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Research Article

### TO DEFINE THE RELATIONSHIP OF CLINICOPATHOLOGICAL PATTERN WITH BREAST CANCER IN TERTIARY CARE HOSPITALS; AN OBSERVATIONAL STUDY

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**Abstract:**

**Objective:** The purpose of our study was to define the relationship of clinicopathological pattern with breast cancer and about the stage, age, histological type, receptor status and tumor grade.

**Study design:** An observational study.

**Place and duration:** This study was conducted at Department of Surgery in Holy Family and Benazir Bhutto Hospital, Rawalpindi for the duration of six months starting from April, 2020 to September, 2020.

**Methodology:** After obtaining informed consent, we include 500 patients of breast cancer for diagnosis, which either treated or referred in Oncology department of surgical treatment for neoadjuvant or adjuvant therapy. We used questionnaire for interview of the patients. For triple diagnosis and related investigations staging was carried out and for receptor status ER, PR, and HER2 new receptors and for histological type, grade, margin clearance we obtained histopathological reports from patients. SPSS version 20 was used for analysis of collected data.

**Results:** In this study we include 500 patients of breast cancer who were aging from 23 years to 80 years. Breast cancer was found most common in up to 57% patients among the age group of 40-50 years. Advanced breast cancer stage III and IV was observed in 64% patients. The most common pathological type was invasive ductal carcinoma observed in 93% patients. Histopathology test results showed that most of breast cancer patients (55%) were having grade II tumors.

**Conclusion:** According to the findings of our study the most common pathological type was invasive ductal carcinoma observed in 93% patients. Histopathology test results showed that most of breast cancer patients (55%) were having grade II tumors. Advanced breast cancer stage III and IV was observed in 64% patients. Therefore, it is very necessary to educate our people about breast cancer and special steps should be taken for screening of it.

**Keywords:** Invasive Ductal Carcinoma, Delayed Presentation, Breast Cancer.

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**INTRODUCTION:**

Breast cancer is the most common malignancy of women worldwide [1]. In Pakistan also, it is the commonest malignancy among females i.e., 45% of female cancer patients have carcinomas breast [2]. Approximately one in every nine Pakistani women is likely to suffer from breast cancer [3]. Majority of breast cancer patients present with advanced disease in Pakistan, more than half being stage III or IV [4,5]. Breast cancer is considered a common problem presenting at young to middle age group with invasive ductal carcinoma being the commonest variety with a high grade [6]. Estrogen receptors (ER) and progesterone receptor (PR) status are biological markers commonly evaluated in breast cancer to predict patient response [7].

The frequency of expression of hormonal receptors in breast cancer patients from Pakistan is the same as reported in western literature. ER and PR negativity and HER 2 Neu positivity are associated with more advanced disease and poor outcome [8]. Since population-based cancer registries do not exist in developing countries including Pakistan, hospital and institution-based studies can provide data to compare data from other parts of country and international research. The purpose of our study is to evaluate the above features in our setting which will provide data to compare data from other parts of country and international research.

**METHODOLOGY:**

This was an observational study conducted at Holy Family and Benazir Bhutto Hospital, Rawalpindi for

the duration of six months starting from April, 2020 to September, 2020. All patients diagnosed to have breast cancer clinically and histopathologically in the above duration were included in the study. Those patients who refused to undergo assessment and treatment in the unit or who left against medical advice after a provisional diagnosis was made were excluded. All patients were counseled about their condition and informed consent was taken from all patients for their management and for inclusion in the study. Patients were interviewed using a questionnaire; staging was done after triple assessment and relevant investigations.

After obtaining informed consent, we include 500 patients of breast cancer for diagnosis, which either treated or referred in Oncology department of surgical treatment for neoadjuvant or adjuvant therapy. We used questionnaire for interview of the patients. For triple diagnosis and related investigations staging was carried out and for receptor status ER, PR, and HER2 new receptors and for histological type, grade, margin clearance we obtained histopathological reports from patients. SPSS version 20 was used for analysis of collected data.

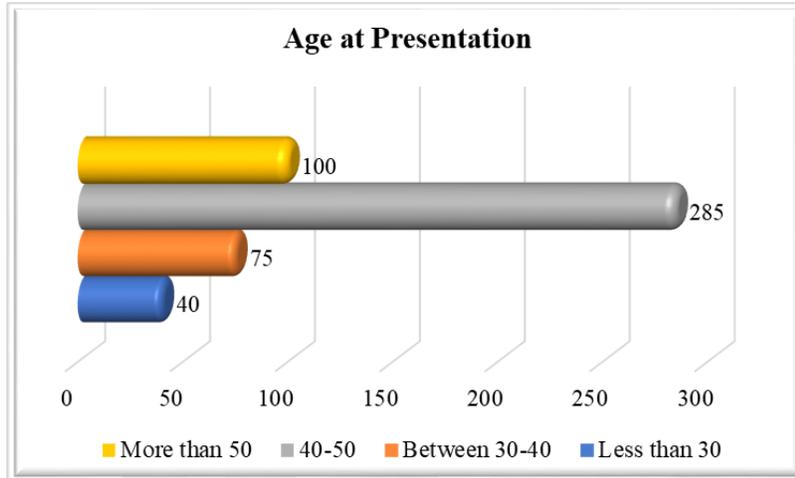
**RESULTS:**

In this study, 500 patients were included with age ranging from 23 years to 80 years. Out of total sample, 285 (57%) females were of the age group 40 to 50 years, 100 (20%) females were more than 50 years, 75 (15%) females were between 30 to 40 years of age and 40 (8%) females were below 30 years of age (Table1)

**Table No 01: Age at Presentation**

Age years	Qty	%age
Less than 30	40	08%
Between 30-40	75	15%
40-50	285	57%
More than 50	100	20%
Total	500	100%

On staging, according to UICC 80 (16%) were stage I, 100 (20 %) stage II, 250 (50 %) stage III and 70 (14 %) stage IV carcinoma breast. So, 64 % females presented with advanced breast cancer. (Table 2)

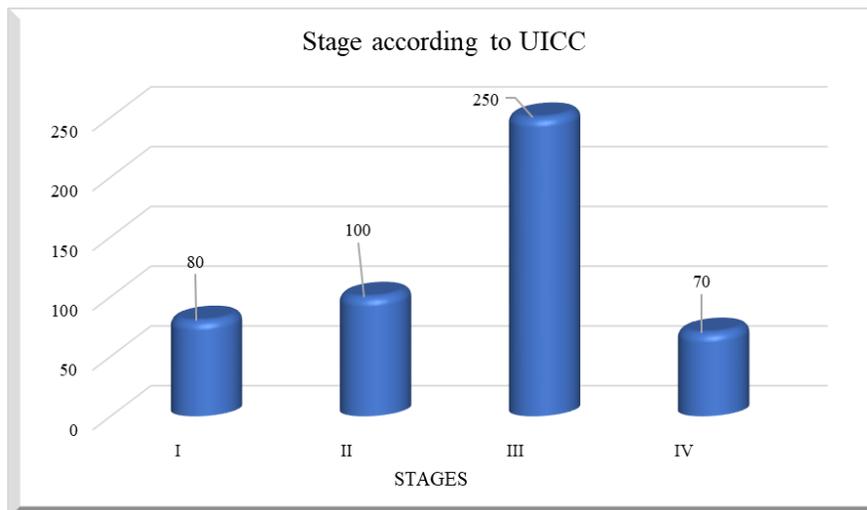


**Table No 02: Stage according to UICC**

Stages	Qty	%age
I	80	16%
II	100	20%
III	250	50%
IV	70	14%
Total	500	100%

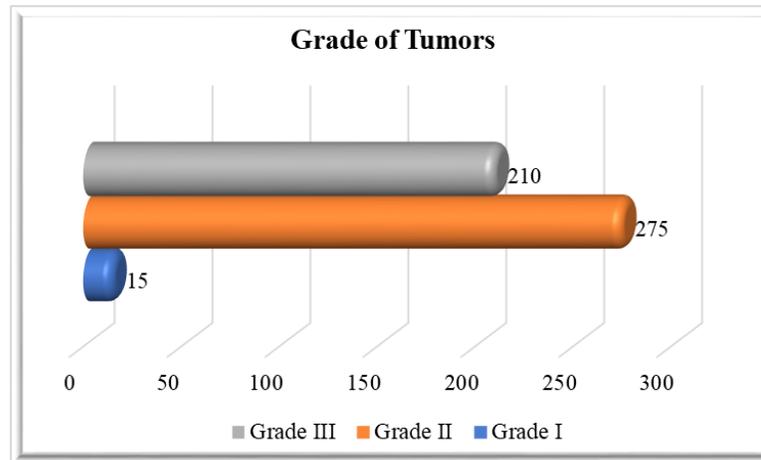
**Table No 03: Type According to Histopathology**

Type	No of patients	% age
Invasive Ductal Carcinoma	465	93%
Invasive Labular Carcinoma	20	04%
Mix Labular & Ductal Carcinoma	10	02%
Metastutic Adenocarcinoma	5	01%
<b>Total</b>	<b>500</b>	<b>100%</b>



On Histopathology, out of 500 patients, 465 (93%) were found to have invasive ductal carcinoma, 20 (4%) had invasive lobular carcinoma, 10 (2%) had mixed lobular and ductal carcinoma and 5 (1%) had metastatic adenocarcinoma (Table 3).

Out of total sample, 275 (55 %) females were grade II, 210 (42 %) females' grade III and only 15 (3%) were found to have grade I tumors. (Table 4)



**Table No 04: Grade of Tumors**

Grades	Qty	%age
I	15	3%
II	275	55%
III	210	42%
<b>Total</b>	<b>500</b>	<b>100%</b>

Estrogen progesterone and HER 2 NEU Receptors were also studied. 380 out of 500 patients had receptor studies done out of those 250 (65.8 %) were found to be estrogen and progesterone receptor positive and 130 (34.2%) had negative ER, PR studies. 130 had HER-2 Neu positive result and rest of 250 had negative HER-2 Neu studies. (Table 5).

**Table No 05: Receptor Status**

No of patients	Percentage	PR studies	ER studies	HER-2-Neu studies
130	34%	Negative	Negative	Positive
250	65%	Positive	Positive	Negative
75	15%	Positive	Positive	Positive
55	11%	Negative	Negative	Positive

75 (15%) patients were having ER, PR, HER-2Neu positive studies and 55 patients (11%) with HER-2Neu positive status and ER, PR were negative.

### DISCUSSION:

This study was conducted to see the pattern of presentation of breast cancer in Services Hospital Lahore regarding age, clinical stage, histological type, grade and receptor status. The presenting age of breast cancer patients ranges from 23 to 80 years with a mean of 51.5 years, the most prevalent age group being 40 to 50 years (57%). This is in accordance with study of Wani et al [3] where mean age at presentation was 46 ± 10.2 years, Naeem M et al [7] 40 to 49 years and Baloch A H et al [4] 41 to 50 years being most prevalent age group reviewed from various areas of Pakistan.

Invasive ductal carcinoma is the commonest histological type found in 93% of patients. This is in accordance with many other studies done in different areas of Pakistan [9,10,11]. Invasive ductal carcinoma found in 95.5 % of patients in Balochistan 92 % from a study in INMOL Lahore [10] 64% patients presented with advanced breast cancer (stage III, IV) which is exactly in accordance with study of Khokhar S-et al and Naeem M. et al [10,1]. A study in England revealed only 11.8 % of British females having tumor in stage 3 or 4 at presentation [12]. Another study from UK revealed 42 % patients presenting in stage 1 disease from the northern and York shire region [13]. This is quite better as compared to that found in our study.

### CONCLUSION:

According to the findings of our study the most common pathological type was invasive ductal carcinoma observed in 93% patients. Histopathology test results showed that most of breast cancer patients (55%) were having grade II tumors. Advanced breast cancer stage III and IV was observed in 64% patients. Therefore, it is very necessary to educate our people about breast cancer and special steps should be taken for screening of it.

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