

# Clinicopathological Profile of Breast Cancer Patients at a Tertiary Care Hospital in Kashmir Valley

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## Abstract

**Introduction:** Breast cancer is the commonest malignancy in women worldwide. There are considerable variations in risk factors and presentation of the disease region wise. The present study aimed to describe clinical and pathological profile of breast cancer patients attending tertiary care hospital. **Method:** All consenting patients attending to surgical out-patient department (OPD) with complaints pertaining to breast disease were enrolled from 16<sup>th</sup> June 2015 to 15<sup>th</sup> June 2016. The patients were followed and demographic, clinical and pathologic information was recorded and analysed. **Results:** Total Of 180 patients with breast disease were enrolled. 34/100 were diagnosed of malignancy and formed the cases of the present study. Age of the patients ranged from 22 to 60 years with mean age of  $42.06 \pm 10.7$  years. All the patients presented as breast lump variably associated with pain or discharge. Infiltrating Ductal Carcinoma Not Otherwise Specified (IDC NOS) was common histologic diagnosis (76.47%). **Conclusion:** Breast carcinoma presents with painless lump and patients are usually diagnosed in our setup at locally advanced stage. Implementation of the simple and effective screening programs for early detection is urgent need in our population.

## Keywords

Breast Cancer, Histopathology, Infiltrating Ductal Carcinoma, Lump, Risk Factors, Stage

## 1. Introduction

With the fast evolution in socioeconomic status and lifestyle, epidemic of breast cancer is growing worldwide imposing mammoth load on healthcare system. It

is considered as the most common female cancer in urban India with 144,000 new cases being diagnosed each year [1]. In developed countries, breast cancer is mainly detected on screening while as in developing countries, patients have limited access to screening, or any effective awareness programs. Consequently, patients are usually diagnosed in advanced stage [2]. Treatment of early stage breast cancer is multidisciplinary, surgery playing a vital role followed by radiation therapy and/or chemotherapy depending on tumor size, nodal status, age of patient and histological sub-type. For advanced disease, systemic therapy with loco-regional treatment is considered.

Knowledge about the risk factors and clinical profile of breast cancer is important to formulate targeted risk reduction strategies [3]. There are considerable variations in risk factors and presentation of the disease region wise. Numbers of studies have been published with respect to clinical and pathological profiles of breast cancer patients from India. But limited data has been presented in literature from our valley which is located in Jammu and Kashmir, north-most state of India. This study aimed to evaluate demographic profile, risk factors, clinical presentation, pathological features of breast cancer patients diagnosed and managed at our tertiary care hospital.

**Aims and objectives:** To study the clinical and pathological profile of breast cancer patients diagnosed in a tertiary care hospital in Kashmir valley.

## 2. Methods and Patients

An observational, cross sectional study was conducted from 16th June 2015 to 15th June 2016 at the Department of Surgery and Pathology, Government Medical College Srinagar. With the approval of Institutional Ethics Committee, pathologically diagnosed patients of breast cancer irrespective of age, sex or histology attending our surgical outpatient department (OPD) during the study period were included in the study.

34 patients of newly diagnosed cases of breast cancer were consecutively enrolled in the study, after obtaining an informed consent. Patients with recurrent or previously treated breast cancer, inconclusive diagnosis and who declined consent were excluded from the study. Detailed history, clinical examination and necessary investigations were performed. Histological features were recorded. Patients were staged as per TNM staging fifth edition.

## 3. Results

Between 16th June 2015 to 15th June 2016, 180 patients visited our hospital consecutively with breast lump. 34/180 patients were diagnosed as breast cancer pathologically and formed the cases of our study. **Table 1** shows demographic profile and clinical characteristics of the patients with breast cancer. There were 2 male and 32 female patients in our study. Being a referral centre in the valley, most of our patients ( $n = 28/34$ ) belonged to rural areas. Age of the patients ranged from 22 to 60 years with mean age of  $42.06 \pm 10.7$  years. On an average, age at menarche was  $12.94 \pm 0.98$  years ranging from 11 to 14 years. Age at the

**Table 1.** Demographic and baseline presentation of study participants.

variables		number of cases (n = 34)	percentage%
sex	male	2	5.88
	female	32	94.12
age (years)	mean $\pm$ sd	42 $\pm$ 10.7	
	range	22 - 60	
family history	yes	6	17.65
	no	28	82.35
positive history of hrt <sup>a</sup> /ocp <sup>b</sup>		6	17.65
habits	smoking	2	5.88
	alcohol	0	0.00
menstrual status (n = 32)	premenopausal	19	59.38
	postmenopausal	13	40.62
residency	urban	6	17.65
	rural	28	82.35
age at menarche (mean $\pm$ sd)		12.94 $\pm$ 0.98 (min = 11, max = 14)	
age at first pregnancy (mean $\pm$ sd)		23.5 $\pm$ 2.74 (min = 20, max = 27)	
parity (n = 32)	0	4	12.5
	1-2	18	56.25
	2-3	4	12.5
	3-5	6	18.75
mean age at menopause ( $\pm$ sd)		45.85 $\pm$ 1.07 (min = 44, max = 47)	
past history of breast biopsy		6	17.65

<sup>a</sup>Hormone replacement therapy, <sup>b</sup>Oral contraceptive pills.

time of first pregnancy was 23.5  $\pm$  2.74 years ranging from 20 to 27 years. Positive family history in first &/or second degree relatives was present only in 6 (17.65%) cases. There were 12.5% nulliparous women (4/32) with breast cancer.

As far as menstrual status is concerned, the prevalence of breast cancer was more in premenopausal women compared to postmenopausal (59.38% Versus 40.62%). Two of our patients were smokers and none had any history of alcoholism. Six women had a history of intake of either oral contraceptive pills or hormone replacement therapy in the past. Six of our patients had a history of breast biopsy or benign lesions in the past.

The clinical presentation of the patients in our study is depicted in **Table 2**. All the patients presented as breast lump (R:L = 16:18) which was painless in 26/34 patients. Two of our patients presented with painful lump with associated history of nipple discharge. Pathologically, most common type of breast cancer was Infiltrating Ductal Carcinoma Not Otherwise Specified (IDC NOS) with 26 cases (76.47%) followed by medullary carcinoma (11.77%) and lobular carcinoma (5.88%). Two of our patients (5.88%) were diagnosed to have Paget's disease of breast.

**Table 2.** Distribution of clinical and histological presentation of breast cancer patients.

	characteristics	number of patients (n = 34)	percentage (%)
symptoms	lump	34	100
	lump and pain	8	23.53
	lump, pain and nipple discharge	2	5.88
side of breast	right	16	47.06
	left	18	52.94
histology	infiltrating duct carcinoma not otherwise specified	26	76.47
	medullary carcinoma	4	11.77
	paget's disease	2	5.88
	lobular carcinoma	2	5.88

22 patients underwent MRM and the specimens were examined in the pathology department of the same hospital. 12 patients didn't follow us after pathological diagnosis by biopsy. The stage wise distribution of breast cancer patients in our study is shown in the graph according to TNM classification. Out of 22 cases, 16 (72.73%) cases were in stage III and 6 (27.27%) were in stage II. 10 (45.46%) patients were found to have stage III b breast cancer. Patients operated at our hospital were followed for 6 months after surgery.

#### 4. Discussion

Breast cancer is the most common malignancy in women. The incidence of breast cancer is significantly lower in India than western countries. It varies from as low as 0.005% to 0.03% per year female population per year in India [4]. The data from clinical practice regarding sketch of breast cancer being limited from our region, we intended to study the status of breast cancer patients including risk factors, clinical and pathological profile in our valley.

In our study, 18.89% of the patients who visited our out-patient department with breast complaints were found to harbor breast malignancy which were consistent with past studies [5]. Mean age of its presentation was in  $42.06 \pm 10.7$  years and ranged from 22 to 60 years. This is consistent with the study conducted by A.K. Al-Thobhani *et al.* [6] and Bad we *et al.* [7] Also in this study, 59.38 percent of cases were premenopausal and remaining 40.62 percent were postmenopausal with a mean age at menopause of  $45.85 \pm 1.07$  years. Similarly 60% of breast cancer patients were found to be premenopausal among both Nepalese and Japanese women [8]. Parity ranged from 0 to 5, and only 12.5% were nulliparous which is a known risk factor for breast cancer. Majority of our patients had a parity of 1 - 2 (56.25%). These findings may be explained by the small sample size of our study.

All of our patients presented with palpable lump in their breast. Site of lump were almost equally in right and left breast in upper outer quadrant. Early breast cancer may not be noticed due to lack of symptoms. But when tumor grows in

size, patients presents with lump or swelling of breast with pain, dimpling, ulceration of skin, redness of nipple or skin, changed contour and texture of breast or nipple discharge. Eight patients had pain (mastalgia) in association with breast lump. Two of our patients presented with a triad of lump, pain in the breast and nipple discharge.

In our study invasive ductal carcinoma was the most common variety of breast cancer as indicated in published data [9] [10]. This study had two male breast cases comprising 5.88% of the total. While evaluating, both the male breast cancers were Infiltrative ductal carcinoma NOS. Invasive ductal carcinoma is the most common histological type with a poor prognosis rate of 30% - 35% 10 year survival rate. The tumor size ranged from 2 to 6 cm in our study group. Five year survival in breast cancer less than 1 cm is 93% while as it is 63% for larger than 5 cm in size [11].

Stage wise TNM analysis (Figure 1) of our patients supports findings of Raina *et al.* [12]. In comparison with western countries, Indian women present in stage III and IV [13]. Lymph nodes were identified in all the 22 cases of MRM specimens and were positive for tumor cells in 21 cases. There is 6% additional risk of cancer death by each positive lymph node [14]. 72.73% of our patients were in stage III while as 27.27% were diagnosed to have stage II disease. In a study by Acharya SC *et al.* [2] majority of cases were in stage III (53%), and stage II (48%). 45.46% of the MRM specimens were of stage IIIb. Due to lack of proper screening majority of women with breast cancer in developing countries are diagnosed in clinical stages III and IV. All the 22 cases operated at our hospital received systemic Chemotherapy (CT) either in the form of neo-adjuvant CT (NACT) or adjuvant CT. No recurrence or mortality was observed during the follow up.

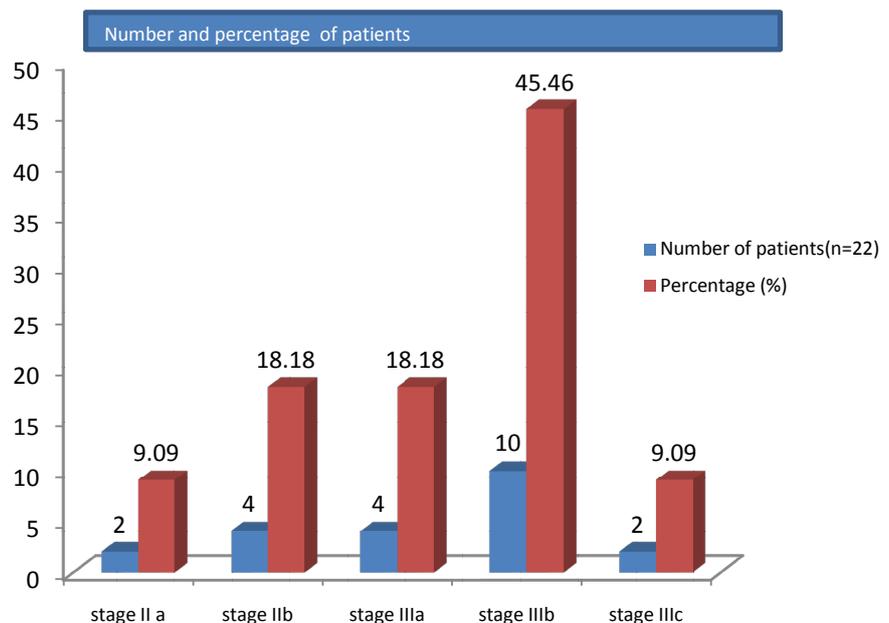


Figure 1. Stage-wise distribution of breast cancer patients.

Factors such as genetics, racial, social, cultural, hormonal and dietary habits may play a role in the etiopathogenesis of breast cancer. These factors were not analysed in our study. Moreover, apart from being short follow up study, determination of ER/PR and HER2-Neu status were not available at our hospital. The main limitations of the study is that it was a hospital based observational study, so may not represent underlying general population.

## 5. Conclusion

The study concluded that most of the patients in our setup present with locally advanced disease *i.e.*, Stage III (72.73%) and Stage II (27.27%), Results from the present study suggest high incidence of breast cancer in premenopausal women with mean age of  $42.06 \pm 10.7$  years. Main clinical presentation is breast lump. Most frequent histological type is Infiltrating Ductal Carcinoma Not Otherwise Specified (IDC NOS). Based on our study findings, we recommend that Implementation of the simple and effective screening programs for early detection is urgent need in our population.

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