ORIGINAL ARTICLE

Stage Wise Presentation of Breast Cancer in Patients Aged Less Than 40 Years Verses Age Above 40 Years

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ABSTRACT

Introduction: Worldwide most common malignancy in females is breast carcinoma and accounts for almost one-third of all women cancers. In developing countries of Asia like in Pakistan, breast carcinoma has the highest incidence. With an age-standardised incidence rate (ASR) of 51.7, and the rate of the new cases of breast cancer is on the rise similar to the Western population.

Objectives: The main objective of the study is to analyse the stage wise presentation of breast carcinoma in patients aged <40 years verses age >40 years.

Material and methods: This cross sectional study was conducted in Khyber teaching Hospital Peshawar from 2017 to 2020. The data was collected from 200 female patients who were suffering from breast cancer at different stages. The data was collected through a systematically prepared questionnaire after taking consent.

Results: The data was collected from 200 female breast cancer patients. Out of which 68 patients were < 40 years and 132 patients were >40 years of age. Majority of patients 90 presented in 41—50 years, followed by 50 cases in 51—60 years and least cases observed in 21—30 years of age. Stage III was the commonest stage in younger patients followed by stage II while in older patients stage ii was common than stage iii. 82 patients presented in stage iii while 70 patients in stage ii. Least cases presented in stage i. 82 patients out of 200 patients presented with stage iii. Overall ductal carcinoma is the most common type of breast carcinoma. Left breast carcinoma is more than right breast carcinoma.

Conclusion: It is concluded that breast cancer is more common in older age as compared to young age. In young patients stage iii is more common than stage ii while in old patient's stage ii is more than stage iii, however overall stage iii has the highest frequency.

Keywords: Breast, Cancer, TNM, Factors, Patients

INTRODUCTION

Worldwide most common malignancy in female is breast cancer. Across the world breast cancer accounted for 23.1% of all carcinoma cases(1). Breast carcinoma is the second leading cause of death in females due to cancers. All females irrespective of their race or ethnical origination or tribe or country are at risk of developing breast carcinoma(2). According to world health organization greater than 1.21 million population of females are diagnosed with breast carcinoma globally every year(1). In both developed as well as under developing countries there is still increase incidence of breast malignancy. There are numerous factors for late presentation of breast carcinoma in countries like India and Pakistan. In Pakistan one of the reason for late presentation of breast carcinoma is unawareness about basic knowledge of breast diseases and low social economic status of major population(1).

In male gender breast carcinoma although present but very rare(3).

Breast malignancy is far more common in Pakistani females in comparison to Eupeon countries(4). In country like Pakistan one in every 9th female gender is affected from breast malignancy which is very high as compared to other Asian countries (5). A study reported shows that overall incidence of breast carcinoma is 21.6% and in female population it is about 50%(6). Carcinomas are categorized into different types on the basis of origin of tissues and receptors involved as well as on the basis of staging and grading. Breast carcinoma arise from the tissues of the breast, in majority of cases it arises from ducts of breast called ductal carcinoma or malignancy, when breast carcinoma arise from breast lobules it is called lobular cancer(7). To detect any disease especially cancers screening tests are necessary like for cervical carcinoma the screening test is pap smear while for breast carcinoma screening test is mammography or mammogram. There are many reasons for not early detections of breast cancer, among them one of the major reasons are low social economic status as well as false beliefs(8).

Breast carcinoma rarely occur in young aged females. About 2.1% of the young aged females(less than thirty five years) are affected   with breast malignancy. Nature of breast malignancy in young females is aggressive and poor prognosis in comparison to breast carcinomas of old aged population(9). In case of breast cancer young age means females equal or less than forty years. In young females the incidence of breast carcinoma is less than older patients, however the outcome or prognosis is very poor as compared to older patients (10). Breast carcinoma in young females has very high histopathological grade and high mortality rate as compared to old aged females(10).

The Americans Joint Committee introduced a system based on actual anatomical findings or results called staging system actually applied on every cancerous disease. The staging system is based on TNM System, while T represent tumor size in cm, N represents nodal involvement and M represents penetration of cancer into surrounding tissues called metastasis. TNM staging systems helps to physicians and surgeons to adopt different strategies in different types of carcinomas. However in breast cancer there are also other factors which must be considered like biological markers. The most important biological markers are hormonal receptors like estrogen, progesterone and human epidermal growth factor receptors2 (HER2).

TNM staging along with above biological markers determine prognosis and therapy strategy(11). One of the most important biological markers for breast carcinoma is HER2 which determine the treatment as well as outcome. In USA, all patients of breast cancer are evaluated for biological markers like estrogen receptor(ER), progesterone receptors(PR) and human epidermal growth factor2 (HER2) (11).   In breast carcinoma staging divided into two categories. One is anatomic stage and another is prognostic stage. Anatomic stage is based on TNM system. Anatomic TNM staging is further divided into 4 categories.

First category is clinical staging, second is pathologic staging, third is after therapy and last one is tumor recurrence. TNM quantitatively classified, tumor size (Tis---T4), nodes(N0—

N3) and metastasis(MO—M1). The above mentioned categories in combination make anatomic stage from stage 0 to stage IV(12). In this study we try to determine stage wise presentation of breast carcinoma in females less than 40 years verses age above 40 years.

Objectives: The main goal of this study is to analyse stage wise presentation of breast carcinoma in young aged females (females whose age is less or equal to forty years) verses age above 40 years.

MATERIAL AND METHODS

This cross sectional study was conducted in Khyber Teaching Hospital Peshawar from 2017 to 2020. Data was collected from 200 female patients who were suffering from breast cancer at different stages. All the confirmed patients of breast carcinoma were included. All patients who underwent any other metabolic issue were excluded from this study. Those patients who have breast metastasis but primary tumor somewhere in body. All breast cancer disease people whose disease already established by FNAC and were not to fulfil follow up.

Data collection: The data was collected through a systematically prepared questionnaire. The questionnaire consists of different parts. First part contains the socio-demographic data of the patients. Breast cancer diagnosed females were divided into two groups. Female whose age is below forty years and another group consists of females whose age is above 40 years. Data including family history, clinical symptoms, pathology involved and anatomical TNM staging.

Statistical Analysis: Frequency and percentage were measured for categorical variables, while mean and standard deviation were measured for numerical variables like age using SPSSv25.

RESULTS

During 4 years duration of study total of 200 cases were included. In our study minimum age and maximum age recorded were 25 and 70 years respectively with mean age of 47 years as shown in table 01.

Table 1: Minimum and maximum age of patients with mean age

Patient data	Age of the patients
Minimum age	25 years
Maximum age	70 years
Mean age	47 years

Out of 200 breast carcinoma patients, 68(34%) patients below 40 years while 132(66%) were above 40 years. Out of total 132 patients with age > 40 years presented with stage ii carcinoma and stage iii carcinoma were 74(56%) and 58(44%) respectively. Similarly out of 68 patients with age < 40 years presented with stage iii carcinoma and stage ii carcinoma were 40(59%) and 28(41%). In this study majority of patients belonged to rural areas and contribute 65% of total 200 selected sample as shown in table 02.

Table 2: Summary of results

| Result data	Number ofpatients	% of patients
Total number of cases	200	
Cases < 40 years age	68	34
Cases > 40 years age	132	66
Patients with stage ii cancer >40 years	74	56
Patients with stage iii cancer >40 years age patients	58	44
Patients with stage iii cancer <40 years age	40	59
Patients with stage ii cancer < 40 years age	28	41
cases from rural/ backward areas	130	65
Patients from rural areas with stage III cancer	65	50
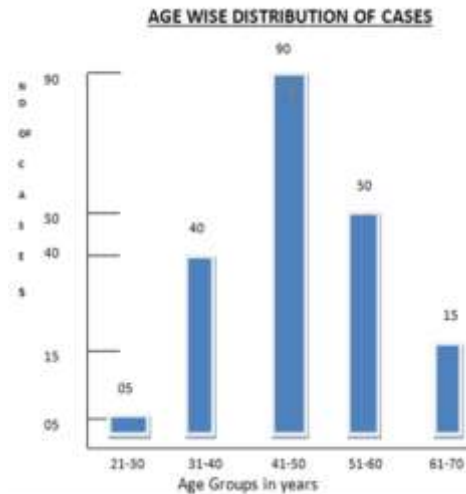
Figure 1: This figure shows that majority of patients 90(45%) presented in 41—50 years of age, followed by patients 50(25%) in 51—60 years, followed by patients 40(20%) in 31—40 years, followed by 15(7.5%) cases in 61—70 years and least 05(2.5%) cases observed in 21—30 years age.
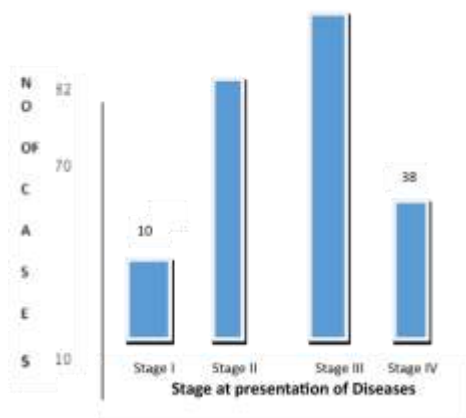

Figure 2:

The above figure showed that majority of patients 82(41%) presented with stage iii, followed by stage ii 70(35%), followed by stage iv 38(19%) and in the last stage 1 only 5% cases recorded.

Table 3: Grading of disease

Grading of disease	Number of cases	Percentages
I	11	5.5
II	64	32
III	125	62.5

Grading of the disease showed that majority of patients 62.5% presented with grade III, followed by grade II and last and least was grade I.

Types of breast carcinoma: In our study majority of patients of breast carcinoma was presented with ductal carcinoma type in about 180(90%) cases, followed by lobular carcinoma 12(6%) cases and others diseases of breast in 4% cases.

Table 4: Types of breast carcinomas

Type	Cases	Percentages
Ductal	180	90
Lobular	12	6
OTHERS including paget disease and mixed ductal and lobular	8	4

Majority of patients presented with left breast carcinoma 110(55%) and right side breast carcinoma 80(40%) and bilateral breast carcinoma in 10(5%) cases.

DISCUSSION

In teen age the incidence of breast cancer is very rare however may be possible. It is a general perception that risk of breast carcinoma increases with age. However nowadays this old concept is changing due to scientific studies. Our study results shows that mean age for breast carcinoma is 47 years which is very lower than USA of 62 years[13]. Similarly our study mean age for breast carcinoma is 47 years which is lower than mean age in Americans (14). A study conducted in India shown mean age of 47.39 years which is very close to our mean age of 47 years[15].

Our study results shows that out of total 200 selected populations, 132 patients are above 40 year and 66 patients are below 40 years. Similarly our results show that majority of cases 90(45%) are observed in 41-50 years with 90(45%) cases, followed by 50 cases. According to our study middle age women have highest potential to develop breast carcinoma which is similar to other studies conducted in Pakistani cities like Karachi in 2000, Lahore in 2001 and Karachi in 2006 showed commonest age group of 40—60 years.(16-18). Studies conducted in Malaysia, India and Peshawar city of Pakistan also showed similar results regarding commonest age group for breast carcinoma as in our study (2, 5, 19).

In the current study most common histopathological type of breast cancer is ductal carcinoma in 180(90%) cases followed by lobular carcinoma in 12(6%) cases which is similar to studies conducted in Pakistan(2, 16, 18, 20-22). Other international studies also showed that most common breast carcinoma is ductal followed by lobular carcinoma(23, 24).

Our study shows that majority of patients 82 presented in stage iii, followed by stage ii 70 patients, followed by stage iv 38 patients and least 10 patients presented in stage I. So majority of patients means 76% presented in stage ii and stage iii. Studies in which majority of cases reported in stage ii and stage iii were (2, 25). Similarly a study conducted in Sindh in Pakistan showed that majority of patients 38.3% and 31.6% presented in stage iii and stage iv respectively(26). In our study about 65% of cases are from rural areas wile study conducted in Sindh showed that 95% cases were from rural areas(26). The causes of late presentation of breast carcinoma patients were social-economic problems, lack of education and surgery phobia(27).

CONCLUSION

It is concluded that breast carcinoma is more common in older age as compared to young age. In young patients stage iii is more common than stage ii while in old patient's stage ii is more than stage iii, however overall stage iii has the highest frequency. Similarly most common breast carcinoma is ductal carcinoma. Majority of patients in our setup belong to rural areas and mean age is lower than other Asian countries like India.

Recommendations: Mean age for breast carcinoma in our setup is low as compared to other Asian countries as well as developed countries, so proper education about breast diseases is the need of the modern world by arranging seminars to convey message about breast pathologies as well as to as to bring awareness about screening tests for breast diseases. Also urge government to bring policy about screening tests for common cancers in our country and to include screening tests in Sehat card system.

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