

# Clinico-Pathological Study and Management of Benign Breast Lesions

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## ABSTRACT

**Introduction:** Benign breast disorders and diseases encompasses a wide range of clinical and pathologic entities. Benign breast diseases include all non-malignant conditions of the breast and typically do not convey an increased risk of malignancy. The objective is to study the Correlation of the benign breast lesions with FNAC findings and management and outcome of treatment of benign breast lesions.

**Material and Methods:** it was prospective observational study was carried out at Rohilkhand Medical College and Hospital, Bareilly during September 2015 to October 2016. A total of 153 patients were studied who fulfilled all the inclusion and exclusion criteria. Due permission was taken from the Rohilkhand Medical College and Hospital ethical committee to carry out this study. The master chart was prepared using MS Excel 2007 and analysis was done using Epi Info 7.

**Results:** The patient's age ranged from 14 years to 70 years. Majority belonged to 15-30 years of age group (71.24%). Mean age of patients was 26.49±10.55 years. The most common benign breast tumor in our study is the fibroadenoma, followed by fibroadenosis, phylloides tumor, puerperal mastitis, duct ectasia and galactocele. Benign breast lesions mostly affected upper outer quadrant more than any other quadrant i.e. 45.1%.

**Conclusion:** Benign breast disease presents mainly 15 -30 year of age group. It can be diagnosed clinically and confirmed by FNAC in more than 90% of the cases. Excision is the mainstay of treatment.

**Keyword:** Benign Breast Disease, Fibroadenoma, Fibroadenosis.

## INTRODUCTION

Benign breast disorders and diseases include a wide range of clinical and pathological conditions. Benign breast diseases include all non-malignant conditions of the breast and typically do not convey an increased risk of malignancy. Breast is a dynamic organ which undergoes cyclical changes throughout a woman's reproductive life. Hormones and growth factors acting on the epithelial and stromal elements right from the onset of puberty till menopause cause significant morphological changes. It has been noted that noncancerous pathology of the breast has always been neglected, compared to breast cancer in spite of the fact that benign conditions account for 90% of the clinical presentations related to the breast.<sup>1-2</sup> The term "Benign breast diseases" includes a heterogeneous group of lesions and may present with wide range of symptoms.<sup>3</sup>

Most of the benign epithelial lesions are labeled by many pathologists with variety of terminologies such as

cystic disease, fibrocystic disease, cystic mastitis, cystic mastopathy, epithelial hyperplasia, mammary dysplasia, benign breast disease.<sup>4</sup>

Annually 200,000 breast disorders are identified and it is noted that most of the palpable lesions are benign. Up to 30% of the women who suffer from BBDs will require treatment at some time in their lives. <sup>5</sup>Although BBD is not life threatening but it requires in-depth understanding of its significance so that clear explanation can be given to affected patients, appropriate treatment can be planned and unnecessary long-term follow-up can be avoided.<sup>6</sup>

The aim was to study the clinicopathological spectrum and management of benign breast lesions and its presentation in women. Objectives were the correlation of the benign breast lesions with FNAC findings and to study the management and outcome of treatment of benign breast lesions.

## MATERIAL AND METHODS

The present study was carried out at Rohilkhand Medical College and Hospital, Bareilly from October 2015 to September 2016 for a period of one year. It included female patients attending surgery outpatient department (OPD) of Rohilkhand Medical College and Hospital with features of benign breast lesions. In this study, we included female patients with features of benign breast lesions (lump, pain or nipple discharge) were included in the study and women presenting clinically with features of malignancy and patients who had been treated for malignancy earlier or those who have undergone breast surgery for malignant diseases were excluded from this study.

A careful clinical examination of the patient was done and the clinical diagnosis was made. Patients undergo routine hematological and radiological examination. radiological diagnosis was made by mammography, ultrasonography whenever needed and fine needle aspiration cytology was done to confirm the diagnosis.

## RESULTS

In the present study, the maximum age incidence was 71.24% cases observed in the age group of 16-30 years followed by followed by 17.64% belongs to 31-45years age group, 6.53%

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to the age group of more than 45 years and 4.57% belongs to the age group of less than 15 years of age group and mean age  $\pm$  SD = 26.49 $\pm$  10.55 (table 1).

In our study most of the patients were diagnosed as fibroadenoma 71.89% followed by fibroadenosis 19.60%, phylloides tumor 3.26%, and puerperal mastitis 2.60%, galactocele and duct ectasia were found in 1.30% cases (table 2).

All cases were subjected to cytological examination (FNAC), out of 110 clinically diagnosed fibroadenomas, 91.81% came out as fibroadenoma, 8.1% as fibroadenosis with

positive predictive value 91.81% and which is statistically significant i.e. p value <0.001. Out of 30 clinically diagnosed fibroadenosis, 90% came out as fibroadenosis, 10% cases as fibroadenoma, with positive predictive value 90% and which is statistically significant i.e. p value <0.001. Out of 5 cases clinically diagnosed phylloides tumor, 80% came out as phylloides tumor and 20% as fibroadenoma on FNAC with positive predictive value 80% and which is statistically significant i.e. p value <0.001. Two cases of clinically diagnosed Galactocele and duct ectasia turned out to be same on FNAC (table 3).

Excision was most common treatment option used in 67.32% of cases followed by wide excision in 5.88% of cases and in 2.61% cases ultrasound guided aspiration were done followed by incision and drainage and microdochotomy in 1.30% of cases and 21.56% of cases were managed conservatively (table 4). The average hospital stay was 1-3 days.

Out of 153 patients, 131 came for follow up at regular interval. Recurrence of the lesions was not noticed in any of the patients who came for follow up for periods up to 6 months. Those who were managed conservatively, decrease in size of the lump was observed on follow up.

## DISCUSSION

During the past decade, there has been increasing interest in benign breast disease for a number of reasons. As patients demand investigation and treatment for symptoms of benign breast disease. Triple assessment, which includes clinical examination, imaging, and histopathological examination is now considered a gold standard approach to the diagnosis of the breast lump.<sup>7</sup>The benign lesions can arise from different kind of cells and can be inflammatory or proliferative. They include skin lesions, vascular lesions, lymph nodes, fat

Age in years	Frequency	Percentage (%)
< 15 year	7	4.57
16-30 year	109	71.24
31-45 year	27	17.64
>45 year	10	6.53
Total	153	100%
Mean age $\pm$ S.D = 26.49 $\pm$ 10.55, Median age-23year, Range – 14-70year		

**Table-1:** Age (years) wise distribution of patients with benign breast lesion

Diagnosis	Frequency	Percentage (%)
Fibroadenoma	110	71.89
Fibroadenosis	30	19.60
Phylloides tumor	5	3.26
Duct Ectasia	2	1.30
Puerperal Mastitis	4	2.60
Galactocele	2	1.30
Total	153	100%

**Table-2:** Shows different types of benign breast lesion included in study

Clinical Diagnosis	N=149	FNAC	Number	Percentage (%)
Diagnosis		Diagnosis		PPV
Fibroadenoma	110	Fibroadenoma	101	91.81%
		Fibroadenosis	9	
Fibroadenosis	30	Fibroadenosis	27	90%
		Fibroadenoma	3	
Phylloides	5	Phylloides	4	80%
		Fibroadenoma	1	
Galactocele	2	Galactocele	2	100%
Duct Ectasia	2	Duct Ectasia	2	100%

Fisher exact test, p value <0.001

**Table-3:** Shows Comparison between clinical diagnosis and fine needle aspiration cytology (FNAC).

Treatment	Frequency	Percentage (%)
Excision	103	67.32%
Wide Excision	9	5.88%
Incision and Drainage	2	1.30%
Microdochotomy	2	1.30%
UGA	4	2.61%
Conservative	33	21.56%
Total	153	100.00%

\*UGA- Ultrasound Guided Aspiration

**Table-4:** Shows Different management used in patients of benign breast lesion

necrosis, foreign bodies, infections, fibroadenomas, other benign tumors, cysts, galactoceles, adenosis, fibrosis, duct ectasias, papillomas, radial scar, and spectrum of epithelial hyperplasias with or without atypia.<sup>8</sup> FNAC has highest sensitivity and specificity in the diagnosis of BBD after histopathology. FNAC helps to confirm the clinical diagnosis without open biopsy. From this study, it can be concluded that diagnosis of breast lesion based on FNAC should be practiced as a routine procedure as there is the high degree of correlation with histopathology findings.

In the present study, the maximum age incidence was 71.24% cases observed in the age group of 16-30 years followed by 17.64% cases in the age group of 31-45 years. Our study consistent with the study done by Pandey et al.<sup>9</sup> and Pawan Tiwari et al.<sup>10</sup> (2013) Pandey et al. reported (45.87%) incidence in 21-30 years age and Pawan Tiwari et al. reported 72.44% in age group 10-30 year.

Fibroadenoma was the most common breast lesion in our study constituting 71.89% of benign breast lesions followed by Fibroadenosis 19.60%. Our study was consistent with the study done by Shilpa N et al.<sup>11</sup> and Mallikarjuna et al.<sup>12</sup> Shilpa N et al.<sup>11</sup> reported 55.68% fibroadenoma followed by fibroadenosis 20.45% cases and Mallikarjuna et al. reported 72% cases of fibroadenoma.

The most common presenting symptoms of benign breast tumors in this study were the presence of painless lump in 73.85% cases and 23.52% cases were present with painful lump and 2.61% cases present with symptoms of lump with nipple discharge. Mima Maychet B. Sangma et al.<sup>13</sup> and Sheela N. Kulkarni et al.<sup>14</sup> also reported the same. Mima Maychet B. Sangma et al. reported the commonest presentation was breast lumps which comprised 87 (87%) cases, out of which 27 (27%) had associated complaints like breast pain and nipple discharge. Sheela N. Kulkarni et al reported 76.66% cases presented with breast lumps.

In majority of cases in our study, breast lump was found more in upper outer quadrant i.e. 45.1% cases followed by upper inner quadrant 17.6% cases and 12.4% cases involved lower outer quadrant and more than one quadrant, 5.9% cases affects lower inner quadrant, 4.6% cases involve central quadrant and 2% cases involved the whole breast. Similar findings were also reported by Ramesh Sagar et al.<sup>15</sup> also reported the same 36% cases affects upper outer quadrant followed by 26% affects more than one quadrant, 14% lower outer, 8% upper inner, 6% affects lower inner and central quadrant.

Most cases presented with the duration of 3 - 6 months i.e. 60.13% and 19.60% cases presented within 2 months, 13.07% cases present with 7-12 month duration of symptoms and 7.18% patients presented late with duration

More than a year. Ramesh Sagar et al.<sup>15</sup> reported that in 52% of cases duration of symptoms was within 6 months.

Most of the breast lumps were less than 5 cm in size in their greatest dimension i.e. 73.85% and 26.1% cases had lump more than 5 cm in size. Our study was close to the study done by Sreedevi CH et al.<sup>16</sup> and Akshara Gupta et al.<sup>17</sup>

Sreedevi CH et al reported that 73.25% of benign breast

lesions have the size less than 5cm in size and 26.74% have size more than 5cm in size.

Akshara Gupta et al reported a majority of lumps i.e. 76.08% were sized 2 to 5 cms.

FNAC has highest sensitivity and specificity in the diagnosis of BBD after histopathology. FNAC helps to confirm the clinical diagnosis without open biopsy. FNAC was done in all cases in the department of pathology with the help of 23 gauge needle and FNAC correctly diagnosed 91.81% of cases of fibroadenoma, Out of 30 cases of fibroadenosis 27(90%) diagnosed as fibroadenosis and 3 cases come out as fibroadenoma. Out Of the 5 cases of phyllodes tumor FNAC correctly diagnosed 4 cases (80%) as benign phyllodes tumor. Our study was consistent with the study done by Mallikarjuna et al.<sup>12</sup> which reported an accuracy of 91.67% in case fibroadenoma in 2015 and V Shashikala et al.<sup>18</sup> found that FNAC forms the major investigatory modality with a sensitivity of 98% and specificity of 87% in diagnosing fibroadenoma.

Out of 153 patients, 131 came for follow up at regular interval. Recurrence of the lesions was not noticed in any of the patients who came for follow up for periods up to 6 months. Those who were managed conservatively, decrease in size of the lump was observed on follow up.

## CONCLUSION

We conclude from this study that the commonest benign breast lesion encountered in clinical practice is fibroadenoma followed by fibroadenosis.

Benign breast disease presents mainly 15 -30 year of age group. The most common age group affected was 21-30 years. The most common site of involvement is left breast. The commonest mode of presentation in patients with BBDs was Lump followed by lump with pain in the breast.

It can be diagnosed clinically and confirmed by FNAC in more than 90% of the cases. Excision is the mainstay of treatment.

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