patients were followed up as they underwent various modalities of treatment in the form of surgery, neoadjuvant, and adjuvant chemotherapy and radiotherapy supplemented by hormonal therapy. The period of follow-up ranged from a minimum of 3 months to a maximum of 18 months. The recurrence was observed by the reoccurrence of breast cancer on chest wall which was treated with radiotherapy and adjuvant chemotherapy. The result was observed using rate of recurrence which was compared with international result.

RESULTS

A total of 60 patients with disease profile of LABC were analyzed for this study during the period of 2009-2011. The patients belong to various socioeconomic and geographical backgrounds. Predominant age group of new patients was in the age group of 40-50 years. Majority of the case 36/60 was postmenopausal, 24/60 was premenopausal.

The study of recurrence of carcinoma was found to be as follows. The recurrence rate of 20% was observed in the end of the study with 8 cases of chest wall recurrence, 2 nodal recurrence, and 2 cases of distant metastases. Shortest recurrence interval was 3-month and longest was 10 months - leads to mean recurrence interval of 6.05 months. Recurrences were treated with radiotherapy and chemotherapy.

DISCUSSION

Use of neoadjuvant systemic chemotherapy and postmastectomy radiotherapy has become standard for patients with LABC because this treatment course improves prognosis substantially and enhances the possibility of surgery.⁸⁻¹⁰ Advances in neoadjuvant chemotherapy for LABC include not only earlier treatment of subclinical distant micrometastases and primary tumor downstaging but also the possibility of *in vivo* assessment of response to specific systemic agents.

The lokoregional recurrence was taken as an index of failure of multimodality treatment. The standardized results were envisioned as 20% which were comparable to the international data following multimodality treatment.

The recurrence rate was found to be 58% in the arm of surgery followed by chemotherapy; 16% in the arm of neoadjuvant chemotherapy followed by surgery; 9% in the arm of neoadjuvant followed by surgery, chemotherapy and radiotherapy; 16% in the arm of surgery followed by chemo and radiotherapy. This study showed recurrence rate is low in the treatment of LABC with neoadjuvant chemotherapy followed by surgery followed by chemotherapy and radiotherapy. The longest DFS of 10 months was noticed in this group.^{11,12}

CONCLUSION

Neoadjuvant chemotherapy integrated into a multimodality program is the established treatment in LABC. It has the potential to further improve the long-term control of LABC. Identifying which tumors are most likely to response to specific agents and regimens could significantly improve the prognosis. This study demonstrates clinicopathological variables such as nodal status, response to chemotherapy; pathological tumor size had a significant impact on disease free survival.

Dose-intensive and time-intensive multimodality neoadjuvant therapy was successfully administered to a mixed racial group over shortened times. Patients, who required mastectomy, are at a higher risk of relapse. Over

the last decade, the use of neoadjuvant chemotherapy has emerged as the standard of care for patients with large primary tumors or matted axillary nodal metastases.

Standard dose pre- and post-operative fluorouracil, epirubicin, and cyclophosphamide therapy combined with surgery and radiotherapy in the era of mammography screening seem to yield results comparable to those achieved with other conventional strategies in the treatment of unscreened populations.

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