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Research Article

Clinico pathological presentation of carcinoma of breast at tertiary care centre in Vindhya region, Rewa, Madhya Pradesh, India

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ABSTRACT

Background: Carcinoma breast is one of the most common cancer affecting women worldwide. In present study different factors based on one year of experience at tertiary centre in India was identified.
Methods: This is a prospective analysis (2013-2014) of database from all surgical units of S.S. Medical College, Rewa, India.
Results: The incidence of carcinoma (Ca) of breast was 25.83%, amongst the total admitted cancer patients. Peak incidence 31.4% was in the age range 41-50 years, with the mean age of 45.2 years. 98.5% were married and multiparous, rural, illiterate belonging to low socioeconomic status. Painful Breast mass in 54.2%, axillary swelling 50%, ulcers on the lump10%, nipple discharge in 8.5% were found in the patients. Right breast involved more than left, upper outer quadrant was most commonly involved (61.4%).Most of the patients of carcinoma breast presented in stage II 32 (45.7%) followed by 23 (32.8%) in stage III, 12 (17.1%) patients presented with stage IV diseases while only three (4.2%) patients in stage I disease. 70% patients underwent surgical management. Modified Radical Mastectomy (MRM) was the most frequently performed operative procedure contributing for 37 (75.51%) cases followed by simple mastectomy in 16.32% cases. In Histopathology examination, infiltrating ductal carcinoma was the most common type of carcinoma accounting for 80.7% patients. 71.42% patients received chemotherapy.
Conclusions: Finally it is concluded from this study that Ca of breast is a most common malignancy of breast in females in India. Most patients present in the late stage of disease due to inadequate education, lack of awareness of the diseases, its complications and hesitancy to report a doctor early. The main treatment of Ca of breast is surgery and chemotherapy and/or radiotherapy to prevention of local or regional recurrence and metastasis that occur in the course of disease.

Keywords: Breast carcinoma, Female, Socioeconomic status, Modified radical mastectomy, Infiltrating ductal carcinoma

INTRODUCTION

Carcinoma of the breast is one of the most common cancer affecting women worldwide. It is second common cancer after Carcinoma cervix in India. Globally, it accounts for 25% of female cancers and 18% of death from cancer in women.[1] The incidence, clinical presentation and survival rates vary in different geographic areas and among different races and ethnic communities within the same geographic region.[2] Several well established factors have been associated with an increased risk of breast cancer.

These include age between 35-50 yrs, male to female ratio (1:100), family history in mother and grandmother, nulliparity, early menarche and late menopause. Some other factors like radiations, use of oral contraceptive pills, smoking and obesity also increase the risk of breast

cancer. World Health Organization focuses on early detection of breast cancer by promoting breast self-examination and screening in targeted group. Surgical excision is a primary line of treatment for carcinoma breast which is followed by chemotherapy and radiotherapy depend upon clinical stage and histopathological type. Because of lack of knowledge and awareness of patients toward breast cancer, poor health services in peripheral areas and lack of mass screening programs in this region, patients usually comes late and have poor prognosis hence the present study is designed to study clinico- pathological aspect of carcinoma breast in Vindhya region in India.

METHODS

It was an observational, prospective hospital based study in Department of Surgery, from 1st August 2013 to 31st July 2014.

Data was obtained from current medical record of admitted patient from all surgical units regarding: (i) registration: age, sex, residence, socioeconomic status, marital status, occupation, religion, education status, (ii) chronological: date of admission and discharge (iii) complaints: lump, pain, ulcer and destruction, nipple discharge, (iv) associated symptom: weakness, anorexia, weight loss, (v) history: past history of similar complaints, treatment, family, sibling, personal history (vi) clinical stage assessment: by using Manchester staging system and (vii) treatment: surgery, chemotherapy, hormonal therapy. After all assessment patients were finally assessed for cure, relieved or expired.

RESULTS

Incidence

It was evident that that incidence of carcinoma breast was 0.77% of total admission and 25.83% of total cancer patients admitted in surgical wards (Table 1).

Table 1: Incidence of carcinoma of breast.

Total admission	Total number cancer patients	Total number of breast cancer patients	Percentage of cancer breast Out of	
			Total admission	Total cancer patients
9072	271	70	0.77%	25.83%

Age and sex

The entire patients in the study group were females. The age of patients ranged from 28 years (youngest) to 85 years (eldest), with mean age of 45.2 years. Peak incidence 31.4% was in the age range 41-50 years, closely followed by 31-40 years age and 51-60 year range (22.8%) each. Two patients were younger than 30 years while 14 were aged 60 year and above (Figure 1).

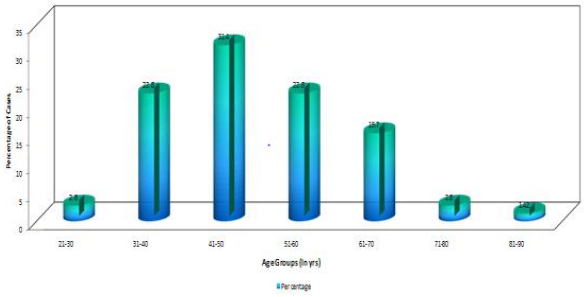

Figure1: Age wise distribution of breast carcinoma.

Marital status and residence

Out of 70 patients 69 (98.5%) were married. One patient was unmarried female patient (aged 80 year), accounting for 1.4% of total cases. Residences have more rural predominance. Most of the patients (67.1%) were from rural area and 32.8% were from urban area.

Socioeconomic status and literacy

Majority of patients were belong to low socioeconomic class 47 (67.1%) cases and 22 (31.4%) from middle socioeconomic class and 1 (1.4%) patient from higher socioeconomic class. Most of the patients were illiterate 50 (71.4%) while 20 (28.5%) patients were literate.

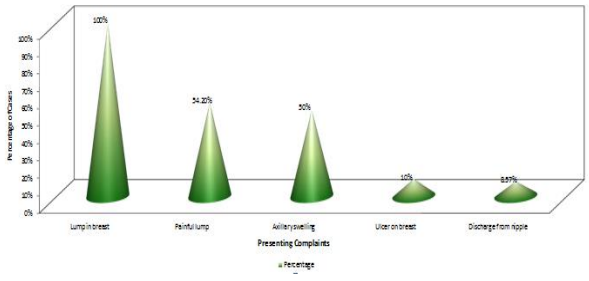

Figure 2: Incidence according to presenting complaints.

Presenting complaint and associated complaint

Lump in breast was the predominant symptom in all patients and out of them two had a past history of

recurrent lump in breast. Breast lump was painful in 38 (54.2%) patients, ipsilateral axillary swelling in 35 (50%) patients. Ulcers on the breast were present in 7 (10%) patients. There were 6 (8.5%) patients with nipple discharge (Figure 2).

Among other associated symptoms weakness was commonest and seen in 58 (82.8%) patients, anorexia in 38 (54.2%) patients and weight loss in 30 (42.8%) patients.

Site of involvement and family history

Right breast was 39 (55.1%) more commonly involved than the left breast 30 (42.8%).

There was one case (1.4%) recorded with bilateral involvement (Table 2). Family history of carcinoma breast was positive in one (1.42%) case.

Table 2: Site of involvement and family history.

Side	Number of patients	Percentage
Right	39	55.7%
Left	30	42.8%
Bilateral	1	1.4%
Total	70	100%

Parity and quadrant involved

Out of 70 patients, 2 patients (2.8%) were nullipara while 47 (67.1%) patients were multipara and 21 (30%) patients were grand multipara (women having >5 children's) (Figure 3).

In majority of patients of carcinoma breast, upper outer quadrant was most commonly involved 61.4%, followed by lower outer quadrant in 17.1%.

Upper inner quadrant in 4.2%, and lower inner quadrant in 4.2% while more than one quadrant was involved in 11.4% patients and central quadrant involved in 1.4 % (Figure 4).

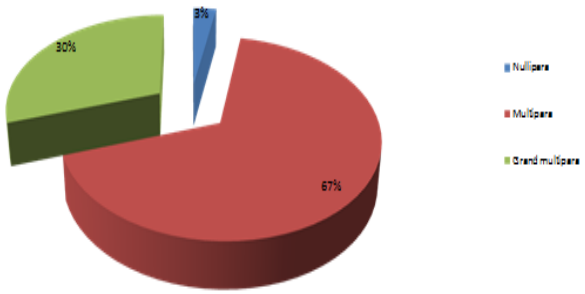

Figure 3: Incidence according to state of parity.

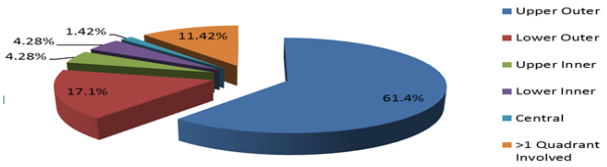

Figure 4: Incidence according to quadrant involvement.

Stage

Clinical staging of the extent of disease was done using the Manchester classification. Most of the patients of carcinoma breast presented in stage II 32 (45.7%) followed by 23 (32.8%) in stage III, 12 (17.1%) patients presented with stage IV diseases while only three (4.2%) patients in stage I disease (Figure 5).

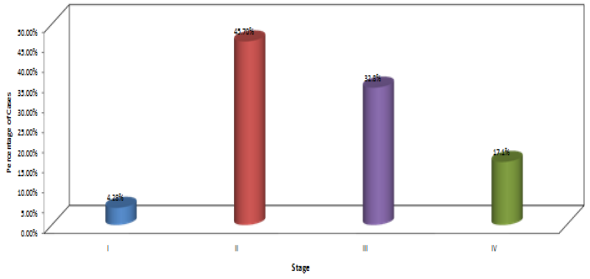

Figure 5: Incidence according to clinical stage of malignancy.

Histo-pathological type and anaemia

Histopathology examination of the specimen was done in 70 patients. Infiltrating ductal carcinoma was the most common type of carcinoma accounting for 74.2% patients followed by ductal carcinoma in situ in 25.7% patients (Table 3).

Most of the patients were having mild anemia (47.1%) followed by moderate anemia in 31.4%, while 8.5% patient were have severe anemia. Only 9 patients (12.8%) were have Hb>12 gm%.

Table 3: Distribution according to histopathology reports, n=70.

Finding	No. of Cases	%
Infiltrating ductal carcinoma	52	74.2%
Ductal carcinoma in situ	18	25.7%
TOTAL	70	100

Treatment (surgery/chemotherapy)

In the study period, Out of 70 patients 49 (70%) patients underwent surgical management.

Out of 49 patients, modified radical mastectomy (MRM) was the most frequently performed operative procedure contributing for 37 (75.51%) cases followed by simple mastectomy in 8 (16.32%) cases, 2 (4.08%) cases undergone lumpectomy and 2 (4.08%) treated with excisional biopsy.

Out of 70 patients, 18 patients were discharged on request and took treatment elsewhere while 3 patients were inoperable (stage IV). In 2 patients where excision biopsy was definitive surgery and further management was not done during study period (Figure 6).

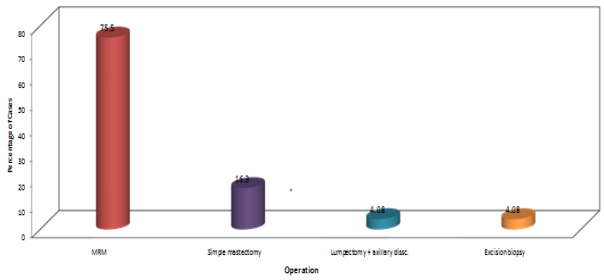

Figure 6: Distribution according to type of treatment.

Total 50 (71.42%) patients received chemotherapy; out of them 96.0% received adjuvant chemotherapy. neo-adjuvant chemotherapy was given in 4.0% patients with significant regression in tumor size which was followed by MRM. Out of the 70 patients, 18 patients were discharged on request and took treatment elsewhere.

Two patients could not receive any treatment as their general condition was very poor and they expired before initiation of definitive treatment (Table 4).

Table 4: Distribution according to type of chemotherapy, n=50.

Chemotherapy	Number of Patients	Percentage
Adjuvant	48	96%
Neo Adjuvant	2	4.0%
Total	50	100.0

Hospital stay and mortality

Duration of hospital stay was 6 to 10 days in 26 (37.1%) patients followed by >15 days in 20 patients (28.5%) (Figure 6); Mortality was 5.71%. i.e 4 patients of carcinoma of breast who present in stage IV and were having malignant pleural effusion and/ or multiple liver metastasis and/ or lymph edema of arm (Table 5).

Table 5: Mortality among breast carcinoma patients.

Total number breast cancer patient	Death	
	Patients	Percentage
70	4	5.71%

Secondary metastasis

Out of 70 patients, 12 patients had metastatic lesion. Secondary's in lung account for 75% of metastatic lesion and 12.8% of total ca breast patients followed by secondary's in liver account for 33.3% of metastatic lesion and 5.7% of total ca breast patients.

Lymph edema of arm was 16.6% of metastatic lesion and 2.8% of total ca breast patients. Skeletal metastasis was present only in one patient (Table 6).

Table 6: Distribution according to Incidence of metastatic lesion, n=70.

Complications	Number of cases n=12	Percentage among stage IV patients	Percentage among all Ca breast patients
Secondary's in lungs	9	75%	12.8%
Secondary's in liver	4	33.3%	5.7%
Lymph edema of arm	2	16.6%	2.8%
Skeletal metastasis	1	8.3%	1.4%

DISCUSSION

Breast cancer is by far the most frequent cancer in female, both in developed and developing regions, and ranks second overall next only to lung cancers in both sexes.

Mortality rates from breast cancer have increased during the past 60 years in every country. International variation in both incidence and mortality is one of the most striking features of breast cancer.

Rewa is the major city of Vindhya region with a population of 15.54 lacs (1991 census). It is situated in the north eastern corner of the state of Madhya Pradesh, India. It is the main educational and medical centre in this region. With an increasing population, the number of breast cancer cases is on the rise in Rewa.

In the present study, we found that during the period of study patients of breast carcinoma constituted total of 0.77 % total surgical admission. In similar study Mudagal found the incidence of breast cancer in 53% among all

admitted patients, which shows that the incidence is rising in this region.[3]

The presents study which was carried out with the aim to explore all clinical cases of breast carcinoma, showed relatively high percentage of breast cancer as compared to other Indian series. The reason for increased incidence of admitted cancer breast patients in all cancer patients is that our institution is not a referral cancer hospital, the patients of other organ cancers are directly referred from outdoor and treatable cancer especially breast cancer are admitted in our surgical ward.

In the present study mean age of incidence of carcinoma breast was 45.2 years. The incidence of carcinoma breast was found to be highest in age group 41-50 year (31.4%) next common group was 31-40 year and 51-6 year constitutes 22.8% each which is comparable from Other authors study e.g. Okobia MN et al reported mean age as 38 years, Aslam HM reported mean age 45.66 years, Samina et al reported mean age 47 years, Mudgal reported mean age 45.2 years in his study.[1-3,5] In Asia, breast cancer incidence peaks among women in their forties, whereas in United State and Europe, it peaks among women in their sixties.

In present study majority (67.1%) of patients were from rural area. The hospital which is associated with medical college, Rewa is only the tertiary health care centre, in Vindhya region. The population of Vindhya region and neighboring area of Uttar Pradesh are attending this hospital; the majority of them are from the rural areas.

Married women found commonly affected (98.5%) and 1.4% was unmarried. Other authors have slight higher incidence of unmarried women in world to be affected by carcinoma breast. It is evident that parity plays a much bigger role than marital status of a female patient in development of breast cancer. In Indian scenario, marriage of a female is a social enforcement and therefore in our study 98.5% patients were married.

In present series, 2 patients were nulliparous, 67.1% patients were multipara while 30% patients were grand multipara, and other author's studies in world are comparable with our study in this aspect e.g. Okoiba MN et al reported one patient in his series to be nulliparous while 44.4% patients were multiparous and 31.7 patients were grand multiparous.[1]

Delayed childbirth increased the subsequent risk of breast cancer: "Women having their first child when aged under 18 years had only about one-third the breast cancer risk of those whose first birth is delayed until the age of 35 years or more"

Low socioeconomic status (67.1%) was predominant in our study. The increase in the cases of low socioeconomic status is due to poverty and lack of education, leading to increased population of lower socioeconomic status. The hospital being a government hospital caters to the need of poor patients and the services provided are free of cost and so more and more poor patients report to this hospital for treatment. In present study most of the patients 71.4% were illiterate while 28.5% were literate. Illiteracy was directly related to unawareness of disease and casual approach to early sign of breast cancer.

In present study, there was positive family history was positive in one case only. As positive family history is regarded as an important risk factor for cancer breast, in our case, this was not so. Therefore; further study into other trigger factors apart from hereditary factors is required to find out the reasons of cancer breast in these patients

In present study 100% of patients presented with lump of varying duration; 54.2% patients had painful lump, the increase number of cases of painful lump is explained by the fact that in this region due to ignorance, poverty, carelessness and fear. The lumps in breast are often ignored and patients seek advice when the mass either increased in size suddenly or has become painful due to massage, hot fomentation or application of local ointment and/ or hemorrhage, superseding infection, secondary changes in the lump.

According to Okoiba MN et al, Most of the tumors were initially painless and patients were likely to disregard these lesions as a result of ignorance.[1] In addition, most patients were likely to seek treatment from traditional healers, patent medicine stores and spiritual homes and only presented to hospital when treatment in these centres had failed. Reports from our hospital suggest that low socioeconomic status, poverty and ignorance are the major factors responsible for this.

In the present series right breast involved in 55.7% patients, The involvement of right or left breast varies with the series to series. Various workers have come out with the explanation for the more common affection of left breast as compared to the right breast as far as the carcinoma breast is concerned. The preponderance of carcinoma of right breast in respect to left breast is just a variation within normal limit with small sample size which needs further long term study.

In our study, upper outer quadrant was most commonly involved 61.4%, any portion of the breast may be involved in the disease but carcinoma breast commence most frequently in the upper and outer quadrant as reported by various workers like Truscott BM, Harnett WL, Gaharwar, Mudgal.[1-7]

In present series, Most of the patients of carcinoma breast presented in stage II 32 (45.7%) followed by 23 (32.8%) in stage III, 12 (17.1%) patients presented with stage IV diseases while only three (4.2%) patients in stage I disease. According to Samina et al, The striking

difference in the stage distribution of breast cancer patients in the developing and developed countries has been largely attributed to the lack of screening facilities, delays in seeking medical attention, poor socioeconomic status, poor health care systems and poor diagnostic and therapeutic facilities in developing countries.[2]

In the present series, histopathology reports shows, infiltrating ductal carcinoma was the most common type of carcinoma accounting for 74.2%,which is comparable with other authors e.g. Saha K et al, Okobia MN et, Alwan NAS study.[1,8,9]

In present study, Out of 70 patients 49 (70%) patients have taken operative management.[18] patients were discharged on request and referred on request elsewhere and 3 patients were inoperable. Common operative procedure was MRM 37 (75.5%). simple mastectomy was done in 8 (16.3%) patients, lumpectomy and axillary dissection done in 2 (4.08%) patients.

It shows correlation with other authors like Okobia MN et al in his study MRM carried out in 32.4% cases, 15.5% patient had simple mastectomy without axillary dissection and 3.8% patient had simple mastectomy with axillary dissection.[1] Yusufu LMD et al in his study MRM carried out in 37.3% cases, 30.4% patients had simple mastectomy and 22.6% had lumpectomy. Above author studies favors with the surgical method (MRM), that is most commonly performed surgical procedure in our study.[10]

In present study out of 70 patients, chemotherapy was given in 50 (71.42%) patients.48 patients received adjuvant chemotherapy and 2 patients received neo adjuvant chemotherapy. All patients received CMF regime. There are recent 3 prospective randomized trials available that have shown that CAF regime is 14% superior to CMF regime; however the patients in our study received CMF regime. Some author study comparable with our study, Okobia MN et al: in his study given chemotherapy in 71.42% patients with CMF regime. Yusufu LMD et al: in his study given chemotherapy in 77.4% patients with CMF regime.[1,10]

In present series out of 70 patients 2 (2.8%) patients received neo-adjuvant chemotherapy and lead to alleviate clinical symptom and significant regression in tumor size. Tamoxifen was given to all the patients who were peri-menopausal women.

In present study, Out of 70 patients, 12 (17.14%) patients had metastatic lesion. Secondary's in lung account for 75% (9 of 12) of metastatic lesion followed by secondary's in liver account for 33.3% (4 of 12) of metastatic lesion. Lymph edema of arm was 16.6% (2 of 12) of metastatic lesion. Skeletal metastasis was present only in one patient. This suggestive that significant number of cases present in late stage of disease. In our study, mortality was 5.71% i.e. 4 patients of carcinoma of breast who present in stage IV and were having malignant pleural effusion and/or multiple liver metastasis and/or lymph edema of arm Okobia MN et al in his study reported mortality was 20.7% with 5 year survival about 8.7%.

CONCLUSION

Breast is a symbol of womanhood. Due to illiteracy, poverty and hesitancy to show a male doctor in general and surgeon in particular breast carcinoma are initially treated by general practitioner without examination of breast only on the basis of symptoms and patients present most often in late stage of carcinoma breast.

Certain modifiable factors like obesity, smoking, tobacco chewing, hypertension, diabetes and with the help of encouragement of breast feeding cancer breast can be reduced to a major extent. A drive for general awareness regarding self-examination of breast is important at various levels for early diagnosis of breast carcinoma and for better result of treatment. Patients of carcinoma breast also have developed psychological symptoms after confirmation of diagnosis of carcinoma. Many women's experience substantial psychological distress and disruption in usual routine life. By the help of education and health awareness, individual psychotherapy, family support and group education therapy we can make the life of carcinoma breast patients a better one.

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