

ORIGINAL ARTICLE

PATTERN OF BREAST CANCER: EXPERIENCE AT AYUB TEACHING HOSPITAL, ABBOTTABAD

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Background: Breast cancer is the most common malignancy found in females all over the world and the second leading cause of cancer death in European countries. The purpose of this study was to find out the pattern of disease presentation in our region where a proper tumour registry system is lacking. **Methods:** This descriptive study was carried out in the Department of Surgery, Ayub Teaching Hospital Abbottabad, from July 2021 to June 2022. All female patients with biopsy-proven breast cancer were included in the study: benign lumps, refused to enrol, and those who were lost to follow-up were excluded. **Results:** A total of 87 patients with carcinoma breast were included: 92 % (n=80) had invasive ductal carcinoma. Axillary lymph nodes were involved in 88.5% (n=77), 75.8% of the tumours, (n=66), were Grade 2, 34.5% (n=30) were in the 40–49 years age group, and 30 % (n=27) of the disease was categorized as Stage III or IV. In 55 % (n=48), the tumour was on the right side and in 39% (n=34), the upper outer quadrant was involved. Most of the patients, 90.8% (n=79), were married and had used contraceptive measures. Only 19.5% of patients (n=17), had a history of nipple discharge and 56% (n=49) had a positive family history: 71% (n=62) had nipple retraction, and 54% (n=47), proved to be ER PR positive. **Conclusion:** Our patients presented late: axilla was commonly involved and a third had advanced disease. Screening and community awareness programs may help in early detection. Hormone use for contraception needs to be weighed carefully. Better data collection may help in designing screening and care programs.

Keywords: Breast cancer; Registry; Stage; Site; Receptor status

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INTRODUCTION

Breast cancer is the second leading cause of cancer death among female patients in European countries.¹ In recent years there has been a rapid increase in the incidence of breast cancer in Asian countries.² Pakistan has the highest incidence among Asian countries: one in nine women has a lifetime risk of developing breast cancer. Amazingly incidence rate in Pakistani women is 50/100,000 while in neighbouring country India with a similar sociocultural background, the incidence is 19/100,000.¹ Development of breast cancer depends upon several risk factors that include race, age, obesity, genetics, diet, reproductive history, geographic distribution, environmental exposures, estrogenic exposure including long term hormone replacement therapy, ionizing radiations, western-style diet, socioeconomic status, and unknown factors.³ Its incidence is rising probably due to increasing life expectancy.⁴

Pakistani women have a very low rate of early detection & are diagnosed in advanced stages when the prognosis is very poor.⁵ Stage 1 is early disease while stage 4 is the most advanced stage of breast carcinoma. Five-year survival at stage 4 is 10% while survival for

the early stage that is treated can reach up to 85%.⁶ Survival also varies with age, it is better for younger age groups except for women less than 30 years of age.⁶ In contrast to Western epidemiology, the disease occurs at the younger age group in Pakistani females^{4,5}, is bigger at the time of presentation, has metastasis to the axilla and predominant morphology is a higher grade of infiltrating ductal carcinoma.⁷ Most of these patients present late due to multiple reasons some on the part of the patient and others on the part of the first attending doctor. At this advanced stage even, multimodal treatment cannot improve overall survival.^{8,9}

The purpose of this study is to collect local evidence regarding the pattern of disease and to find its epidemiological features in the current local scenario. It can help to change the management strategies in future. It will also help in determining causes of delayed presentation as early detection is key to better survival. Public awareness programs can be designed to decrease fear among patients so they present in the early stages. The results of this study can be used to compare data from other parts of the country and with other countries.

MATERIAL AND METHODS

This descriptive study was conducted in the Department of Surgery, Ayub Teaching Hospital Abbottabad from July 2021 to June 2022. Inclusion criteria included female patients, regardless of age with biopsy-proven carcinoma breast that came from OPD, emergency and referrals from other units in the setting mentioned above and duration. Exclusion criteria included those who refused to undergo assessment & treatment in the unit after a provisional diagnosis of carcinoma breast was made, who were lost to follow up & who refused to be included in the study.

A detailed explanation about participation in the study was provided to the patients and written informed consent was obtained. Patients were evaluated by detailed history, clinical examination and investigations like sono-mammography, mammography (above 40 years) & tissue biopsy. Detailed proforma for each patient was obtained from all patients included in the study. The variables studied were socioeconomic status, age distribution, risk factor profile (marital status, parity, family history) side & site of the lump, stage, receptor status, grade, sub-type of carcinoma, time since first noted, and reasons for delayed presentation. All the data were analysed with SPSS version 22.

RESULTS

The majority of patients, (n=30) were aged from 40–49 years followed by the 50-59 years age group (n=19), and the 30–39 years age group (n=18). Fewer patients presented below 30 (n=4), or above 70 (n=1). (Figure 1). The right side was more commonly involved (n=48) than the left (n=39), and the upper outer quadrant was the most commonly involved site (n=34), followed by the central part (n=25), whereas the whole breast was less commonly involved. Table 1, Figure 2.

Invasive ductal carcinoma was the most frequent type (n=80), other histological variants were very few. (Table 2)

The commonest was Grade Two (n=66). The majority of the patients were receptor positive (ER PR positive: n= 47, Triple Positive: n=19, triple negative n=18 and HER2/neu positive n=3.(Table 3 and Figure 3). The majority of our patients (n=79) were married: all of them had adopted contraceptive measures, (n=68) had children, and 66/68 breastfed their children. More than half of our patients had a positive family history, (n=49, 56.3%) history.

Nipple changes: 17(19.5%) patients had nipple discharge and 62(71.3%) had nipple retraction. Socioeconomic status: 55(63.2%) patients had satisfactory socioeconomic status, 17(19.5%) belonged

to a poor family, and 15(17.2%) socioeconomic status was good. The vast majority of our patients presented with axillary lymph node involvement (n=77, 88.5%).

Out of 27 patients in the advanced stages, (III & IV), all the patients consulted a qualified doctor after a delay of more than one month, and in some cases, more than 6 months. During the consultation, they were asked the reasons for the delayed presentation, and all of them volunteered that it was difficult for them to afford medical treatment in a big hospital (n=27) and a significant number (n=17) presented late due to lack of awareness, with 7 thinking that the lump was already incurable. These 7 patients also confessed to a fear of death. Another 9 tried religious measures of “Dum Darood” only, and 7 patients also volunteered that they were uncomfortable at the prospect of examination by male doctors.

The frequency of stage of the breast tumour is shown in Table 4 and Figure 4.

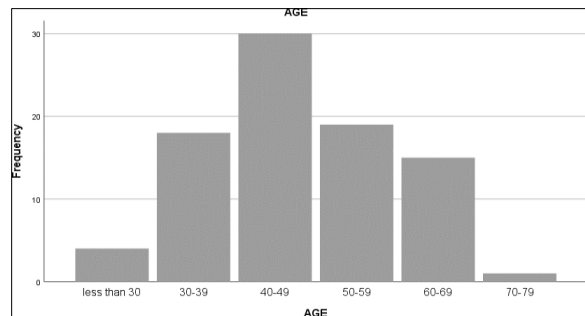


Figure-1: Age Distribution of the patients

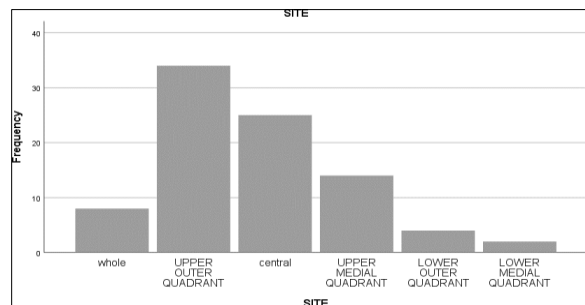


Figure-2: Site of the Tumour

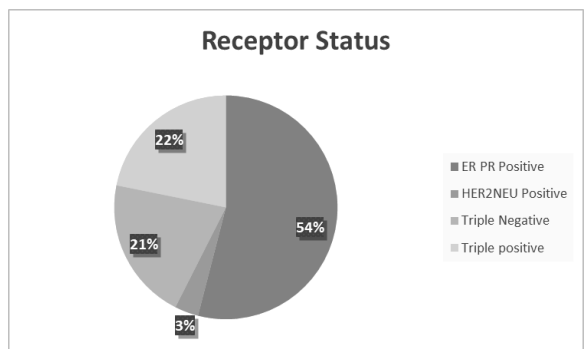


Figure 3: Receptor status of breast cancer

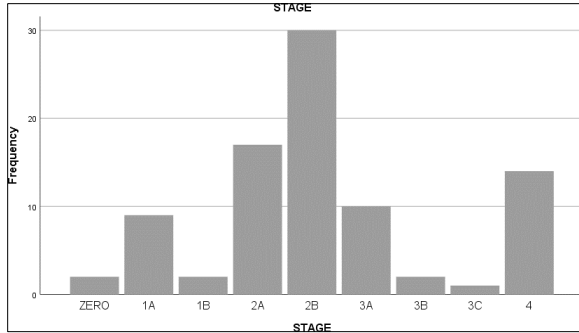


Figure 4: Stage of Breast Carcinoma

Table-1: Site of the tumour

	Frequency	Percent
Whole	8	9.2
Upper Outer Quadrant	34	39.1
Central	25	28.7
Upper Medial Quadrant	14	16.1
Lower Outer Quadrant	4	4.6
Lower Medial Quadrant	2	2.3
Total	87	100.0

Table-2: Histological Type of the tumour

Frequency	Percent	
invasive ductal	80	92.0
invasive papillary	1	1.1
ductal carcinoma in situ	3	3.4
spindle cell	1	1.1
invasive lobular	2	2.3
Total	87	100.0

Table-3: Histologic Grade of the tumour

Frequency	Percent	
Valid		
one	1	1.1
two	66	75.9
three	20	23.0
Total	87	100.0

Table-4: Stage on Presentation

Frequency	Percent	
ZERO: Abnormal cells in lining of milk ducts	2	2.3
1A	9	10.3
1B	2	2.3
2A	17	19.5
2B	30	34.5
3A	10	11.5
3B	2	2.3
3C	1	1.1
4	14	16.1
Total	87	100.0

DISCUSSION

This study was conducted to see the pattern of disease in our local setting and to compare its results with published patterns from other parts of Pakistan and other countries. The results of the study are comparable to other studies: however, there are some differences. Our patients present late and with metastatic disease, due to various reasons. Lack of

awareness and lack of screening programs contribute towards late presentation. In published series from more developed countries, more cases are detected in the early stages as compared to our series.

The commonest affected age group in our study is 40–49 years {34.5 % (n=30)}, followed by 50–59 years, 21.8% (n=19) and then the 30–39 years age group {20.7 % (n=18)}. Naeem *et al*¹ also found a similar age distribution, with 40-49 years age group (middle age) being the most commonly affected (30.4%), followed by 50-59 years (26.0%), followed by 30–39 years (21.73%).¹ An International study shows a steep age gradient with a quarter of breast cancers occurring before age 50 & <5% before the age of 35.⁷ In our study, 4.6% of cases (n=4) were below 30 years of age. Our results, as far as age distribution is concerned, are comparable to other studies both from within the country and from abroad.

The most common histopathologic type found in this study was invasive ductal carcinoma (n=80). Comparable frequencies of histopathological findings were observed in studies conducted by Naeem *et al* (82.6%)¹, Shahid *et al* (81%)¹⁰ and Nadira *et al* (81%).¹¹ All these national authors reported invasive ductal carcinoma as the most frequent histopathologic type. Hanby in his study, published in Clinical Oncology, also reported invasive ductal carcinoma of NST to form about 75% of breast carcinomas.¹²

A third of our patients presented in Stage III and Stage IV (n=27), and the majority presented in Stage II (n=47). This is different to some national studies: Naeem *et al*¹ have found the majority of patients presenting in the late stages of III & IV. In the West, a smaller number of patients are presenting in late stages: only 10.3 % of patients come in with late-stage (stage III & IV) disease, in some studies.¹³

Given a large number of our patients, (n=49) having a positive family history is significant: it may be due to inter-marriages. This is a strong factor to consider when designing genetic testing and screening programs. Our public sector, to date, is not offering free genetic testing. Also, we are not offering outreach screening programs. Some community awareness activities are being arranged, but these are mostly at the local level. Our government has not started screening and community awareness programs regularly. Our data is small in numbers, and better data collection, preferably in the form of organized public sector Cancer Registry or other similar programs must be initiated to collect data. A larger and more reliable data set will then guide decision-making and fund allocation at national and provincial levels.

Even with the majority of patients presenting with a stage II disease (n=47), and a smaller number presenting in advanced stages {(stage III & Stage IV), n=27}, there was a significant delay between the first

noticing of a breast lump and reporting for consultation to a qualified doctor/breast clinic. Some of the reasons for the delayed presentation are summarized above. It is noteworthy that many of our patients didn't know that a lump in the breast is something to be concerned about, or thought it would go away by itself, if not touched by steel (especially a surgeon's knife!). Lack of knowledge and lack of education is a hurdle at many levels: the government hospitals are providing free services, but the poor, almost uneducated population from the periphery, is not aware that treatment is free. This is a big issue. The government needs to ensure the availability of the full spectrum of care free of cost and to inform the public about the availability of free services.

In our study, a significant majority of patients, (79 out of 87) had adopted contraceptive measures. Early marriage, and the consequent use of exogenous hormones to control birth for a longer duration, may be one of the reasons for the high frequency of breast cancer in our province.

CONCLUSION

Data collection through a proper cancer registry may guide the development of community awareness, screening and genetic testing programs, by providing detailed information. Contraceptive hormone use should be discouraged. Ensuring the presence of female breast/oncological breast surgeons will help alleviate fear in our community.

AUTHOR'S CONTRIBUTION

SA: Concept, data collection, data analysis, manuscript writing, manuscript review. SAK: Concept, data analysis, manuscript review. FAK: Concept, data collection, data analysis, manuscript

writing. MJUD: Data analysis, manuscript writing, manuscript review. GB: Manuscript review. HK: Write-up.

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