

## Original Research Article

# A clinic-pathological prospective study of operable carcinoma breast

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### ABSTRACT

**Background:** Cancer breast is the leading cause of site-specific cancer-related death next to cancer cervix for women aged 20-59 years. Early diagnosis and treatment will reduce the morbidity and mortality of the disease and thus prolongs the survival of the patient. The patient usually present in the later stages of disease, due to the lack of awareness. This study aims at studying the various type of clinical and pathological patterns of presentation of operable carcinoma breast in a tertiary care centre.

**Methods:** 50 patients with Carcinoma Breast, admitted in Government Royapettah Hospital were studied. It was a cross-sectional prospective study performed from January 2016 to October 2017.

**Results:** The average age of occurrence of operable carcinoma breast is 48.54 years. One patient had a positive family history. Lump (100%) is the most commonest presentation. 98% of the study population had Infiltrating ductal carcinoma as HPE report. In my study population 56 % of had stage II disease. Patient with Early breast cancer underwent surgery followed by adjuvant chemotherapy, hormonal therapy, and radiotherapy. Patient with stage III disease undergoes neoadjuvant chemotherapy followed by surgery, then adjuvant chemotherapy, hormonal therapy, radiotherapy.

**Conclusions:** The incidence of operable carcinoma breast is more common among middle-aged groups. The commonest presenting complaint is a lump and commonest histopathological type is infiltrating ductal carcinoma. Multimodality modality manage is the optimum treatment adopted. Routine screening mammography and by the health awareness programme carcinoma breast, nowadays, detected at an earlier stage.

**Keywords:** Breast conservation, Operable carcinoma breast, Self-breast examination

### INTRODUCTION

The commonest cause of death in adult women is carcinoma breast and it is the commonest leading cause of death among aged 20-59 years.<sup>1</sup> The high socioeconomic status will increase the incidence of carcinoma breast. Now it is reported in the younger age group also. Early diagnosis and treatment will decrease the morbidity and mortality of the disease significantly.<sup>2</sup> The treatment depends upon the patient at which stage they are presenting to the health services. Screening mammography above 50 years, if used as a routine will reduce the mortality from cancer by 33%. If they are

diagnosed early, the breast conservation surgery can be planned.<sup>3</sup> If the patient present at the advanced stage, they have to be treated aggressively having a severe complication after treatment.<sup>4</sup> The breast cancer management requires a multimodality approach, which includes surgery, radiotherapy, chemotherapy.<sup>5</sup> In this study an attempt to study that patient who is eligible for surgery i.e. Operable carcinoma breast. It includes both early breast cancer patient (stage 1, stage 11A, 11B) and Operable LABC patients (111A, Stage 111B) either directly taken for surgery or after neoadjuvant they are eligible for surgery. It accounts for 5-10% of all breast cancer cases. 40% other cases due to mutation in BRCA

1 and BRCA 2 and others are HER2 mutation and P 53 mutation. Genetic counselling and DNA testing can identify the high risk cases. 80% of chance of developing breast cancer.<sup>5</sup>

## METHODS

This study is conducted in 50 patient admitted in Government Royapetah Hospital Study design Cross-sectional prospective study period January 2016 to October 2017.

### Inclusion criteria

- Patient aged between 20 to 80 yrs
- All patients with breast lump with FNAC positive report
- Patients who belong to the clinical stage I, stage II, stage III.

### Exclusion criteria

- Patients with benign breast disease
- Cases of breast cancer in males
- Exclude all inoperable advanced breast malignancy. Patients with inflammatory breast carcinomas
- A recurrent breast lump in a previously operated case of carcinoma breast.

### Sample size

Around 50 patient with the mentioned above criteria. After getting informed consent.

### Method of collection of data

- Detailed history taking
- Complete clinical examination
- Investigation. Routine investigation, complete blood count, Blood sugar, creatinine, urine routine Specific investigation, USG-breast and axilla, Mammography, X-ray chest.

### Statistical analysis

Data were analyzed using SPSS software version 22 and MedCalc software version 15 the. Data were interpreted using descriptive and inferential statistics. The Chi-square test was used to test the statistical significance of the relationship between variable less.

## RESULTS

The distribution of age in my study ranges people from 21 -80 years. The lowest age limit in my study is 26 and the highest age limit is 80. The mean age of presentation is 48.5. Most of the patient belongs to 41-50 years age group. In my study out of 50 patients 11(22 %) of them having DM, 3(6%) of them having HT, and 11(22%) of

patients having both DM& HT. This shows DM and HT having they are a high-risk factor for the development of carcinoma breast (Table 1).

**Table 1: Age distribution.**

Age class intervals	Observations	Percentages
21-30	3	6
31-40	8	16
41-50	23	46
51-60	11	22
61-70	4	8
71-80	1	2
Total	50	100

**Table 2 Parity distribution.**

Parity	Number of observations	Percentage (%)
Nulliparous	9	18
Parity 1	10	20
Parity 2	19	38
Parity 3	6	12
Parity 4	3	6
≤5 Parity	3	6
Total	50	100

Out of 50 patient, most of the patient (76%) belongs to 1 or 2 childbirth. Higher the parity lesser the occurrence of carcinoma breast. Nulliparous was observed in 9 (18%) patients. Parity 1 10 (20%) patients, parity 2 19 (38%) patients. Parity 3 in 6 (12%) patients. Parity 4 in 3 (6%) patients. ≤5 Parity seen in 3 patients (6%) (Table 2).

**Table 3: Side involvement**

The side of breast involved	Number of observations	Percentage (%)
Left	32	64
Right	18	36
Total	50	100

In our study 32 patients (64%) presented with left-sided cancer breast. 18 patients (36%) have right side breast cancer (Table 3).

**Table 4: Quadrant of involvement.**

Quadrant of involvement	Number of observations	Percentage (%)
UOQ	29	58
UIQ	5	10
LOQ	3	6
LIQ	3	6
Central	9	18
Multicentric	1	2
Total	50	100

In our study 29 patient (58%) presented with UOQ lump, followed by central, UIQ, LIQ, LOQ and multicentric. The commonest occurrence of carcinoma breast is UOQ (Table 4).

**Table 5: Size of tumour.**

Size of tumour	Number of observations	Percentage (%)
≤2 cms <sup>2</sup>	3	6
2-5 cms <sup>2</sup>	34	68
>5 cms <sup>2</sup>	13	26
Total	50	100

In our study 3(6%) patient presented with less than 2cm, 34 (68%) presented with 2-5cm sized tumor and 13 (26%) of them with >5 cm tumor (Table 5).

**Table 6: HPE report.**

HPE report	Number of observations	Percentage (%)
IDL	44	88
IDL+LVI	2	4
IDL++VE Margin	1	2
IDL+LVI +Ve Margin	1	2
IDL+PERINODAL	1	2
SC	1	2
Total	50	100

Around 98% (88) of the patients HPE report showed ID, L. On CBE, the lumps in 40 (80%) patients had benign and 8 (16%) had malignant features. However, 2 (4%) patients were found to be in the "suspicious" category. Of the 100 benign findings on CBE, 36 were benign and 4 had malignant reports confirmed on HPE. Of the 8 malignant findings on CBE, all of them were confirmed to be malignant on the final HPE reports (Table 6).

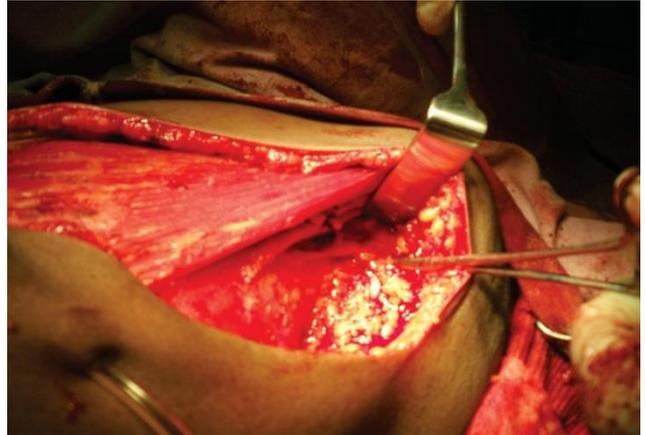
Two suspicious cases on CBE were found to have reactive lymphoid tissue and atypical ductal hyperplasia on HPE.

**Table 7: Clinical TNM staging.**

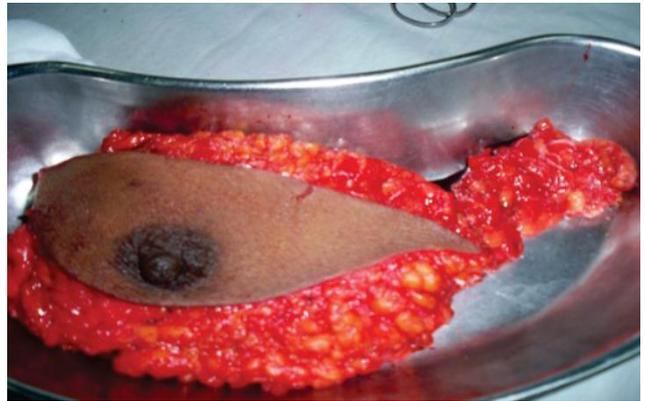
Clinical TNM staging	Number of observations	Percentage (%)
1A	2	4
11A	12	24
11B	20	40
111A	8	16
111B	8	16
Total	50	100

In our study 20 (40%) of the patient with stage 11B, followed by 12 (24%) with stage 11A, 8 (16%) them with

111A and 8 (16%) stage 111B and last comes stage 1A (4%) (Table 7).



**Figure 1: Intra operative, picture - showing long thoracic nerve.**



**Figure 2: Specimen of mastectomy with axillary clearance.**

**DISCUSSION**

Breast cancer is one of most common cancer in females. Locally advanced breast cancer refers to a diverse and heterogeneous group of breast cancers and represents only 2-5% of all breast cancers in the United States; however, locally advanced breast cancer is more prevalent in India. Subdividing these patients into three broad groups those with the operable disease at presentation-cancer/American Joint Committee on Cancer (AJCC) clinical Stage T3N0 to N1M0,2) inoperable disease at presentation-AJCC clinical Stage T4 or N2 to 3M0 or both, and 3) inflammatory disease-AJCC clinical Stage T4dN0 to N3M0 facilitates clinical management.<sup>6</sup> Generally, clinically operable breast cancer is treated first by surgery followed by adjuvant therapy including RT to the chest wall and supraclavicular region with or without axillary RT depending on disease burden in the axilla. Although, the other two groups are treated with neoadjuvant chemotherapy first followed by local treatment.<sup>7</sup> Breast cancer with ipsilateral SCLN (AJCC Stage IIIC) is a

unique clinical entity comprising of 1% of all breast cancer. SCLN drainage is a part of continuum drainage of Level I, II and III axillary lymph node drainage. Skip metastasis can occur commonly from upper quadrant tumor or patients with internal mammary node metastasis.<sup>8</sup> Patients with breast cancer who present with supraclavicular metastases have a poor prognosis, especially when treated with surgery or RT alone. The presence of supraclavicular metastases was one of the original signs of inoperability identified by Akhtar.<sup>9,10</sup> In 1987, the International Union Against Cancer/AJCC tumor-node-metastasis staging system changed the classification of patients with supraclavicular metastases from N3 to M1 to reflect the poor prognosis of patients with this presentation. Recently, Greenall et al reported on a pooled analysis of three M.D. Anderson Hospital protocols and found that patients with regional Stage IV disease had better outcomes than patients with visceral Stage IV disease.<sup>11</sup> Recently, the AJCC has further amended the staging classification to include patients with supraclavicular metastases at diagnosis in the IIIC category. This staging change came into effect from January 1, 2003. However, there is no consensus on the treatment of supraclavicular lymph node metastasis.<sup>12</sup> The retrospective study by Kakarala et al attempted to define the risk factors for SCLN metastasis and select high-risk patients for whom aggressive local treatment such as RT is indicated.<sup>13</sup> Toniolo in their study, 113 (4.3%) out of 2658 patients developed SCLN metastasis during this period. Young age (<or = 40 years), tumor size >3cm, high histologic grade, angiolymphatic invasion, negative estrogen receptor status, synthetic phase fraction >4%, >4 positive nodes, and Level II or III involved nodes were all significant for predicting neck metastasis in the univariate analysis. Of these three predictive factors were significant after multivariate analysis: High histologic grade, >4 positive nodes and axillary Level II or III involved nodes.<sup>14</sup>

However, in our study, none of the clinicopathological factors excluding axillary nodal burdens such as including age, menopausal status, and clinical T stage, the location of tumor, high histologic grade, angiolymphatic invasion, negative hormone or Her2 neu receptor status were associated with occult SCLN metastasis.<sup>15</sup> In this study, the mean age of occurrence of operable carcinoma breast is 48.54 in comparing with the study it is about 43.8. The peak age of occurrence of carcinoma breast is 41-50 years, in our study is about 46% in comparison to study group is 33%. Stage-wise distribution of my study is stage I is 4%, stage II is 64%, stage III is 13% in comparison to other study group are stage I is 8%, stage II is 56%, stage III is 26%. Regarding the size of the tumour in my study are < 2cm-6%, 2-5cm 68% and >5 cm 32%, when compared to other study are <2 cm-8%, 2-5 cm-56%, >5 cm 26%. Nodal status, in my study 60% of them nodal positive, 40% node negative, when compared to other study mentioned above node negative 42%, node-positive 58%. HPE report, in my study IDL accounts for 98%, when comparing to other study is about 98%. Receptor status, in my study ER PR negative, is 56%, ER +ve is

30%, HER 2 neu is 14%, in comparison to another study it is about 47%, 23%, and 30%.<sup>16,17</sup>

## CONCLUSION

Carcinoma is the commonest cancer in females next to cancer cervix. Commonest age group involved are 41-50 years average age of occurrence is 46 years. The disease is more common in that patient with early menarche. Lesser the parity the chance of malignancy is more. Nulliparous women are more prone to cancer breast. The most effective method of diagnosis in carcinoma breast is FNAC. In our country, because of poor patient complaints and less accessibility of radiotherapy and chemotherapy, all patients were subjected to modified radical mastectomy in early breast cancer patient.

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## REFERENCES

1. Williams NS, O'Connell PR, McCaskie AW. Short practice of surgery Bailey and Love 26th edition. CRC press; 2013.
2. Brunicaudi FC, Anderson DK, Billiar TR, Dunn DL, Hunter JG, Mathews JB, et al. Schwartz's principles of surgery 9th edition, McGraw-Hill Professional; 2009.
3. Schaake-Koning C, van der Linden EH, Hart G, Engelsman E. Adjuvant chemo and hormonal therapy in locally advanced breast cancer: a randomized clinical study. *Int J Radiat Oncol Biol Phys.* 1985;11(10):1759-63
4. Chandra AB. Problems and prospects of cancer of the breast in India. *J Indian Med Assoc.* 1979;72:43-5.
5. Kuraparathy S, Reddy KM, Yadagiri LA, Yutla M, Venkata PB, Kadainti SV, et al. Epidemiology and patterns of care for invasive breast carcinoma at a community hospital in southern India. *World J Surg Oncol.* 2007;5:56.
6. Rosai RJ. Ackerman's Surgical Pathology. 10th ed. Chapter 20, New Delhi: Reed Elsevier India Private Limited;2011:1659-1770.
7. Van de Rijn M, Perou CM, Tibshirani R, Haas P, Kallioniemi O, Kononen J, et al. Expression of cytokeratins 17 and 15 identifies a group of breast carcinomas with the poor clinical outcome. *Am J Pathol.* 2002;161(6):1991-6.
8. Agarwal G, Pradeep PV, Aggarwal V, Yip CH, Cheung PS. The spectrum of breast cancer in Asian women. *World J Surg.* 2007;31:1031-40
9. AJCC Cancer Staging Manual. 6th ed. Chicago, Illinois USA: Springer;2002:227-228.
10. Akhtar M, Akulwar V, Gandhi D, Chandak K. Is locally advanced breast cancer neglected disease?. *Indian J Cancer.* 2011;48:403-5

11. Greenall MJ, Wood WC. Cancer of the breast. In: Morris PJ, Wood WC, eds Oxford Textbook of Surgery. Vol 2. 2nd Ed. New York; Oxford University Press Inc;2000:1191.
12. Haagensen C, Stout A. Carcinoma of the breast II-criteria of operability. *Ann Surg.* 1943;118:1032-51.
13. Kakarala M, Rozek L, Cote M, Liyanage S, Brenner DE. Breast cancer histology and receptor status characterization in Asian Indian and Pakistani women in the U.S.-a SEER analysis. *BMC Cancer.* 2010;10:191.
14. Toniolo PG, Levitz M, Zeleniuch-Jacquotte. A prospective study of endogenous estrogens and breast cancer in postmenopausal women. *J Natl Cancer Inst.* 1995;87:190-7.
15. Spicer DV, Pike MC. Sex steroids and breast cancer prevention. *Monogr Natl Cancer Inst.* 1994;16:139-47.
16. Sainsbury RC. The Breast. In Russell RCG, Bulstrode CJK, Williams NS. eds. Bailey and Love's Short practice of surgery. 24th ed. London; Hodder Education; 2004: 837.
17. Arndt V, Stürmer T, Stegmaier C, Ziegler H, Dhom G, Brenner H. Patient delay and stage of diagnosis among breast cancer patients in Germany-a population based study. *Br J Cancer.* 2002;86(7):1034-40.

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