ORIGINAL ARTICLE

Clinico-Pathological Profile of Breast Cancer Patients Presented to Mayo Hospital, Lahore

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ABSTRACT

Aim: To determine the clinico-pathological profile of breast cancer patients including their demographic features to co-relate skin involvement with grading and TNM staging and to increase the available literature on breast cancer to help in nation-wide campaign against breast cancer.
Methods: A retrospective descriptive cross-sectional study has been conducted in the Department of Pathology, Mayo Hospital, Lahore after the approval from the ethical review committee. This retrospective study is conducted from January 2017 to December 2018. The sample pool is 50 and sampling technique is non probability purposive sampling.
Results: Most (32%) breast cancer patients belonged to age group 31-40 while least (16%) cases were from group >60. 28% cases belonged to group 41-50 & 24% were from age group 51-60. Majority (64%) of cases were diagnosed at high grade cancer, 32% at intermediate grade and just 4% at low grade of breast cancer. Presentation with low grade cancer was only present in age group 31-40. Skin involvement **(**pT4) was absent in 37/50 (74%) cases while present in 13/50 (26%) cases. Skin involvement was present in 9/10 (90%) of cases with TNM staging of IV. In TNM staging of I, II, III only 1/9, 2/22 and 1/9 of cases had their skin involvement present respectively.
Conclusion: Lack of awareness about breast cancer results in lack of consciousness among women during the early stages of cancer. They present to hospitals at an advanced stage & grade of cancer resulting in poor prognosis and higher mortality. This is more common in older women however, somewhat awareness is found in younger age groups as they present with low grade cancer. Visible sign of skin involvement presents at a late stage of cancer and that is when some women realize that they should consult the doctor. But it is usually too late.
Key words: women, breast, cancer, skin involvement, TNM, grade, tumor.

INTRODUCTION

Cancer is a burden on the globe and every sixth death in the world is due to cancer, making it the second leading cause of death[1]. Globally, there has been a rapid increase in the incidence of breast cancer[2], which is still the most significant cause of cancer-related female mortality[3]. According to world statistics, 16.7 Million people suffered from breast cancer in 2017 (21% in all the cancer patients) with subsequent 621,625 deaths by it in 2017[4]. One out of every eight women and one out of every 870 men will develop breast cancer in their lifetime. Statistically stating, most breast cancers (80%) occur in women over the age of 50[5]. Breast cancer is a type of tissue cancer that mainly involves inner layer of milk glands or lobules, and ducts (tiny tubes that carry the milk)**[6]**. Various studies have concluded that two of the most important prognostic indicators for breast cancer are tumor size and extent of axillary lymph node involvement[7]. Skin invasion is one of the classical pathological factors that is associated with prognosis[8]. The primary risk factors of cancer include age**[9]**, high hormone level**[10]**, race and economic status. Efforts should be made to minimize the delays by patients and providers[11]. At some stage of life, 1 in 9 Pakistani women has become the patient of breast cancer[12]. In Asia, Pakistan bears the highest rate of breast cancer[13].

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MATERIAL & METHODS

This is a Retrospective Descriptive cross sectional study conducted in the Department of Pathology, Mayo Hospital, Lahore from January 2017- December 2018. The sampling technique was Non Probability Purposive Sampling. Inclusion criteria used for subjects' selection included the biopsies of breast cancer patients presented to the Pathology Department Mayo Hospital, Lahore from January 2017 to December 2018. Treated Breast Cancer cases were excluded. (chemotherapy/ radiotherapy). Sample pool consisted of 50 Breast Cancer patients as per the inclusion criteria.
Data collection & analysis: Data on a range of demographic, morphological and histo-pathological features was captured using a structured, pretested and standard Performa at baseline. The variables in our study will be; age, grade of cancer, TNM staging, skin involvement, carcinoma in situ, tissue necrosis and focality. Data was entered and analyzed using statistical package for the Social Sciences (SPSS) version 23.

RESULTS

Out of total number of 50 cases studied, 16 cases (32%) belonged to age group 31-40. 14 (28%) belonged to group 41-50. 12(24%) cases were from group 51-60 while 8 (16%) cases were from group >60. 22/50 (44%) cases were reported at TNM stage II. 9/50 (18%) cases at TNM

stage I. 9/50 (18%) cases at TNM stage III. 10/50 (20%) cases at TNM stage IV.

Skin involvement **(**pT4) was absent in 37/50 (74%) cases while present in 13 (26%) cases. Skin involvement was present in 9(90%) of cases with TNM staging of IV. In TNM staging of I, II, III only 11.1%, 9.1% and 11.1% of cases had their skin involvement present respectively.

A cumulative 64% (n=32) cases were presented at high grade cancer, 32% (n=16) at intermediate grade of cancer and just 2(4%) at low grade of breast cancer. Results of different age groups presented in relation to grade of tumor is shown in table II.

It is seen that presentation with low grade cancer were only present in age group 31-40. However in this age group itself, most cases i.e., 68.8% presented with high grade cancer. Presentation of cancer predominantly at high grade remained consistent in all age groups with 64.3% cases in age group 41-50, 58.3% cases in age group 51-60, and 62.5% cases in age group >60 presented with high grade cancer. 40(80%) cases presented were unifocal tumor whereas 10(20%) cases were multifocal tumor. Tissue necrosis was present in 30(60%) cases while it was absent in 20(40%) cases

Table I: Association of skin involvement (pT4) with TNM staging of breast cancer.

Count	**TNM**				Total
	I	**II**	**III**	**IV**	
Absent	8(16%)	2040%)	8(16%)	1(2%)	37(74%)
Present	1(2%)	2(4%)	1(2%)	9(18%)	13(26%)
Total	9(18%)	22(44%)	9(18%)	10(20%)	50(100%)

Table II: Association of age with grade of cancer

Count % within age	**Grade**			Total
	Low	**Intermediate**	**High**	
31-40	2(12.5%)	3(18.8%)	11(68.8%)	16(100%)
41-50	0	5(35.7%)	9(64.3%)	14(100%)
51-60	0	5(41.7%)	7(58.3%)	12(100%)
>60	0	3(37.5%)	5(62.5%)	8(100%)
Total	2(4%)	16(32%)	32(64%)	60(100%)

DISCUSSION

This study narrates the predominance of breast cancer in mature age groups. 60% of our cases were between ages of 30-50 years, and 40% of our cases were of subjects of age >50. This relatively concurs with the another study that breast cancer is predominant in women over the age of 50 (80% cases)[5] . As according to Pakistan bureau of statistics, percentage of population between 31-50 is 19% of total population of women while population above 50 years is 11% of total[14]. So the ratio of affected to healthy individuals in mature age groups is much higher than younger groups. The study of skin involvement (pT4) in relation to TNM staging recounts that skin is involved mostly at TNM stage IV while less commonly involved at TNM staging of I II & III.

This co-relates with the study that 57% of the tumors with skin involvement were categorized as stage III & IV [15]. So patients ought to refer to doctors and start treatment before skin involvement. It is worthy to be noted that most cases presented to Mayo Hospital were at a high grade 64% and it is consistent with all age groups. This refers to the poor awareness about breast cancer with people not referring to hospitals at lower grades of cancer. Females only show up in hospitals when their breast cancer is at a higher stage and manifests with evident skin involvement. It is worth noting that in the age group of 31-40, 12.5% cases were of low grade. This refers to some degree of awareness and health consciousness in younger age groups. Whereas in age group >60, 62.5% cases presented with high grade. According to a study, older women believed they were less susceptible to breast cancer than younger women and were less likely to have positive attitudes toward screening[16].

By and large, only 18% cases were presented at a TNM stage I and rest of the cases were at a higher TNM stage. It is evident that most people come to hospitals at a developed stage of breast cancer leading to poor prognosis and high mortality rates in Pakistan. This is in accordance with another study that women experiencing screening and treatment delays were significantly older and had larger tumor sizes compared to those not experiencing such delays[17]. Delays of 3-6 months are associated with much lower survival rates[18] and thus female mortality due to breast cancer becomes substantially significant.

CONCLUSION

Lack of awareness about breast cancer results in lack of consciousness among women during the early stages of cancer. They present to hospitals at an advanced stage & grade of cancer resulting in poor prognosis and higher mortality. This is more common in older women however, somewhat awareness is found in younger age groups as they present with low grade cancer. Visible sign of skin involvement presents at a late stage of cancer and that is when some women realize that they should consult the doctor. But it is usually too late.

RECOMMENDATIONS

Regular breast check-ups should be encouraged among women so that the cancer is detected earlier which would lead to a better prognosis and lower mortality rates. Awareness campaigns should be held on larger scales and more frequently. As this topic is shrouded in shame, so the conservative approach to breast cancer should be eradicated.

Limitations: This is a retrospective observational study that does not cover the entire demographic data of the said area but was performed while restricted to the Department of Pathology, Mayo Hospital, Lahore. The treated cases of breast cancer were excluded from the study.

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