

**Original Research Article****Prospective Histopathological Study of Neoplastic Lesions of Breast at a Tertiary Care Teaching Center****Anand Nagalikar<sup>1</sup>, Rashmi Chandragouda Meti<sup>2</sup>**

<sup>1</sup>Associate Professor, Department of Pathology, ESIC Medical College, Gulbarga, Karnataka 585106, India. <sup>2</sup>Associate Professor, Department of Microbiology, Kamineni Institute of Medical Sciences, Narketpalli, Nalgonda, Telangana 508254, India.

**Abstract**

**Background:** Breast lesion is the most common malignant tumor and the leading cause of carcinoma death in women, with more than 10 lakh cases occurring worldwide annually. Benign breast lesion is a neglected entity despite the fact that it constitutes the majority of breast problems. Breast cancer has taken precedence over benign breast disease since it is more fearsome although the number of females with benign breast disease is substantial.

**Corresponding Author:**

**Rashmi Chandragouda Meti,**  
Associate Professor,  
Department of Microbiology,  
Kamineni Institute of Medical  
Sciences, Narketpalli, Nalgonda,  
Telangana 508254, India.  
E-mail: [anagalikar@gmail.com](mailto:anagalikar@gmail.com)

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**Materials & Methods:** This study was hospital based prospective study including all the patients with breast lump who attended hospital. Comparison between cytology and histology was done according to availability of samples. Their attention was given to age, sex, laterality, non-neoplastic and neoplastic lesions. Specimen was fixed in 10% formalin saline for 24 hours, gross features will be examined, after processing tissue was embedded in paraffin wax to make block with the help of moulds. Serial Section, 3-5 micron thick were cut and these slides were kept in hot oven at 66 °C for one hour to fix the section on slides before staining with routine Hematoxylin and Eosin.

**Results:** A total of 100 cases were studied over a period of 1 year, of which benign lesion constituted 82.0% of cases where as malignant cases were 18.0%. In our study, 85 were female (85.0%) and 15 were male (15.0%). All the breast lesions in male were benign lesion (gynaecomastia). Out of 100 patients with breast lesions, 56 (56.0%) had left sided involvement, 40 (40.0%) had right sided involvement whereas 4 (4.0%) had bilateral involvement.

**Conclusion:** In our study, benign breast diseases are more common compared to malignant diseases of breast in the ratio of 4.55: 1. Breast self-examination and education to females are very important for early diagnosis and treatment of breast diseases.

**Keywords:** Benign; Malignant; Benign Breast Disease; Histopathological.

**Introduction**

Breast tissue is well developed only in feminine; in masculine it remains rudimentary in whole life [1]. Benign breast lesions are more common than the malignant lesions and are completely curable. However, these are obliterated by the magnitude of the problems of malignant breast tumors. More than 50% of all female will develop

some form of benign breast disease (BBD) after age 20. As non-neoplastic and neoplastic breast lesions resemble each other, accuracy of diagnostic is mandatory to prevent non-essential desecrate surgery. Malignant diseases will constrain loss of breasts, while benign conditions will dictate its preservation. The fact that loss of breast is so traumatizing to feminine psychae, that it makes diagnostic accuracy an utter necessity. Many pathologists divide the

breast lesions into two main categories as “benign” and “malignant”.

The presence of a mass in the breast is a great cause of anxiety, apprehension, and uncertainty to most patients. This may be accrued to the increasing public awareness of breast neoplasm which is presently the most common female malignancy worldwide [2]. Nevertheless the vast majority of breast lesions are benign [3]. Benign breast diseases (BBD), however, constitute a heterogeneous group of disorders including developmental abnormalities, epithelial and stromal proliferations, inflammatory lesions, and neoplasms [4].

While most reports indicate that breast mass are predominantly benign and mostly nonproliferative epithelial lesions, there has, however, been increasing recognition of the risk consequence of the multiple forms of premalignant lesions.

Breast carcinoma is the most common malignant tumor and the leading cause of carcinoma death in women, with more than 10 lakhs cases occurring worldwide annually [5]. In India, cancer of the breast is the most common cancer among women in many regions and has overtaken cervix cancer, which was the most frequent cancer a decade ago [6]. Benign or malignant lesions do not pose any problem in histopathological diagnosis. But difficulty arises in differentiating between premalignant lesions and carcinoma in situ and minimally invasive carcinoma [7].

Breast diseases are common in women because estrogen cyclically stimulates breast development during their reproductive life, while in men the breast remains largely poorly developed providing formidable anti-neoplastic resistance [8]. Nevertheless benign breast diseases are most common cause of breast problems [9]. Benign breast disease is a neglected entity despite the fact that it constitutes the majority of breast problems. Breast

cancer has taken precedence over benign breast disease since it is more fearsome although the number of females with benign breast disease is substantial [10].

### Materials & Methods

This study was hospital based prospective study including all the patients with breast mass who attended hospital. Comparison between cytology and histology was done according to availability of samples. Their attention was given to age, sex, laterality, non-neoplastic and neoplastic lesions.

Specimen was fixed in 10% formalin saline for 24 hours, gross features will be examined, after processing tissue was embedded in paraffin wax to make block with the help of moulds. Serial Section, 3-5 micron thick were cut on rotatory microtome and fixed on to slides coated with albumin fixative. These slides were kept in hot oven at 66 °C for one hour to fix the section on slides before staining with routine Hematoxylin and Eosin [11].

### Results

A total of 100 cases were studied over a period of 1 year, of which benign lesion constituted 82.0% of cases whereas malignant cases were 18.0%. Of the benign group, fibroadenoma was the commonest lesion encountered in 46.34% of cases, followed by fibrocystic change (25.60%), gynaecomastia (18.29%), abscess (3.65%) and lipoma (2.43%). Tubular adenoma, benign phyllodes tumor and apocrine adenosis encountered 1.21% each (Table 1). Of the malignant group, infiltrating ductal carcinoma (16.0%) was the commonest lesion followed by comedocarcinoma (1.0%) and intracystic papillary carcinoma (1.0%) (Table 2).

**Table 1:** Distribution of various benign lesions in breast

Diagnosis	No. of benign lesions	Percentage
Fibroadenoma	38	46.34%
Fibrocystic change	21	25.60%
Gynaecomastia (male)	15	18.29%
Abscess	3	3.65%
Lipoma	2	2.43%
Tubular adenoma	1	1.21%
Benign phyllodes tumor	1	1.21%
Apocrine adenosis	1	1.21%

**Table 2:** Distribution of various malignant lesions in breast

Diagnosis	No. of benign lesions	Percentage
Infiltrating ductal carcinoma	16	16.0%
Comedo carcinoma	1	1.0%
Intracystic papillary carcinoma	1	1.0%

In a total of 100 cases, most of the benign breast lesions were in the second decade which constituted 28 cases (28.0%), followed by 24 cases (24.0%) in fourth decade and 22 cases (22.0%) in the third decade. The malignant breast lesions are commonly encountered in the fourth decade which constituted 8 cases (8.0%), followed by 6 cases (6.0%) in fifth decade and 3 cases (3.0%) in the sixth

decade and 1 case (1.0%) in seventh decade (Table 3). In our study, 85 were female (85.0%) and 15 were male (15.0%). All the breast lesions in male were benign lesion (gynaecomastia) (Table 4). Out of 100 patients with breast lesions, 56 (56.0%) had left sided involvement, 40 (40.0%) had right sided involvement whereas 4 (4.0%) had bilateral involvement (Table 5).

**Table 3:** Age wise distribution of benign and malignant breast lesions

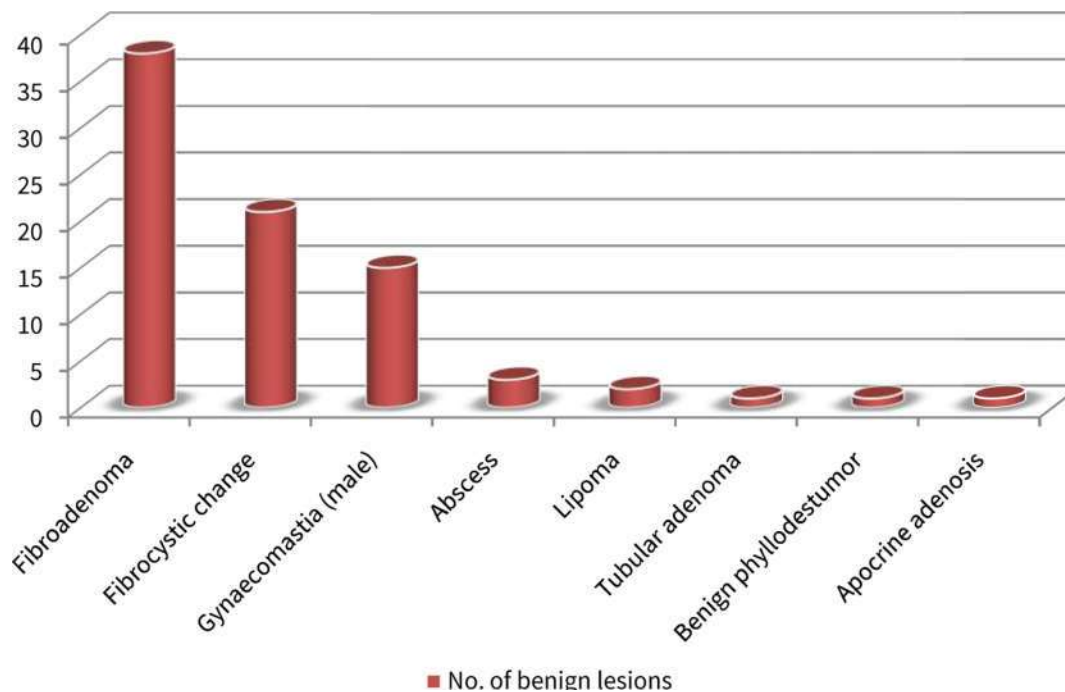
Age range (yrs)	No. of benign lesions	Percentage	No. of benign lesions	Percentage
11-20	28	28.0%	0	0.0%
21-30	22	22.0%	0	0.0%
31-40	24	24.0%	8	8.0%
41-50	5	5.0%	6	6.0%
51-60	0	0.0%	3	3.0%
61-70	3	3.0%	1	1.0%

**Table 4:** Sex wise distribution of breast lesions

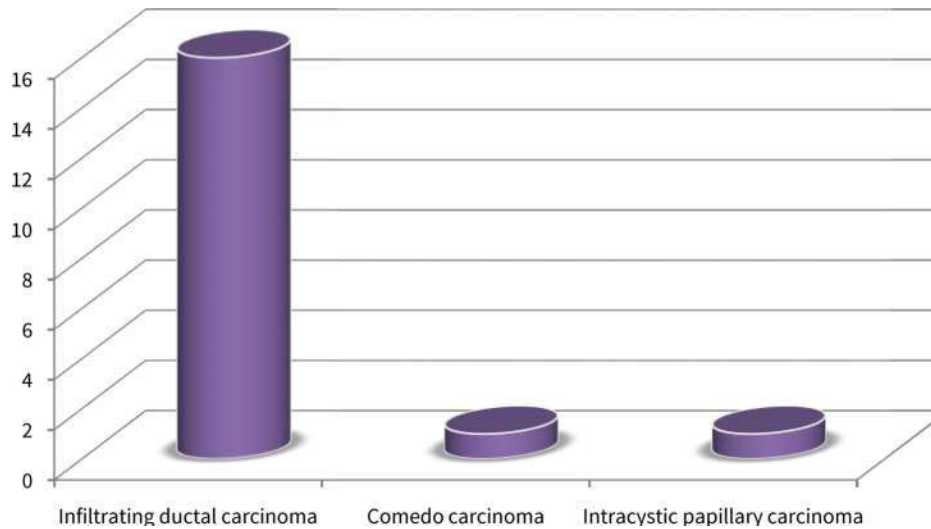
Sex	No. of cases	Percentage (%)
Male	15	15.0%
Female	85	85.0%

**Table 5:** Distribution depending on the side of involvement

Sex	No. of cases	Percentage (%)
Left	56	56.0%
Right	40	40.0%
Bilateral	4	4.0%



**Graph 1:** Distribution of various benign lesions in breast



**Graph 2:** Distribution of various malignant lesions in breast

## Discussion

Benign tumor of breast is more common as compared to malignant tumor in developing countries [12]. The diagnosis of breast tumor was based on incidence, age distribution, symptoms and clinical findings of lesions. These diagnosis of breast lesion varies in different geographical areas in developing countries and treatment of these conditions were late because of lack of education, social & demographic profile of patients and unawareness of conditions which is benign or which is malignant [13].

In our study showed the out of 100 cases, of which benign lesion constituted 82.0% of cases where as malignant cases were 18.0%. which is consisted with Abdul Rasheed et al. [12] (77.77% of benign tumors and 22.22% of malignant tumors). Another study done by M Kumar et al in 2010 [13], 79% had benign tumors and 21% had malignant tumors in breast.

In the present study, 56.0% of patients had affected left side, 40.0% had right sided breast involvement and 4.0% had both side. Similarly in Rajuet al. [14] who found 48% left side was involved, 47% of cases was right side and 5% had both side. Whereas conflict our results with M Kumar et al. [13] found that 47.6% had right side, 39.7% had left side and 12.63% had both side involvement.

Our study found that fibroadenoma was most common (46.34% of cases) benign lesion followed by fibrocystic change (25.60%), gynaecomastia (18.29%), abscess (3.65%) and lipoma (2.43%). Among the malignant group, infiltrating ductal carcinoma (16.0%) was the most common lesion followed by comedo carcinoma (1.0%) and intracystic papillary carcinoma (1.0%).

Similar results found with Abdul Rasheed et al.<sup>12</sup> M Kumar et al. [13], Khanna et al. [15], Iyer et al. [16] and Mayun et al. [17], fibroadenoma was the most common benign lesion which constitute 55.55%, 42.1%, 38.4%, 35.0% and 39.8% respectively.

Our study showed that the most of benign lesion was found in second decade (28.0%), followed fourth decade (24.0%) and third decade (22.0%) and malignant breast lesions are commonly encountered in the fourth decade (8.0%), followed by 6.0% in fifth decade and 3.0% in the sixth decade. In conflict our result with Ali K Ageep [18] who found that benign lesions was more common in 3<sup>rd</sup> decade followed by 2<sup>nd</sup> decade and 4<sup>th</sup> decade and malignant lesions are common in 5<sup>th</sup> decade followed by 6<sup>th</sup> decade, 7<sup>th</sup> decade and 4<sup>th</sup> decade. The variation of prevalence of disease because of different geographical region in different age groups.

## Conclusion

We concluded that ratio of benign and malignant lesions was 4.55: 1 and the occurrence of diseases are common in younger age group presently when compared to that of earlier period. Breast self-examination and literacy to females are very important for early diagnosis and management of breast diseases.

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