

## ORIGINAL ARTICLE

## FREQUENCY OF BENIGN BREAST DISEASE IN WOMEN OF HAZARA DIVISION, PAKISTAN

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**Background:** Benign breast diseases are much common than malignancy however not all of them are reported. The most alarming symptoms that are investigated include breast lumps and bloody nipple discharge while other symptoms like mastalgia and skin induration are commonly ignored by the patients or treated medically. Hence the true incidence of breast diseases is much higher than recorded. In this study the frequency of various benign breast diseases occurring in Hazara division are studied. **Methods:** This was a retrospective study of breast biopsy specimens received over a period of five years from June 2012 to June 2017 at Histopathology Department at Ayub Teaching Hospital, Abbottabad. All cases diagnosed with ductal carcinoma-in-situ (DCIS), malignancies and lesions in the male breast were excluded from this study. The data was analyzed using SPSS-19. **Results:** Benign breast disease was diagnosed in 188 (59%) of the total 317 cases. The ages of patients ranged from 13–75 years with a mean age of  $29 \pm 13$  years. The most common lesion was fibroadenoma present in 97 (51%) followed by inflammatory lesions and then fibrocystic disease. **Conclusion:** Benign breast disease, although more frequent, remains under reported as patients do not seek medical help unless the symptoms are problematic. Fibroadenoma was the most frequent lesion occurring in the second decade.

**Keywords:** Benign breast disease, Breast lump, Fibroadenoma, Fibrocystic disease, Tumour, Women

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## INTRODUCTION

Breast diseases are very common and encompass a group of disorders consisting of congenital, inflammatory, proliferative or neoplastic lesions.<sup>1-3</sup> Although very common, cultural and social factors in our society result in delayed diagnosis especially in case of malignancy.<sup>4</sup>

Benign breast diseases are ten times more common than malignancy but still require management.<sup>5</sup> Some of the lesions may be treated medically while others require surgery for diagnosis and management. Clinically they can present as mastalgia, inflammation, abscess, inverted nipples, nipple discharge or palpable lumps.<sup>1-4</sup> In countries where screening mammography is done, small non-palpable lesions or foci with microcalcifications can also be identified.<sup>6</sup> Various modalities can be used to aid in the diagnosis however histopathology is the gold standard for diagnosis and planning further management.<sup>7</sup>

Whatever the pathology, breast lumps are a cause of great anxiety until they are diagnosed. Proliferative breast lesions especially those with atypia are more worrisome and require attention. If left undiagnosed and untreated they may predispose to cancer. On the other hand lesions like fibroadenoma although presenting as a lump are benign but clinically may cause great concern to the patient and doctor. Hence histopathology can alleviate these concerns. The objective of this study was to determine the frequency of

benign breast diseases occurring in women of Hazara Division and comparing it with national and international studies.

## MATERIAL AND METHODS

This descriptive study was conducted in the Histopathology Department of Ayub Medical College, Abbottabad. All females of any age who had undergone open biopsies for breast masses were included in the study after observing the inclusion and exclusion criteria. Cases diagnosed as DCIS or malignancies along with diseases affecting the male breast were excluded from the study. Patients referred from Surgical OPD and Private sector were explained the procedure. Laboratory numbers were allotted to each patient. Record was maintained for all samples received from patients undergoing breast biopsies, which included relevant history, physical examination and imaging studies.

After informed consent and recording the data, biopsies were sent to our department in 10% buffered formalin fixative. After gross examination adequate representative tissue was taken and processed in the automatic tissue processor. The slides were stained with hematoxylin and eosin, examined by histopathologist and results recorded.

Data was analyzed using SPSS-19. For numerical values like age, Mean $\pm$ SD were calculated, while percentages and frequencies were calculated for various pathologies identified in these cases.

## RESULTS

During this five year study period from June 2012 to June 2017, a total of 317 breast tissue specimens including core needle biopsies, incisional biopsies, lumpectomies and mastectomies were received. Benign breast disease was diagnosed in 188 (59%) of the total 317 cases. The ages of patients ranged from 13–75 years with a mean age of 29±13 years. Many different pathological lesions were present frequency of which are given in Table-1. The most frequent lesion was fibroadenoma constituting of 97 (51%) of the total cases.

Different morphological variations of fibroadenoma, including giant fibroadenoma, were identified in 23 out of 97 cases (23.7%) while complex fibroadenoma were identified in 4 cases (4.1%). In one case chronic mastitis was identified in the surrounding tissue along with fibroadenoma.

Inflammatory lesions consisting of breast abscess, chronic non-specific mastitis, granulomatous mastitis, fat necrosis and mammary duct ectasia constituted 54 (28.7%) of the total cases (Table-2). Fibrocystic disease was identified in 26 (13.8%) cases.

**Table-1: Frequency of various benign breast diseases (n=188)**

Disease	No. of cases	Percentage
Fibroadenoma	97	51.59
Abscess	30	15.95
Fibrocystic disease	26	13.82
Chronic non specific mastitis	18	9.57
Lactating adenoma	5	2.65
Granulomatous mastitis	4	2.12
Benign phylloides tumor	2	1.06
Intraductal papilloma	2	1.06
Duct ectasia	1	0.53
Galactocele	1	0.53
Fat necrosis	1	0.53
Gynaecomastia-like change	1	0.53
Total cases	188	100

**Table-2: Frequency of different inflammatory lesions in the breast (n=54)**

Inflammatory breast lesions	Number	Percentage
Abscess	30	55.5
Chronic non-specific mastitis	18	33.3
Granulomatous mastitis	4	7.4
Duct ectasia	1	1.8
Fat necrosis	1	1.8
Total cases	54	100

## DISCUSSION

Breast is a unique organ likely to be affected by a wide variety of pathologies ranging from mild non-neoplastic lesions to malignancies. Commonly women are affected but both benign and malignant lesions can also occur in the male breast. Hormonal<sup>7</sup> and genetic changes<sup>8</sup> have been implicated in the development of breast pathologies. Clinically they can present as pain, lumps, skin changes and nipple discharge.<sup>9</sup> Sometimes a patient can present with more than one symptom, e.g.,

retroareolar mass along with nipple discharge in case of papillomas of a mass with pain<sup>10</sup> and indurated skin in case of abscess<sup>11</sup>. However a palpable mass in the breast is one of the most common and alarming symptoms associated with malignancy. Although most masses are benign, early diagnosis and treatment are essential. Benign masses are usually managed by simple excision. Malignant tumours, however, are treated with radical surgeries and adjuvant chemotherapy.

In our community where women do not have easy access to medical care, and screening programs are not in place, diagnosis is often delayed. Medical attention is only sought when the lesion interferes with the daily routine of life. Hence patient awareness and education are the most important factor which can help in diagnosing breast pathologies and planning their management. On the other hand in countries where breast cancer screening programs are in place, women are educated to self-examination techniques to reduce subsequent morbidity and mortality.<sup>5</sup> The triple tests which include physical examination, mammography and fine needle aspiration cytology, or core needle biopsy are the gold standard used.

In our study women of different age groups with different lesions were selected. The youngest patient was 13 years old and diagnosed with fibroadenoma while the oldest patient was 75 years old diagnosed with breast abscess.

The most common lesion seen in adolescent girls was fibroadenoma.<sup>11</sup> This is comparable to a study in Lahore<sup>12</sup> where fibroadenoma was identified in 45% of the patients, and in 68% of patients in Cleveland USA<sup>13</sup>. Most of our patients presented with a painless mobile lump and some of them gave a history of pain associated with menstruation. Two cases occurred in young females who were asymptomatic however they had a family history of carcinoma breast. Fibroadenomas are usually well circumscribed tumours composed of epithelial and stromal components with variation in sizes. In our study the sizes of the lumps varied from 1 to 9 Cm in diameter. Lesions greater than 5 Cm were then classified as giant fibroadenomas<sup>14</sup> which constituted 22% of all the fibroadenomas. Largest fibroadenoma measured 13 Cm in diameter. Apart from size variation a wide spectrum of morphological changes may also be seen in fibroadenoma. Only complex fibroadenomas which are characterized by cysts, epithelial hyperplasia and calcification incur a slight risk of malignancy. Other morphological variations although do not incur a risk of malignancy but may result in diagnostic difficulties. In a study carried out by Nassar A *et al*<sup>15</sup> the percentage of complex fibroadenoma was 14.1%, while in our study the percentage is 4%.

In a 13 year old young girl, gynaecomastia-like change was identified. Also known as gynaecomastoid

hyperplasia, this lesion morphologically resembles gynaecomastia consisting of ductal hyperplasia with periductal stromal oedema. In a study by Kang Y *et al*<sup>16</sup> the incidence of this lesion was 0.15% while in our study the incidence was 0.54%.

Inflammatory lesions of the breast are not commonly biopsied as conservative management alone resolves the problem.<sup>17</sup> However certain lesions like fat necrosis require biopsy as they mimic carcinoma. On the other hand some conditions, e.g., breast abscess can only be treated with surgery. In our study a total of 54 (28.7%) cases of inflammatory lesions of the breast were noted which consisted of chronic mastitis, breast abscess, granulomatous mastitis, fat necrosis and mammary duct ectasia.

Granulomatous mastitis was diagnosed in 4 cases (2.1%) which was comparable to study carried out by Chaudhary *et al*<sup>18</sup>. In our study one of these cases turned out to be tuberculous mastitis on further investigation.

Lactating adenoma was noticed in 5 cases along with one case each of galactocele, fat necrosis, and two cases of papilloma. Comparable frequency of these lesions was also seen in national<sup>19-20</sup> and international<sup>21</sup> studies. However in a study carried out by Lakshmi A *et al*<sup>22</sup> fibrocystic disease were more common than fibroadenoma.

## CONCLUSION

The actual incidence of benign breast diseases is difficult to predict as some do not require treatment while others are treated medically. These diseases are important to diagnose as they can clinically mimic carcinoma especially lesions like fat necrosis and granulomatous mastitis. Biopsy along with histological examination is mandatory for such lesions. On the other hand, screening mammography can detect small malignant lesions even before a patient develops any symptoms. In this study the fibroadenoma was the most frequent lesion occurring in the second decade followed by breast abscess and fibrocystic disease.

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