

## Original Research

# Evaluation of histopathologic diagnosis of benign breast diseases in female patients presenting with breast complaints: An observational study

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### ABSTRACT

**Background:**To evaluate histopathologic diagnosis of benign breast diseases in female patients presenting with breast complaints.

**Materials & methods:**50 women who were treated for BBDs were included in this study. Inclusion criteria for the present study was female patients with a breast lump, breast pain or a nipple discharge. After making an appropriate clinical diagnosis biopsy was carried out for the confirmation of the diagnosis. All the results were recorded in Microsoft excel sheet and were subjected to statistical analysis using SPSS Software.

**Results:**A total of 50 patients were analyzed. Mean age of the patients was 48.3 years. On histopathologic analysis, fibroadenoma was the diagnosis in 78 percent of the patients. Antibiooma and epidermal cyst were the diagnosis in one patient each. Fat necrosis, duct ectasia and Tb breast abscess were the diagnosis in the 2 patients each. Granulomatous mastitis was seen in 6 percent of the patients.

**Conclusion:**Breast lesions are a cause of concern as a few of them carry the potential risk of turning malignant. Timely excision, evaluation and confirmation of histological findings help us to differentiate benign from malignant lesions.

**Key words:**Benign Breast Disease, Fibroadenoma

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### INTRODUCTION

The breasts are specialized organs that are located on the anterior chest wall. The female breast is more developed than the male breast, as their primary feature is to produce milk for the child. Benign Breast Diseases (BBDs) are the most common cause of breast problems in females and it is more frequent than the malignant ones.<sup>1, 2</sup> The etiology and risk factors of BBDs have not been extensively studied, despite an increasing incidence of BBDs detected by population-based mammographic screening. Hormonal factors are well known to affect a woman's breast cancer risk, but little is known regarding hormonal factors and BBDs. Factors such as early menarche, regular and short menstrual cycles, nulliparity, older age at first birth, use of oral contraceptives and hormone replacement therapy (HRT), and high postmenopausal body mass index (BMI) are associated with a higher breast cancer risk, whereas longer breastfeeding duration and lower BMI are associated with a reduced risk.<sup>3, 4</sup> A previous study

categorized BBDs according to their association with breast cancer risk. However, more detailed classification of the diseases is needed in accordance with recent pathological guidelines. Consequently, to our knowledge, there are no up-to-date studies of the incidences of distinct BBD subtypes, and risk factors have not been well established. Benign processes may be completely asymptomatic or have a variety of clinical manifestations, such as palpable nodularity, thickening, mass, pain, inflammation, or nipple discharge. Benign breast disease incidence is generally not well estimated.<sup>5-7</sup> Hence; the present study was conducted for evaluating histopathologic diagnosis of benign breast diseases in female patients presenting with breast complaints.

### MATERIALS & METHODS

The present study was conducted from March 2019 to July 2023 for evaluating histopathologic diagnosis of benign breast diseases in female patients presenting

with breast complaints. 50 women who were treated for BBDs were included in this study. Inclusion criteria for the present study was the female patients with a breast lump, breast pain or a nipple discharge. Women with an obvious malignant disease or those who had been treated for malignancy earlier, were excluded in this study. A detailed history and a thorough physical examination were the basis of the study. After making an appropriate clinical diagnosis, biopsy was carried out for the confirmation of the diagnosis. All the results were recorded in Microsoft excel sheet and were subjected to statistical analysis using SPSS Software.

## RESULTS

A total of 50 patients were analyzed. Mean age of the patients was 48.3 years. Lump was the chief clinical

presentation found to be present in 92 percent of the patients. Nipple discharge was seen in 20 percent of the patients while pain was present in 12 percent of the patients. Pain along with lump were seen together in 40 percent of the patients. Mean duration of the disease was 9.3 weeks. In 46 percent of the patients, duration of disease was less than 5 weeks while in 28 percent of the patients, duration of the disease was between 5 weeks to 10 weeks. Left side involvement was seen in 60 percent of the patients. On histopathologic analysis, fibroadenoma was the diagnosis in 78 percent of the patients. Antibiooma and epidermal cyst were the diagnosis in one patient each. Fat necrosis, duct ectasia and Tb breast abscess were the diagnosis in 2 patients each. Granulomatous mastitis was seen in 6 percent of the patients.

**Table 1: Chief complaints**

Chief complaint	Number of patients	Percentage (%)
Pain	6	12
Lump	46	92
Nipple discharge	10	20
Pain and lump	20	40

**Table 2: Distribution of patients according to duration of disease**

Duration of disease	Number of patients	Percentage
Less than 5 weeks	23	46
5 weeks to 10 weeks	14	28
11 to 20 weeks	12	24
More than 20 weeks	1	2
Total	50	100
Mean $\pm$ SD	9.3 $\pm$ 8.12	

**Table 3: Distribution of patients according to side involvement**

Side involved	Number of patients	Percentage
Right	14	28
Left	30	60
Bilateral	6	12
Total	50	100

**Table 4: Distribution of patients according to histopathology**

Histopathology	Number of patients	Percentage (%)
Antibiooma	1	2
Duct ectasia	2	4
Epidermal cyst	1	2
Fat necrosis	2	4
Fibroadenoma	39	78
Granulomatous mastitis	3	6
TB breast abscess	2	4
Total	50	100

## DISCUSSION

The anatomy of the breast must be well understood to understand the disorders that affect this organ and develop a plan for breast surgery. In women with breast

cancer, several types of surgical procedures are done including a lumpectomy and modified mastectomy. Unlike in the past, total or radical mastectomy is done less frequently. Several studies have shown that skin-

sparing or modified radical mastectomies are effective in the treatment of breast cancer. However, there is a small risk of breast cancer recurrence. Benign breast diseases (BBD), in recent times, have become a major women's health issue owing to its ever-rising global prevalence, deterioration in the general quality of life in affected women and the cancerous potential that some histological subtypes carry. Globally, BBDs account for approximately 90% of all clinical case presentations related to the breast. Fibroadenoma, fibrocystic change and breast abscesses account for a majority. All breast lumps are not malignant. In fact, the benign lesions outnumber malignant ones by a factor of ten. BBDs in females are very interesting to the pathologist as they take on myriad forms of histological presentation. These variations pose a great challenge to the microscopic study of the pattern of disease and the unambiguous identification of sub-varieties. A thorough review of pathological findings in BBDs can provide insight into the exact nature of the lesion and will also serve as a means for timely decision making for the patient and the clinician.<sup>8-12</sup> Hence; the present study was conducted for evaluating histopathologic diagnosis of benign breast diseases in female patients presenting with breast complaints. A total of 50 patients were analyzed. Mean age of the patients was 48.3 years. Lump was the chief clinical presentation found to be present in 92 percent of the patients. Nipple discharge was seen in 20 percent of the patients while pain was present in 12 percent of the patients. Pain along with lump were seen together in 40 percent of the patients. Mean duration of the disease was 9.3 weeks. In 46 percent of the patients, duration of disease was less than 5 weeks while in 28 percent of the patients, duration of the disease was between 5 weeks to 10 weeks. Left side involvement was seen in 60 percent of the patients. In a study conducted by Singh SB et al. clinicopathological evaluation of benign breast disease was carried out. In this study fibroadenoma (66.7%) was observed to be the most common lesion which occurred in patients in the age group of 21–30 years, followed by fibroadenosis (16.7%) which occurred mostly in the age group of 21–30 years. The lesion mostly occurred in the age group between 21 and 30 years (40%). The most common complaint in women was lump (73.33%), followed by lump and pain. Epidemiology of benign breast diseases still remains the same when analyzed with a past and recent study on benign breast diseases. Triple assessment remains the key in the evaluation of breast lumps.<sup>13</sup> In a previous study conducted by Johansson A et al, authors investigated the risk of BBDs by age, hormonal factors, and family history of breast cancer. A total of 61,617 women within age of 40 to 69 years (median age, 53 years) were included in the study. Current and long term oral contraceptive use was associated with reduced premenopausal risk of

fibroadenoma, whereas hormone replacement therapy was associated with increased postmenopausal risks of epithelial proliferation with atypia, fibrocystic changes, and cysts.<sup>14</sup> In the present study, on histopathologic analysis, fibroadenoma was the diagnosis in 78 percent of the patients. Antibiooma and epidermal cyst were the diagnosis in one patient each. Fat necrosis, duct ectasia and Tb breast abscess were the diagnosis in 2 patients each. Granulomatous mastitis was seen in 6 percent of the patients. In a similar study conducted by Chinniah E et al, authors evaluated patients with benign breast diseases. 50 patients admitted with benign breast disease were followed up for a period of 3-8 months with the mean of 8 months. They were checked for recurrence of symptoms and any signs of early breast cancer. Among all the cases, fibroadenoma (50%) was the most common benign breast disease found mainly in patients who were in second and third decade of life. The next commonest was fibrocystic disease (18%) found in less than 40 years of age. All of the patients presented with lump in the breast, 54% on right side, 30% on left side and 16% bilateral. Lump breast was the main presentation in all (100%) of the patients along with mastalgia in 74% of them.<sup>10</sup> In a similar study conducted by Gupta G et al, authors evaluated different patterns of benign breast diseases. Fibroadenoma (41.5%) and fibrocystic (14.6%) diseases were the most common BBD's. Most patients presented as painless lump which needed to be differentiated from carcinoma. BBD's most commonly affected upper and outer quadrant. Most of the patient (61%) presented within 6 months of development of breast lesion showing increasing awareness in females of rural India. BBDs are common in female patients. The triple assessment provides a quick diagnosis, and it alleviates unnecessary anxiety from the patients about breast cancer.<sup>15</sup>

## CONCLUSION

Breast lesions are a cause of concern as a few of them carry the potential risk of turning malignant. Timely excision, evaluation and confirmation of histological findings help us to differentiate benign from malignant lesions.

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