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## A study of locally advanced breast cancer management in patients with rural background

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### Abstract

**Introduction:** Breast cancer is the most common of the types of cancer occurring in India, followed by lung cancer and cervical cancer. Breast cancer is categorized into operable and advanced breast cancer for the management purpose. While early detection is the key for successful breast cancer treatment, one in three women in rural India had not even heard of the deadly disease. Due to lack of awareness most of women from rural background reach hospitals with advanced disease. This study was done to determine how different modalities of treatment affect the outcome in advanced breast cancer patients with rural background.

**Aims and Objectives:** To evaluate cases of advanced breast cancer clinically and by relevant investigations in rural population. To evaluate the role of surgery either in the first presentation of patient or after chemotherapy.

**Materials and Methods:** This study was conducted in Rabindranath Tagore Medical College, Udaipur (Rajasthan). A total of 40 patients with locally advanced breast cancer were evaluated.

**Conclusion:** In the patients of locally advanced carcinoma breast with rural background, surgery with adjuvant chemotherapy is a better option in comparison to neoadjuvant chemotherapy followed by surgery. The reason is that many of patients do not return for surgery after neoadjuvant chemotherapy.

**Keywords:** breast cancer, locally advanced breast cancer, rural background, modified radical mastectomy

### 1. Introduction

Breast cancer is the most common of the types of cancer occurring in India, followed by lung cancer and cervical cancer. Breast is the most commonly diagnosed cancer among women in the Western world accounting for 1/5th (18%) of all cancers in women. Every year about one million women and several thousand men are diagnosed with breast cancer worldwide and approximately 60,000 die from it (Parkin DM *et al.* 2002) [1]. Breast Cancer is the most common site specific cancer in women and a leading cause of death due to cancer between 40-45 years of age (Sethi A Sethi D 2015) [2]. In India, it is the most common cancer in females with 75,000 new cases occurring every year as per the cancer registries in the country in urban females. Breast cancer is categorized into operable and advanced breast cancer for the management purpose. Advanced breast cancer is either locally advanced or metastatic disease. Locally advanced breast cancer (LABC) is characterized by varying clinical presentations such as presence of a large primary tumour (>5 cm), associated with or without skin or chest-wall involvement or with fixed (matted) axillary lymph nodes or with disease spread to the ipsilateral internal mammary or supraclavicular nodes in the absence of any evidence of distant metastases (Valero V 1996) [3]. These cancers are classified as stage IIB, IIIA, IIIB or IV breast cancer according to the American Joint Committee for Cancer Staging and End Results Reporting (5th Ed. 1997) [4]. Locally advanced breast cancer is a very common clinical scenario especially in developing countries (30-60%) possibly due to various factors like lack of education and poor socio-economic status. With this wide spectrum of presentation, management of LABC is a challenge for the surgeon. Treatment of LABC has evolved from single modality treatment, consisting of radical mutilating surgery or higher doses of radiotherapy in inoperable disease to multimodality management consisting of surgery, radiation therapy (RT), chemotherapy with or without hormonal therapy and others.

While early detection is the key for successful breast cancer treatment, one in three women in rural India had not even heard of the deadly disease. Due to lack of awareness most of women

from rural background reach hospitals with advanced disease. It is often difficult to provide Multimodality treatment as Illiteracy, ignorance, poverty and superstition make rural women unable to follow and visit regularly the health care facility. Regrettably it can lead to failure of treatment and advancement of disease. This study was done to determine how different modalities of treatment affect the outcome in advanced breast cancer patients with rural background.

**2. AIMS and Objectives**

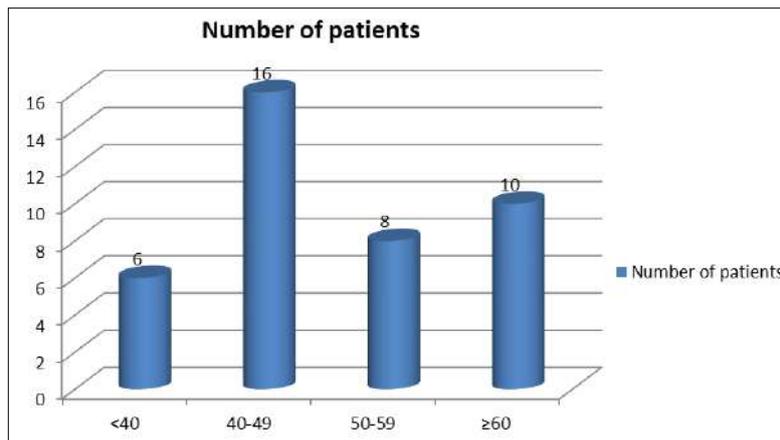
To evaluate cases of advanced breast cancer clinically and by relevant investigations in rural population. To evaluate the role of surgery either in the first presentation of patient or after chemotherapy.

**3. Materials and Methods**

This study was conducted in Rabindranath Tagore Medical

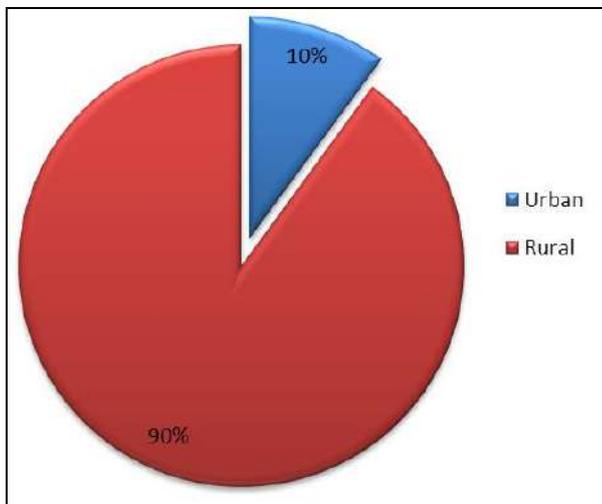
College, Udaipur (Rajasthan). A total of 40 patients with locally advanced breast cancer were evaluated. A detailed clinical history was taken for symptoms of breast cancer. Family, menstrual and Obstetric history was taken and socioeconomic status as well as residential status (Rural/ Urban) was noted. A thorough Clinical examination was done including general physical examination and loco regional examination of breast and axilla. Mammography was done to determine multi-centricity of the disease. The diagnosis was confirmed by FNAC/Core needle biopsy. Metastatic workup of patients was done and accordingly patients were selected for operative procedure. Each patient was followed up to 3 months, 6 months, 9 months, 12 months and >12 months for recurrences, metastasis and other complications.

**4. Observations**



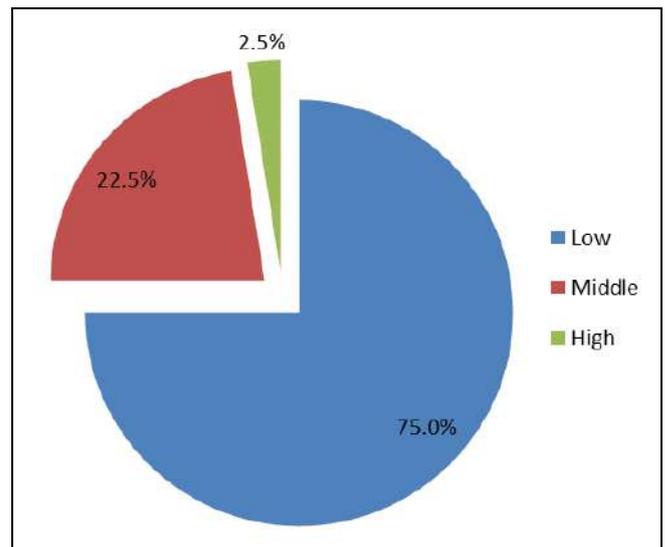
**Fig 1:** Age wise distribution of breast cancer patients (n=40)

Figure 1 Shows age distribution among different patients. Maximum cases belonged to age group of 40-49 years i.e., 16 out of 40 constituting 40% of total.



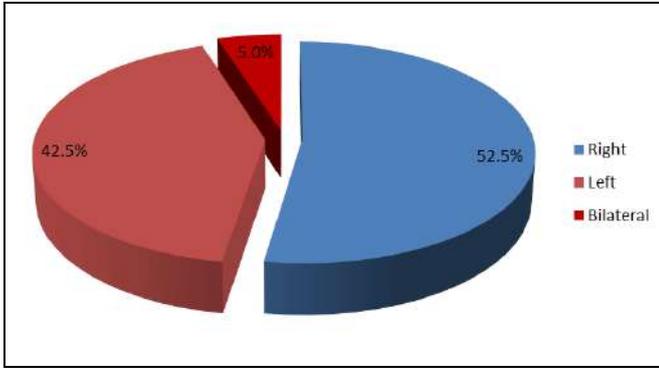
**Fig 2:** Residence wise distribution of patients (n=40)

Figure 2 shows the residence wise distribution among different patients. 90% cases, i.e. 36 patients belonged to rural areas.



**Fig 3:** Distribution of breast cancer patients according to socio-economic status (n=40)

Figure 3 shows that 2.5% patients belonged to high socio-economic status while 22.5% patients were of middle socio-economic status. Maximum cases were of low socio-economic accounting for 75%.



**Fig 4:** Distribution of breast cancer patients according to side involvement (n=40)

Figure 4 shows that 52.5% cases had right side breast involvement only while 42.5% had left side involvement only and 2 cases (5%) were having involvement of both breasts.

**Table 1:** Distribution of cases according to location of tumour (quadrant) (n=40)

S. No.	Location	No. of patients	Percentage
1.	Upper outer quadrant	13	32.5
2.	Upper inner quadrant	4	10.0
3.	Lower outer quadrant	2	5.0
4.	Lower inner quadrant	1	2.5
5.	Central	2	5.0
6.	More than one quadrant	18	45.0

Table 1 show that maximum cases (45%) had tumour localized in more than one quadrant, 32.5% presented with tumour in upper outer quadrant, 10% in upper inner quadrant and 5% in lower outer quadrant and 2.5% cases had in lower inner quadrant.

**Table 5:** Distribution of breast cancer cases according to histopathological types and their grading (n=40)

S. No.	Histopathological type	No. of patients	%	Grade I		Grade II		Grade III	
				No.	%	No.	%	No.	%
1	Ductal carcinoma	33	82.5	25	75.75	5	15.15	3	9.09
2.	Medullary carcinoma	6	15.0	5	83.33	1	16.67	-	-
3.	Lobular carcinoma	1	2.5	1	100	-	-	-	-
	Total	40	100	31	77.5	6	15.0	3	7.5

Table 5 shows in infiltrating ductal carcinoma (75.75%) cases were grade I and 15.15% cases were grade II and only 9.09% were grade III. In medullary carcinoma 83.33% were grade I and 16.67% were grade II. In lobular carcinoma, only 1 one case (100%) was grade I. Overall grade I, II and III were 77.5%, 15.0% and 7.5%, respectively.

**Table 6:** Distribution of breast cancer cases according to metastatic status in follow up (n=40)

S. No.	Metastasis	No. of patients	Percentage
1.	Metastasis developed during follow up	4	10
2.	No metastasis during follow up	32	80
3.	Lost in follow up	4	10
	Total	40	100

Table 6 shows that 4 patient (10%) developed metastasis during follow up and no metastasis is seen in rest of patients.

**Table 2:** Family history of cancer among breast cancer cases (n=40)

S.No.	Family history of cancer	No. of patients	Percentage
1.	Family h/o breast cancer	2	5.0
2.	Family h/o other cancer	4	10.0
3.	No family h/o cancer	34	85.0
	Total	40	100

Table 2 shows that 15% patients of breast cancer had family history of cancer. Out of these, only 5% had family history of breast cancer and 10% had cancer other than breast.

**Table 3:** Distribution of cases according to tumour size (based on TNM staging) (n=40)

S. No.	TNM staging	No. of patients	Percentage
1.	T <sub>x</sub>	-	-
2.	T <sub>1</sub>	-	-
3.	T <sub>2</sub>	-	-
4.	T <sub>3</sub>	34	85.0
5.	T <sub>4</sub>	6	15.0
	Total	40	100

Table 3 shows that majority of patients (85%) presented in stage T<sub>3</sub> and 15% in stage T<sub>4</sub>.

**Table 4:** Distribution of breast cancer cases according to lymph nodes status (clinical assessment based on TNM staging) (n=40)

S. No.	Lymph node status	No. of patients	Percentage
1.	N <sub>0</sub>	-	-
2.	N <sub>1</sub>	33	82.5
3.	N <sub>2</sub>	6	15.0
4.	N <sub>3</sub>	1	2.5
	Total	40	100

Table 4 show that 33 patients (82.5%) presented with N<sub>1</sub> stage node involvement while one case (2.5%) had N<sub>3</sub> involvement and in 6 patients (15%) had N<sub>2</sub> involvement.

**Table 7:** Status of the patients at the time of presentation in breast cancer patients

S. No.	Patients presenting with	No. of patients	Percentage
1.	Locoregional recurrence	3	7.5
2.	Presenting first time to hospital	37	92.5
	Total	40	100

Table 7 shows that 3 patients (7.5%) who were operated elsewhere presented to us with locoregional recurrence. The remaining cases presented first time to the hospital.

**Table 8:** Management of advanced breast cancer cases (Prepare chart)

S. No.	TNM Stage	No. of patients	Surgery			Neoadjuvant chemotherapy then surgery (Came late in follow up)			Neoadjuvant chemotherapy Only (Lost in follow up)
			No.	MRM	Toilet	No.	MRM	Toilet	No.
1.	Stage III	34	28	28	0	2	0	2	4
2.	Stage IV	6	4	1	3	2	0	2	0
	Total	40	32	29	3	4	0	4	4

Table 8 shows that 28 cases of Stage III and 1 case in Stage IV were operated for Modified Radical Mastectomy while 3 cases of Stage IV were operated for Toilet Mastectomy. All the 4 cases of Neoadjuvant Chemotherapy came late for follow up with advanced disease so Toilet Mastectomy was done. 4 Cases of Stage III in whom neoadjuvant Chemotherapy was given, lost in follow up.

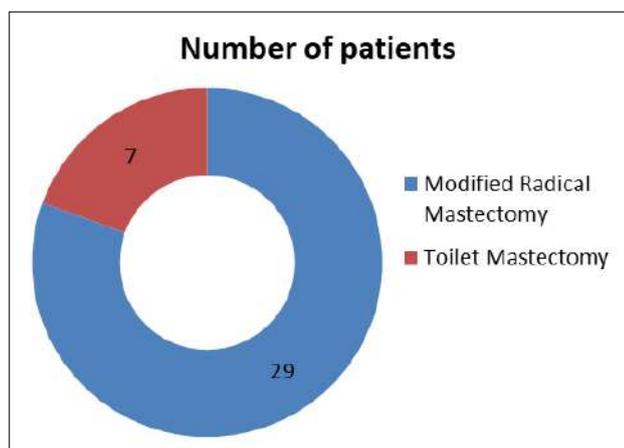
**Fig 5:** Various surgeries in advanced breast cancer cases (n=36)

Figure 5 shows distribution of cases according to surgery. 80.5% cases were operated by modified radical mastectomy and 19.5% cases were operated by toilet mastectomy. Four patients were lost in follow up after neoadjuvant chemotherapy, who did not return for surgery.

## 6. Discussion

There are various types of management of cases of advanced breast cancer; most of them include neoadjuvant chemotherapy. However, many rural patients can't afford or don't want to come repeatedly. Keeping this in mind, operative treatment was given in most of the cases (i.e. 32 cases) and chemotherapy was given later on and evaluation of result was done. Another factor to perform surgery first, was by the fact that in some cases, patient's breast tumour does not respond to chemotherapy and the tumour which initially could be operated upon would have increased to the extent that even toilet mastectomy cannot be done.

In India about 70% of the population lives in villages. A Mathew *et al.* (2008) [5] says that cancer incidence in India is approximately twice as high in urban women than in rural women. Our study group had 10% urban and 90% rural patients. This trend can be related with illiteracy and delay in reporting due to ignorance and poverty of rural patients.

Socio-economic status wise only 2.5% patients belonged to high, socio-economic status in present series while 22.5% belong to middle class. Maximum cases (75%) belong to low socioeconomic status. This may be attributed to the fact that most of the patients in our study belong to rural background and many of them are from poor families. Cancer breast is considered to be the consequence of affluence. Stolley *et al.*

(2015) [6] says that obesity and high fat intake may increase breast cancer. Robert Stephan A *et al.* (2004) [7] says women are at higher risk of breast cancer if they have higher socioeconomic status or in urban communities.

Genetic predisposition is found to be very important factor in cancer breast. In our study only 10% of cases had family history of cancer other than breast and 5% of cases with breast cancer history. This finding is consistent with that of Easton *et al.* (1993) [8], King *et al.* (1993) [9], Desmond A *et al.* (2015) [10] stated that 5-10% breast cancer results from autosomal dominant inheritance of mutated gene (BRCA1 & BRCA2). Marcus *et al.* (1994) [11], Claus *et al.* (1994) [12] and Lynch *et al.* (1992) [13] found that 36-85% of breast cancer diagnosed before 30 years are inherited.

Our study show 85% of cases had tumour size of T-3 (stage III). Sunderland and William (1990) [14] state that axillary lymph node involvement diagnosed pathologically is an important prognostic factor in early stage breast cancer. In our study 82.5% patients presented with stage N1 node involvement while 15% had N2 stage nodal involvement and in 2.5% had N3 node involvement. In above 82.5% patients only one or two lymph nodes were positive in histological review. Sunderland and William (1990) [14] states that there is a sharp drop in the outlook for long term survival of breast cancer patients with four or more positive lymph nodes compared with those with fewer involve nodes.

In our study group 7.5% patients first presented to our hospital with loco regional recurrence. They came with advanced disease, so toilet mastectomy was done.

In our study 82.35 %cases of stage III and 66.7% cases of stage IV were underwent surgery without any neoadjuvant therapy. Neoadjuvant chemotherapy was given to 20% of all patients. Out of those patients, half of the patients (10%) never returned for surgery. Remaining 10% patients (4 cases) came late in follow up as there was some response of neoadjuvant chemotherapy; they returned with advanced and metastatic disease. So, only toilet mastectomy could be done upon them.

So we observed that patients who came first time to our hospital with recurrence were having advanced disease. As well as patients who were given neoadjuvant chemotherapy also came late in follow up and with advanced disease so that only toilet mastectomy could be done. Apart from that we lost 10% patients in follow up after neoadjuvant chemotherapy.

In our present study of 40 cases, 36 underwent Surgery. 80.5% were operated by modified radical mastectomy and 19.5% cases were operated by toilet mastectomy.

Rustogi *et al.* (2015) [15] mentioned that modified radical mastectomy still remain the standard care for the surgical management of women with locally advanced breast cancer.

Elisabetta Rapitti *et al.* (2006) [16] said complete surgical excision of the tumour improves survival of patient with advanced breast cancer. Palliative treatment was given after surgery.

## 7. Conclusion

In the patients of locally advanced carcinoma breast with rural

background, surgery with adjuvant chemotherapy is a better option in comparison to neoadjuvant chemotherapy followed by surgery. The reason is that many of patients do not return for surgery after neoadjuvant chemotherapy.

## 8. References

1. Parkin DM, Whelan SL, Ferlay J, Teppo L, Thomas DB. Editors Cancer Incidence in Five Continents, IARC Scientific Publication No. 155. Lyon: International Agency for Research on Cancer. 2002, VIII.
2. Anjali Sethi, Deepak Sethi. Correlation of Breast Cancer and Serum High Density Lipoprotein Cholesterol Level: A Single Centre Study. *Journal of Evolution of Medical and Dental Sciences*. 2015; 4(97):16224-16228.
3. Valero VV, Buzdar AU, Hortobagyi GN. Locally advanced breast cancer. *The oncologist*. 1996; 1(1, 2):8-17.
4. AJCC Cancer Staging Manual, 5<sup>th</sup> Ed. 1997, 171-178.
5. Mathew A, Pandey M, Rajan B. Do younger women with non-metastatic and non-inflammatory breast carcinoma have poor prognosis? *World J. Surg. Oncol*. 2004; 2:2.
6. Melinda R Stolley, Lisa K Sharp, Giamila Fantuzzi, Claudia Arroyo, Patricia Sheean, Linda Schiffer *et al*. Study design and protocol for moving forward: a weight loss intervention trial for African-American breast cancer survivors. *BMC Cancer*. 2015; 15:1018.
7. Smith RA, Duffy SW, Gabe R, Tabar L, Yen AMF, Chen THH. The randomized trials of breast cancer screening: What have we learned? *Radiologic Clinics of North America*. 2004; 42(5):793-806.
8. Easton D, Ford D, Peto J. Inherited susceptibility to breast cancer. *Cancer Surv*. 1993; 18:95-113.
9. King MC, Rowell S, Love SM. Inherited breast and ovarian cancer. *JAMA*. 1993; 269(15):1975-80.
10. Desmond A, Kurian AW, Gabree M, Mills MA, Anderson MJ, Kobayashi Y, Horick N *et al*. Clinical Actionability of Multigene Panel Testing for Hereditary Breast Cancer Risk Assessment. *JAMA Oncol*. 2015; 1(7):943-51.
11. Marcus JN, Watson P, Page DL, Lynch HT. Pathology and heredity of breast cancer in younger women. *J Natl Cancer Inst Monogr*. 1994; (16):23-34.
12. Claus EB. Genetic epidemiology of breast cancer in young women. *J Natl Cancer Inst Monogr*. 1994; (16):49-53.
13. Lynch HT, Watson P, Conway TA, Lynch JF. Natural history and age at onset of hereditary breast cancer. *Cancer* 1992; 69(6):1404-07.
14. Sunderland MC, William LM. Prognostic Indicators in invasive breast cancer. *Surg Clin North Am*. 1990; 70(5):989-1004.
15. Rustogi A, Budrukkar A, Dinshaw K, Jalali K. Management of locally advanced breast cancer: Evaluation and current practice. *J Cancer Res Ther*. 2005; 1(1):21-30.
16. Rapiti E, Verkooijen HM, Vlastos G, Fioretta G, Neyroud-Caspar I, Sappino AP *et al*. Complete Excision of primary Breast Tumor improves survival of patients with Metastatic Breast Cancer at diagnosis. *J Clin Oncol*. 2006; 24(18):2743-9.