

## Original article

# Locally advanced carcinoma breast – Study and Management

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## Abstract

**Introduction:** Breast cancer is the most common site-specific cancer in women and is the leading cause of death from cancer for women aged 20 to 59 years. It accounts for 26% of all newly diagnosed cancers in females and is responsible for 15% of the cancer related deaths in women. Patients with locally advanced breast cancer include those with large primary tumours (>5 cm), tumours involving the chest wall, skin involvement, ulceration or satellite skin nodules, inflammatory carcinoma, bulky or fixed axillary nodes, or clinically apparent internal mammary or supraclavicular nodal involvement .

**Material and methods:** The record of 30 patients being treated for Locally Advanced Carcinoma Breast for a period of 27 months are included in the study. Data is collected from Medical record office department. The personal information of the patient, the medical history, treatment details and laboratory reports including histopathology reports are documented.

**Results:** The mean age is 47.2 years with mean duration of presentation being 9.9 months. In about 73.33% of malignancy was seen in right side. In our study, the menopausal group accounted for 56.66%. 73.3% showed response at 3 cycles of Chemotherapy, 90 % underwent modified radical mastectomy. 53.3 % belonged to T4b stage. In our study on follow up about 80 % of patient had no local or systemic metastases.

**Conclusion:** All the association between the variables done in our studies did not show any significance. The reason could be the small sample size and the need for extensive period of follow up needed for such study.

**Key Words:** Breast, Radiotherapy, Hormonal Therapy, chemotherapy

## INTRODUCTION

Breast is a modified sweat gland which is situated in the superficial fascia anterior to the pectoral muscles and the anterior thoracic wall.<sup>[1]</sup> The vascular supply of breast is by perforating branches of internal mammary artery, vessels from the axillary artery and perforators from the internal thoracic artery<sup>[2]</sup>.

The veins of the breast basically follow the path of the arteries, with the chief venous drainage towards the axilla. Breast cancer is the most common site-specific cancer in women and is the leading cause of death from cancer for women aged 20 to 59 years.<sup>[3,4]</sup> It accounts for 26% of all newly diagnosed cancers in females and is responsible for 15% of the cancer related deaths in women.<sup>[4]</sup> Age incidence rates suggest that the disease peaks at a younger age (e.g. 40-50 years) in India than in Western countries. As a result, the majority of new diagnoses occur in pre-menopausal women.<sup>[5]</sup> The increase in the incidence of breast cancer in developing countries can be attributed to changes in the demography, socio-economic parameters, epidemiologic risk factors, better reporting and awareness of the disease<sup>[6]</sup>. BIRADS (Breast Imaging Reporting and Data System) is used to grade the breast mass from 0 to 6 by Xray mammography and USG. TNM Classification for Breast Cancer from the AJCC Cancer Staging Manual, 8th Edition stages Carcinoma breast according to TNM (Tumour size,

Nodal status, Metastases) The criteria for LABC includes (a)patients with T3 (size >5 cm), (b)T4 tumours (chest wall fixation or skin ulceration and/or satellitosis), (c) N2/N3 disease (matted axillary and/or internal mammary metastases). Thus, patients with tumours included in the stage IIIA, IIIB categories, as well as some in the Stage IV category of the TNM classification are frequently pooled under this name.

**MATERIALS AND METHODS**

This is a prospective and retrospective study done in general surgery department with record of 30 patients being treated for Locally Advanced Carcinoma Breast for a period of 27 months being included in the study. Data collection from Medical record office department. The personal information of the patient, the medical history, treatment details and laboratory reports including histopathology reports are documented. The data of the 30 patients was collected and documented in case record form (CRF).

**METHOD OF COLLECTION OF DATA**

The prospective study will be conducted in a tertiary institute by collecting data of 30 cases of Study will include only females who are diagnosed having locally advanced carcinoma breast. Final data from all cases will be statistically studied. Analysis will be descriptive.

By retrospective study data will be collected from the OPD

Each case will be assessed with respect to age, symptoms, radiological findings, ER/PR status, treatment modalities, complication, follow up.

**OBSERVATION AND RESULTS**

Table 1: Age Wise Distribution

Age group ( years)	Frequency	Percent
<35	4	13.33
35-44	8	26.66
<b>45-54</b>	<b>10</b>	<b>33.33</b>
55-64	5	16.7
65-74	2	6.7
75-84	1	3.33
Total	30	100.0

56.66% of patient are post menopausal and 43.33% are menstruating.

The main presenting complaints of patient was lump in breast present in all patients followed by nipple discharge in 26.66%, axillary fullness in 23.33% and pain in 10% patient.

73.3% of patient had Right side of breast involved.

About 53.3 % of patient presented with illness in less than 6 months.

Table No .2 Tumour Size

Tumour size (cm)	Frequency	Percent
<2	0	0
2-5	8	26.66
<b>6-10</b>	<b>20</b>	<b>66.66</b>
>10	2	6.66
Total	30	100

Table No. 3 X-ray Mammography and Sonomammography

Findings	Frequency	Percent
<b>Birads 4</b>	<b>12</b>	<b>40</b>
Birads 5	7	23.3
Birads 6	11	36.7
Total	30	100

Table No. 4 ER/PR/HER2 Neu Status

Receptor status	Positive	Negative	Total
ER	20	10	30
PR	20	10	30
HER2 NEU	3	27	30

About 66.7% of patient were ER/PR positive and 33.33% were ER/PR negative

About 90% were cerb2 negative and 10% were positive

Table No. 5 Neo Adjuvant Chemotherapy

Response after chemotherapy	Frequency	Percent
<b>After 3 cycles</b>	<b>22</b>	<b>73.33</b>
After 6 cycles	8	26.67
Total	30	100

90% of patient underwent Modified Radical Mastectomy and 10% underwent Toilet mastectomy.

Table No. 6 Complication Post Surgery

Complication	Frequency	Percent
Wound dehiscence	7	23.33
Seroma	1	3.33
<b>None</b>	<b>22</b>	<b>73.33</b>
Total	30	100

Table No. 7 Lymph Node Status

No of lymph nodes	Frequency	Percent
<b>0-3</b>	<b>16</b>	<b>53.33</b>
4-6	10	33.33
7-9	4	13.33
Total	30	100

Table No. 8 Chemotherapy

No of cycles	Frequency	Percent
2 cycles	1	3.33
3 cycles	6	20
4 cycles	3	10
5 cycles	1	3.33
<b>6 cycles</b>	<b>19</b>	<b>63.33</b>
Total	30	100

Table No. 9 Hormonal Therapy

Hormonal therapy	Frequency	Percent
Tamoxifen	9	30
Letrozole	9	30
Anastrozole	2	6.67
<b>None</b>	<b>10</b>	<b>33.33</b>
Total	30	100

#### Radiotherapy

In our study about 7 patient were not given radiotherapy due to complication of wound dehiscence.

The rest 23 patient were given radiotherapy.

Table No. 10 Tumour Stage

Tumour stage	No of patients	Percentage
T2	0	0
T3	13	43.33
T4		
T4a	0	0
<b>T4b</b>	<b>16</b>	<b>53.33</b>
T4c	0	0
T4d	1	3.33
Total	30	100

Table No. 11 TNM Stage

Stage	Frequency	Percent
3a	13	43.33
<b>3b</b>	<b>17</b>	<b>56.67</b>
Total	30	100

Table No. 12 Final Histopathology

Histopathology	Frequency	Percent
<b>Ductal carcinoma</b>	<b>23</b>	<b>76.67</b>
Papillary carcinoma	3	10
Lobular carcinoma	2	6.67
Mucinous carcinoma	1	3.33
Inflammatory carcinoma	1	3.33
Total	30	100

## DISCUSSION

LABC accounts for 10-20% in the West, while in India, it accounts for 30-35% of all cases. The introduction of neoadjuvant chemotherapy (NACT) in LABC offered us advantages like initiation of early systemic therapy, delivery of drugs through intact vasculature, down-staging of tumours, which makes inoperable tumours operable and renders tumours suitable for breast conserving surgery (BCS).

Age distribution: In our study mean age is 47.2 years and median age of presentation is 45 years comparable to the study by Bhattacharyya et al. (2014)<sup>[7]</sup> where mean age of patient was 46 years

Mean duration of presentation after development of symptoms was 9.9 months with a median of 6 months

Menstrual status: In our study 56.66% were in postmenopausal group, 43.3 were menstruating. This is in concordance with study by Bhattacharyya et al. (2014)<sup>[7]</sup> (57.40%)

Breast lump side: In our study about 73.33% of malignancy was seen in right side and 26.66% was seen on the left side. Left side was involved in 29(50.88%) and Right side in 28(49.12%) patients in study by MM Borkar et al.<sup>[8]</sup> Tumour sizes were graded on the basis of maximum dimension size at presentation. In our study maximum no of patients had the tumour of size 6-10 cm constituting about 66.67% comparable to study done by MM Borkar et al<sup>[8]</sup> having 34(59.65%) patients with tumour size between 5–10 cm.

In our study about 28 patients were diagnosed with fnac and 2 patients diagnosis was inconclusive and confirmed by biopsy. Thus sensitivity was 93.33% comparable to study done by MM Borkar et al<sup>[8]</sup> where sensitivity was 94.73%. Biopsies were done in 2 patients. Biopsy was thus conclusive in 100 % cases. In the study by Bhattacharyya et al. (2014)<sup>[8]</sup> median number of cycles was 6. Most of the studies (Raina V et al<sup>[9]</sup>, Gupta et al.<sup>[10]</sup>) used 3 to 6 chemotherapy cycles pre-operatively, which is comparable to our study.

Median number of NACT cycles in our study was 3 and average was 3.8. Out of 30 patients, 22 (73.3%) patients received 3 cycles of NACT, whereas 8 (26.7) patients received 6 cycles of chemotherapy.

In our study MRM (Modified Radical Mastectomy) surgery was performed in maximum, 27 patients 90% and the other 3 underwent toilet mastectomy comparable to 89.48% in study by MM Borkar et al<sup>[8]</sup> In our study BCS was not done due to its low feasibility. Reasons for low feasibility of BCS in chemotherapy responders

were excessive scarring at previous ulcer site, multifocality detected on mammography, incomplete regress of skin changes even after chemotherapy response.

Out of total 30 patients histopathological margins for malignancy were positive in 4 (13.33%) and negative in 26(86.66%) patients comparable to the study by Bhattacharyya et al. (2014) [7] margins were positive in 8.1% patients.

Higher positive margins in our study could be due to larger average tumour size, non- inclusion of Stage IIIA patients and primary surgery followed by adjuvant chemotherapy treatment protocol in some patients.

In our study median number of axillary lymph nodes identified on histopathology was 6.4 comparable to other studies [8]. In our study infiltrating ductal carcinoma was the most common histopathological subtype which was found in 76.67% patients comparable to other studies. [8]

CAF was the primary chemotherapy regimen in our study for about 100% of the patients. In our study about 10 patients were triple negative and 3 patients were her2 neu positive. Radiotherapy Post-operative radiotherapy was given in all patients comparable to study by MM Borkar et al [8] In our study 3a comprised about 43.33% and 3b consist of 56.57% compared to MM Borkar et al where Stage 3b comprised 84.21% patients while remaining 15.79% were having Stage 3cdisease.

In our study about 20 % patient developed systemic metastases, 13% skeletal metastases, 3.33% developed pulmonary and liver metastases each. As compared to study by Al-Husaini et al [11] where prevalence of overt metastases to 13.2%.

The limitations of the study are small sample size, short follow up, and lack of survival analysis. A randomized controlled trial with larger sample size and longer follow-up is necessary for coming to a conclusion and overall better management of patients.

## CONCLUSION

All the association between the variables done in our studies did not show any significance.

The reason could be the small sample size and the need for extensive period of follow up needed for such study.

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