

# HISTOPATHOLOGICAL PATTERN OF 230 BENIGN FEMALE BREAST LESIONS AT A TERTIARY CARE HOSPITAL OF PESHAWAR

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## ABSTRACT

**Objective:** To determine the frequency of various benign histopathological lesions in female breast biopsy specimens at tertiary care hospital of Peshawar.

**Design:** A descriptive study.

**Place and Duration of study:** January 2011 to December 2015 at the Pathology Department, Lady Reading Hospital (LRH), Peshawar.

**Patients and Methods:** This was a retrospective descriptive study carried out at Pathology Department, Lady Reading Hospital, Peshawar over a period of five years ranging from January 2011 to December 2015. Laboratory request forms and histopathology reports of all female patients who underwent breast biopsy were analyzed for clinical findings, histopathology results and demographic data like age, sex etc.

**Results:** During the study period a total of 295 breast biopsies were received in the laboratory. Due to incomplete data, 15 specimens were excluded from the study. Out of the remaining 280 specimens, 10 specimens pertained to males while 270 were related to females. Among 270 female breast specimens 230 had benign lesions while 40 specimens had malignancies. Most patients were younger than 30 years. Fibroadenoma was the most frequent diagnosis followed by fibrocystic changes.

**Conclusion:** Benign breast diseases are more common as compared to malignant. This fact may make histopathologist generous in giving benign reports by missing some malignant findings. It is therefore necessary that all specimens of breast tissue should be evaluated carefully to exclude any possibility of breast cancer.

**Key Words:** Breast, Biopsy, Demography, Female, Fibroadenoma, Fibrocystic breast disease.

## INTRODUCTION

Benign breast diseases (BBD) form a majority of breast lesions. Collectively they form a heterogeneous group of disorders that consists of inflammatory lesions, epithelial and stromal proliferations, developmental abnormalities and neoplasms<sup>1,2,3</sup>. These lesions being common causes of breast problems in females are more frequent than the malignant lesion<sup>4,5,6</sup>.

In the developed world benign breast diseases are 10 times more common than breast malignancies.<sup>5</sup> and have been reported in 90% of the patients visiting breast clinics for breast lesions.<sup>6</sup> Similar situation

exists in developing countries like Uganda, Trinidad and Nigeria. Here benign breast diseases constitute 70-79% of breast lesions with fibroadenoma, fibrocystic change and breast abscesses constituting majority of the lesions.<sup>1,7</sup>

Age wise incidence of benign breast diseases begins to rise in the second decade of life and peaks in the fourth and fifth decades.<sup>8</sup> Due to increased public awareness about cancer and recognition of the facts that benign disorders can later on progress to breast cancer, benign diseases of the breast have gained an increased importance specifically in Western world.<sup>1,9,10</sup> while in developing countries the situation is opposite due to social taboos, illiteracy and unawareness due to which patients present in advanced stage of their disease. This situation creates delay in diagnosis and narrows the circle of options for definitive treatment of breast lesions.<sup>1</sup>

As far as diagnosis is concerned, benign breast diseases are usually misdiagnosed and misunderstood due to their various presentations and anxiety regarding the possibility of malignancy.<sup>11</sup>

To address the problems of diagnosis and treatment, the breast diseases are diagnosed by a combined approach like ultrasound, mammography, magnetic

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resonance imaging, fine needle biopsies and incisional or excisional biopsies.<sup>7</sup> The triple assessment consisting of clinical evaluation, imaging and fine needle aspiration cytology (FNAC) of breast is another recommended diagnostic tool for evaluation of patients with palpable breast lumps. When this assessment is done adequately by experts of the concerned fields, its diagnostic accuracy approaches 100% and a definitive treatment can be started well in time before histology.<sup>12</sup> To achieve this goal, surgeons, oncologists and pathologists should work together to recognize benign lesions well in advance and to distinguish them from breast cancer, so that appropriate treatment modality for each case may be adopted.<sup>13</sup>

On this background the present study was undertaken to analyze pattern of benign breast diseases in a tertiary care hospital for the purpose of awareness and future planning regarding breast care.

## MATERIAL AND METHODS

This was a retrospective descriptive study conducted at histopathology section of the Pathology Department, Govt Lady Reading Hospital (LRH), Peshawar. Its duration spread over five years starting from 1<sup>st</sup> January 2011 to 31<sup>st</sup> December 2015. Laboratory request forms and histopathology reports of all those female patients who underwent breast biopsy (Tru cut, lumpectomy, incisional or excisional) were retrieved from the record and were analyzed for different histopathologic lesions in relation to age. The histopathology department had a standardized procedure regarding processing, block formation, sectioning, staining the slides, evaluation and final diagnosis of breast biopsy specimens. All specimens of breast biopsy were processed in the same way to authenticate the results. All histopathologically diagnosed cases of breast lesions referred to this department during year 2011 to 2015 were included in this study. These were mostly referred from Surgery Department of LRH, a tertiary centre of Peshawar. Patients who on work up were diagnosed to have breast carcinoma were excluded from the study. Similarly patients having inadequate or autolyzed biopsy specimens were also excluded from the study. History and demographic data of patients were obtained from the lab request forms present in the record of the laboratory. Histopathology results of the breast biopsy specimens were retrieved from computer of the concerned histopathology section. The acquired data was analyzed by Microsoft Excel software using the descriptive statistics.

### Ethical consideration

The present study is descriptive in nature and does not reveal any identity of the patients; therefore no ethical issue is associated with it. In spite of this ethical clearance to conduct this study was obtained from the head of Histopathology Department LRH Peshawar.

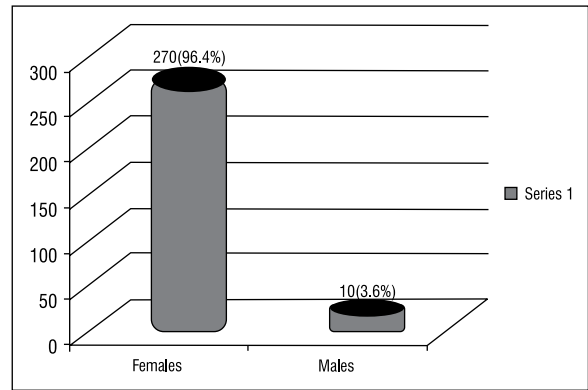


Figure-1 Frequency of male to female breast biopsies

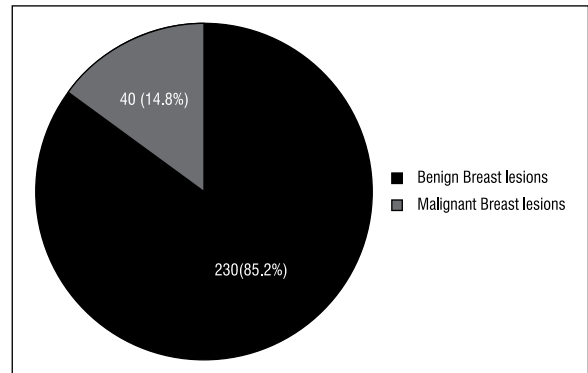


Figure-2. Frequency of benign vs malignant breast lesions (n=230)

## RESULTS

A total of 295 breast tissue biopsies were received in the histopathology department during the study period. Out of these specimens 15 specimens were excluded from the study due to incomplete data. Among the remaining 280 specimens, 10 specimens were of males and 270 were of females with a female to male ratio of 27:1 (Figure 1). Out of 270 female breast specimens 230 (85.2%) were diagnosed to have benign diseases while 40(14.8%) had malignant breast diseases with a benign to malignant ratio of 5.7: 1 (Figure 2). These 40 malignant lesions were also excluded from the study. Age wise patients ranged from 12-60 years with a mean of  $31 \pm 5$  years. Among the 230 benign breast lesions fibroadenoma was the most frequent diagnosis made in 152 (66.1%) specimens. The second commonest histopathologic entity was fibrocystic disease which was diagnosed in 36 (15.7%) specimens. Distribution of various benign breast lesions in different age groups is outlined in Table 1. The most common complaint was painless breast lump observed in 122 (53%) of patients. Other complaints were pain, nipple discharge, fever, nipple deformity and skin changes (Table 2).

## DISCUSSION

Benign lesions of the breast are the most common lesions throughout the world.<sup>14,15</sup> The same is true for

our study where more than three quarters of the lesions account for benign breast lesions. This figure is comparable with other studies conducted by Echejoh et al<sup>9</sup>, Okoth et al<sup>10</sup> and Kumar et al.<sup>16</sup> The benign to malignant ratio in this study was calculated to be 5.7:1 which is similar to a ratio reported by Chalya et al<sup>2</sup> in Tanzania and Kumar et al<sup>16</sup> in India. Age wise majority of patients (191 or 83%) in the present study were in the second and third decades of life. These findings are again similar to reports of other studies<sup>1, 10, 13</sup> where maximum number of patients with benign breast diseases were below 30 years of age. The reasons for the increase in the incidence of benign breast lesions in this age group is not clear but may be due to some pathological and physiological hormonal effects on the female breast as well as vulnerability of lactating women to infection due to their poor hygienic conditions.

In the current study, painless breast lump was the most frequent presentation (in 122 or 53% cases) which is in accordance with the finding of the study conducted by Memon et al<sup>17</sup> but different to another study conducted in India by Krishnaswamy et al<sup>18</sup> according to which pain was the prevalent finding found in more than half of patients while breast lump was present in about one-tenth of the patients. Breast lumps, in our study commonly involved the upper outer quadrant of the right breast which was in agreement with findings of several other studies conducted by Kumar et al<sup>16</sup>, Navneet et al<sup>19</sup>, and Abhijit et al<sup>20</sup>. We could not establish the reason for this anatomical site distribution of the lumps.

Fibroadenoma was the most common benign breast lesion in our study, which was in agreement with most of the available studies<sup>16,21</sup> on the title subject. The peak incidence of fibroadenoma was in 2<sup>nd</sup> and 3<sup>rd</sup> decades of life as evident from the present study, a finding well consistent with the findings of other studies.<sup>16,20,21</sup> The reasons for this high frequency of fibroadenomas are not clear. Hormones are considered to play a role in their development.<sup>22</sup> Fibrocystic diseases were the second most common condition in our study. In this group most of the patients were in 3<sup>rd</sup> and 4<sup>th</sup> decades of their age. These findings are in close approximation to the one reported by Khanzada et al<sup>23</sup> in their study conducted in Pakistan. Jeje et al<sup>22</sup> has also observed the same results in their study and has given explanation for its importance due to its high frequency and mimicking, the clinical and radiographic appearance of carcinoma by some of its sub types. Breast abscess was third frequent benign lesion found in our study and was seen more in age group of 21-30 years. Similar results were shown by Jeje et al<sup>22</sup> in their study. This increased incidence of breast abscess, mostly in developing countries may be related to poor hygienic conditions and breast feeding habits. It seems that cases of breast abscess are underestimated as most of the breast abscesses are incised and drained without sending the specimen to histopathological diagnosis.

Similarly most of the patients with breast abscesses not referred to tertiary care hospitals like ours but are treated at the secondary care health centers. Benign phyllodes tumours are rare fibroepithelial tumors that can recur sometimes after excision and have also a malignant variety. Our study showed five (2.17%) breast specimens of female patients in the age range of 21-40 years, to have benign phyllodes tumor. Both of these results are contrary to the results of studies conducted by Parker et al<sup>24</sup>, Nzegwu et al<sup>25</sup> and Irabo et al<sup>26</sup> where Parker et al concluded that about 1% of breast neoplasms are of this entity while Nzegwu et al and Irabo et al found this tumor in their patients having age less than 20 years. Another study by Ohene-Yeboah<sup>27</sup> reported this tumor to be occurring in patients in their 50s. This controversy regarding frequency and age may be due to geographical or environmental effects or may be due to less number of the study specimens as in ours.

## CONCLUSION

Fibroadenoma is the most common benign breast lesions followed by fibrocystic disease. Benign breast diseases in the study population occurred mainly in young women of age less than 30 years. Though premalignant lesions like atypical hyperplasia were not present in our study, it is advisable that all cases of breast lesions should be carefully evaluated to exclude possibility of breast cancer at an early and treatable stage.

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