

# HISTOPATHOLOGICAL PATTERNS OF BREAST DISEASES IN FEMALES PRESENTING TO A TERTIARY CARE HOSPITAL IN PESHAWAR

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## ABSTRACT

**Objective:** To determine the pattern of female breast pathologies in our setup.

**Material and Methods:** This study is done at the histopathology laboratory, Khyber Teaching Hospital, Peshawar, Pakistan including all the female cases only, with primary breast pathologies between January 2014 to October 2015. Initial data was recorded on a pathology lab proforma. Specimens received, processed, slides made and stained according to protocol and histopathological report generated.

**Results:** Out of a total of 142 cases, 32.4% cases were Fibroadenoma, 26.76% cases of advanced carcinoma breast and 21.8% cases were of mastitis. Ages of these cases ranged from 12 to 70 years.

**Conclusion:** Most of the breast pathologies are benign, fibroadenoma being the most common. Carcinoma of breast is the second most common problem presenting mostly in the middle age group, with a higher grade at presentation mostly owing to lack of awareness and proper screening programs, implementation of which has shown promising results regarding the decline in these cases.

**Key Words:** Carcinoma breast, breast lumps, fibroadenoma, invasive ductal carcinoma.

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## INTRODUCTION

Mostly, the breast diseases present in the form of nipple discharge, inflammatory lesions or a palpable mass<sup>1</sup>, which may be benign or malignant. Either way, meticulous examination and investigations ought to be done. There is a growing sense of awareness about the considerable mortality and morbidity, internationally, in relation to breast lumps and predominantly carcinoma breast. A decline has been noted in the incidence of cancer and cancer-related deaths due to Prevention, early recognition and improved management, by the

combined efforts of government, non-government bodies and health professionals<sup>2,3</sup>. In Pakistan, this goal can be achieved also but only if we have epidemiological data of our own. This study is conducted to know the pattern of presentation of breast diseases and compare it with other related studies.

## MATERIAL AND METHODS

A total of 142 cases of primary breast pathology were included in this study, which were sent to the histopathology lab of Khyber Teaching Hospital, Peshawar, Pakistan between January 2014 to October 2015, for diagnosis of various pathologies. The specimens were received in 10% formalin solution and labeled according to the protocol. All the female cases with primary breast pathology were included while male cases were excluded. Proper gross examination was done and documented followed by tissue processing, embedding, cutting, and slides-making. Routine H & E staining was done. The slides were seen by expert histopathologists and reports generated. History and examination findings

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## Histopathological patterns of breast diseases in females presenting to a tertiary.....

were recorded on a printed pathology lab form. Final histological diagnosis was recorded for analysis.

### RESULTS

The patients included in this study were between 11-70 years of age. Thirty-five percent of these were between 10-29 years and all had benign breast disease. All cancers were detected between 30-70 years. Most common presenting complaint was lump in breast/axilla, but some had other symptoms like pain and/ nipple discharge, most patients reporting from 1-6 months after the onset of problem. Bulk of the patients was in reproductive age i.e., 74.6%, and 23.9% being postmenopausal. On the basis of histopathology, most common breast disease was fibroadenoma (32.4%) followed by invasive carcinoma (26.76%) and then mastitis (21.8%). Invasive ductal carcinoma not otherwise specified (NOS) was found in 26 cases out of a total of 38 cases of carcinoma

i.e., 68.42% of the total carcinoma cases, making it the most common histological subtype of carcinoma. In this study, 13.4% patients were unmarried while 86.6% of the patients were married. Involvement of the Left breast was more frequent (41.5%) than the right breast (40.1%). Bilaterality was found in 4.22%, all with benign pathologies. In 14.08% of cases side of the breast was not specified. Age distribution of benign breast diseases is shown in the Table 1. Number of cases of different types of breast carcinoma with grades at Presentation is given in table 2. Age distribution of carcinoma cases in given in Table 3.

### DISCUSSION

Our study highlighted histopathological features, frequency and demographic data of patients attending Khyber Teaching Hospital with breast diseases. As it is a retrospective hospital laboratory based study, limitations of study are dependence on data collecting

**Table 1: Age distribution of benign proliferating and non-proliferating diseases**

Histopathological condition	10-19 years	20-29 years	30-39 years	40-49 years	50-59 years	60-69 years	70-79 years	Total cases
Fibroadenoma	15	18	12		01			46
Fibrocystic disease			04	02	01	01	02	10
Polyp		01						01
Phylloides tumor	01	01						02
Adenoma/papilloma			01					01
Cysts		01	01					02
Adenosis			01	01				02
Lipoma			01	01	01			03
Hyperplasia			01		01			02
Accessory breast tissue		01						01
Fat necrosis					01			01
Dystrophic calcification		01						01
Duct ectasia					01			01
Mastitis	03	08	08	05	05	01	01	31

**Table 2: Different types of breast carcinoma with grades at Presentation**

Carcinoma type	Subtype	Grade I	Grade II	Grade III	Grade not specified	Total cases
Lobular	Invasive		02		01	03
Invasive Ductal	NOS	01	18	02		21
	Mucinous				01	01
	Apocrine				01	01
	Papillary				01	01
Poorly differentiated carcinoma					04	04
Malignant melanoma of the breast					01	01
Malignant phylloides tumor					01	01

**Table 3: Age distribution of carcinoma cases**

Age groups in years	Number of cases
10-19	00
20-29	01
30-39	06
40-49	13
50-59	11
60-69	03
70-79	04

efficacy, and performance of other personnel of the hospital. However it provides basic data comparable with other studies. In contrast to the 30% in USA, only 1% of Pakistani female patients reporting for medical checkup do not have any noteworthy breast disease<sup>4</sup>. This may be due to data collection including the breast cancer screening programmes.

Benign breast lesions are the most common breast diseases evaluated in the study. This is in accordance with previous studies<sup>5</sup>. In our study, Frequency of fibroadenoma was highest, similar to the results of Rashid et al<sup>6</sup>. Fibroadenoma as most common benign breast disorder was reported in another study from Karachi, Pakistan<sup>7</sup>. However Fibro-adenoma was second common breast lesion after breast carcinoma accounting for (17%) of all cases<sup>8</sup> in a study conducted on 3279 cases at Agha Khan Hospital, Pakistan. In contrast studies in Pakistan<sup>9</sup>, Iraq<sup>5</sup>, USA and Italy<sup>10</sup> documented fibrocystic change as the most common benign breast disease.

In the present study Mastitis was the second most common benign breast lesion (31 patients 12.8%). Inflammatory lesions constituted 8.3%<sup>11</sup> and 8%<sup>12</sup> of the total benign breast diseases. Aslam et al presented a higher incidence of 11.9%<sup>13</sup>. High incidence of inflammatory diseases in our study may be due to poor hygiene, poor breast feeding techniques and low socioeconomic status. However this is still not true reflective of the clinical incidence of inflammatory disease. This is due to the fact that most breast abscesses are treated with incision and drainage without histopathologic diagnosis. Most of these patients are treated in the secondary care centers and are not often referred to tertiary hospitals like ours.

According to our findings, 38 patients (26.76%) were reported to have carcinoma breast which was the second commonest lesion. Results given by Chaudhry and colleagues as 24.2 %<sup>14</sup> and Aslam et al 11%<sup>13</sup>, in breast lumps of their patients to be as malignant are lower than our study. Still lower percentage is reported by Naeem Taj and colleagues<sup>15</sup>. High percentage of patients presenting with breast cancer may be due to the tertiary nature of our hospital but the number is still higher than other studies. This may be due to different

etiological factors needs to be determined.

According to our observations, women of the middle age group (30-59 years) are at a higher risk of developing breast cancer in the local setup, the same facts also being mentioned in other studies done in Pakistan<sup>4</sup>, whereas, the mean age of carcinoma breast in the UK and USA is more than our region, clearly showing differences in our social, religious and demographic variables<sup>16</sup>.

In the present study the most common histopathological type found was infiltrating ductal carcinoma. The same findings also been given by others locally<sup>17</sup> and internationally<sup>18</sup>. But invasive ductal carcinoma is not the only type of carcinoma identified by studies from Pakistan<sup>8,13</sup>. Histological Grade at presentation shows that the disease is still presenting at a late stage and thus posing complications to the treatment options. Several International studies have shown that breast cancer is detected more commonly in the earlier stages due to better screening programs<sup>19</sup>.

The mean age of presentation of patients with fibroadenoma in our study was 25 ± 10 years, breast abscess was 30 ± 10 years, fibrocystic disease 40 ± 10 years and breast cancer was 45 ± 15 years (13,20). None of the case was detected with atypical hyperplasia this can be explained partly by lack of awareness and late presentation of patients with breast lumps in our locale. Screening and awareness programs on behalf of health-regulating authorities in the developed nations add to earlier detection of disease and thus making therapeutic management much more likely to be thriving, thus improving survival rates on the whole.

## CONCLUSION

Frequency of fibroadenoma, breast cancer, and Inflammatory diseases are more common in Pakistan, High grade Carcinoma breast present at a young to middle age, with invasive ductal carcinoma being the commonest variant.

## RECOMMENDATIONS

There is a need of breast care clinics and screening programs to detect breast cancer at early stages and provide treatment to trim down the high mortality rates from breast cancer. Simultaneously, there is a profound need of taking the research on carcinoma breast to a higher level to recognize the risk factors in our setup that are putting our females at risk to breast cancer at an increasing rate and an early age.

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### **AUTHOR'S CONTRIBUTION**

Following authors have made substantial contributions to the manuscript as under:

**Khattak NS & Akbar S:** Contributed to concept design acquisition of data , final approval.  
**Akbar S & Tahir AA:** Drafting of Manuscript.  
**Khattak NS, Akbar S. & Tahir AA:** Bibliography & Proof reading  
**Khan SA:** Data collection.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.