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## Original research article

# A clinicopathological study of non-neoplastic and neoplastic lesions of breast in rural hospital

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### Abstract

**Background:** Ductal malignancy is the most common type of breast cancer in women. Present-day non-operative diagnosis of breast lesions comprises “triple assessment” by physical examination, imaging, and pathology. Histopathology is gold standard for the diagnosis of breast lesion.

**Aim:** The present study is done to study the histomorphology of non-neoplastic and neoplastic breast lesions, their clinical aspect and age distribution.

**Materials and Methods:** This was a retrospective observational study conducted in the pathology department at tertiary health care institute from August 2016 to September 2019. The specimen was grossed, processed, sectioned, stained with haematoxylin and eosin.

**Results:** A total 150 cases were studied in two years. Out of 150 cases, 147 were females and three were males. Fibrocystic disease was the common nonproliferative lesion while fibroadenoma was the most common proliferative breast lesion. Most common malignant lesion was invasive duct carcinoma.

**Conclusion:** Benign breast diseases are more common among young women. Fibroadenoma is most common followed by fibrocystic disease. Ductal malignancy is commonly seen in elderly women.

**Keywords:** Fibroadenoma, invasive duct carcinoma, histopathology

### Introduction

Ductal malignancy is the most common type of breast cancer in women. In rural parts of India because of lack of awareness, breast cancer is the major cause of mortality among Women. The major cause of short survival in breast cancer is formation of metastases [1]. Breast is subjected to many changes under the influence of Estrogen and progesterone. Marked periodic changes occur during adulthood, pregnancy and in adults [2]. Benign breast diseases are common and are curable. Present-day non-operative diagnosis of palpable breast lesions comprises “triple assessment” by physical examination, imaging (mammography and/or ultrasound), and pathology (fine needle aspiration or core needle biopsy or imprint cytology). In any patient who presents with a breast lump or other symptoms suspicious of carcinoma, the diagnosis should be made by a combination of triple assessment. But, FNAC has its own limitations in terms of sensitivity and specificity. FNAC diagnosis depends only on the aspirated material. Many times, FNAC diagnosis is suspicious of malignancy. In a clinical scenario, the consultant surgeon will be in a dilemma to counsel and propose the appropriate surgical modality of treatment. Another major concern about breast FNAC has been the fear that mastectomy may be performed on a false positive cytological diagnosis with clinical and medico legal implications. The processing of a tissue specimen in the histopathological laboratory needs a certain amount of time, making a same-day diagnosis practically impossible [3]. Histopathology is gold standard for the diagnoses of breast lesion. The present study is done to study the histomorphology of benign and malignant lesions and non-neoplastic lesion of breast, their clinical aspect and age distribution.

### Materials and Methods

This was a retrospective observational study conducted in the pathology department at a newly established tertiary health care academic institute in tribal region from August 2016 to September 2019. The study was approved by ethical committee of the institute.

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All patients presenting with breast lump were included in our study. Relevant history, examination findings, age, clinical diagnosis and sonography were recorded. Gross examination of specimen was recorded and standard grossing techniques were followed. Appropriate areas were selected, grossed, and processed. The tissues were sectioned, stained with haematoxylin and eosin and were observed under microscope. The specimen was received for histopathological examination as biopsy, lumpectomy or Modified radical mastectomy specimen (MRM). Statistical analysis- The results were analysed using descriptive statistics.

**Results**

A total 150 cases were studied in two years. The age of patient affected from breast lesion was in wide range between 12 to 70 years. Peak age of benign lesions is 11 to 30 years and malignant lesions is 41 to 70 years. Out of 150 cases, 147 were females and three were males. We found that the involvement of right breast (52%) is more than left breast (45.3%). While bilateral involvement of breast was

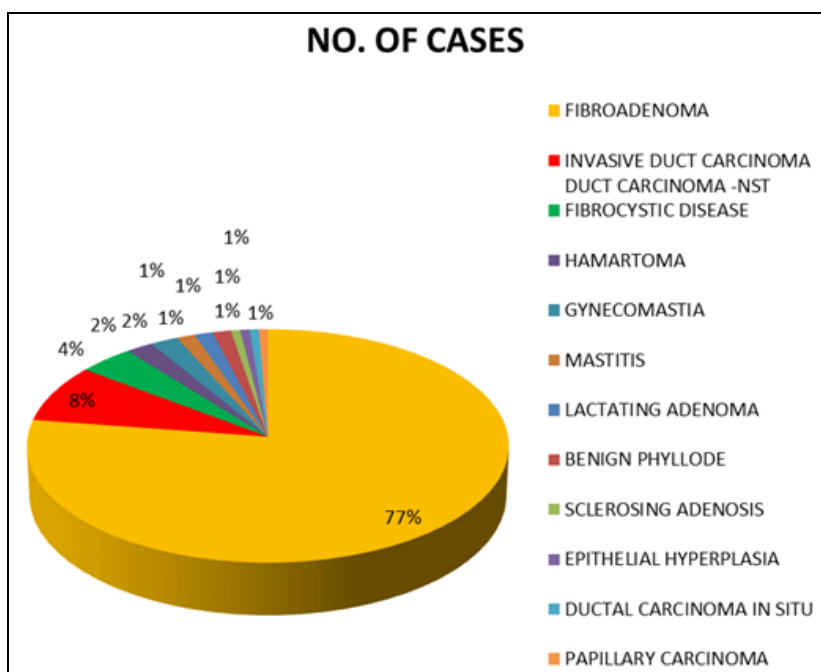
seen in four cases (2.6%). Fibrocystic disease was the common nonproliferative lesion while fibroadenoma was the most common proliferative breast lesion. Most common malignant lesion was invasive duct carcinoma (13 cases). Only lesion affecting the male patient was gynecomastia. Overall fibroadenoma (116 cases) was commonest neoplastic lesion. In our study, most of the patient presented with unilateral breast lump followed by pain in breast. All cases of malignant lesion was presented with hard lump with retracted nipple.

**Table 1:** Agewise distribution of breast lesions

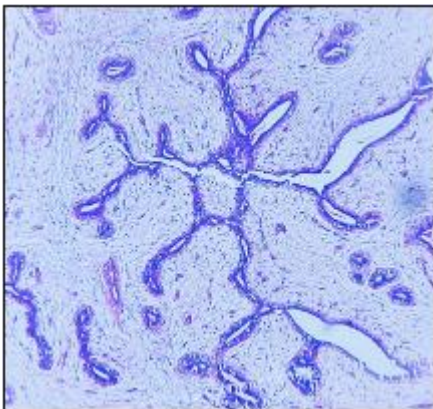
Age wise distribution of cases in years	No. of cases
11-20	67
21-30	45
31-40	19
41-50	11
51-60	5
61-70	3
TOTAL	150

**Table 2:** Histological diagnosis of breast lesion

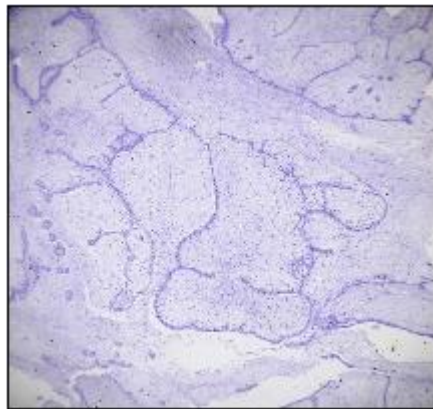
Category	Diagnosis	No. of cases	Percentage
Nonneoplastic	Mastitis	2	1.3%
	Hamartoma	3	2%
<b>Benign lesion</b>			
	Sclerosing adenosis	1	0.6%
	Fibrocystic disease	6	4%
	Fibroadenoma	116	77.33%
	Lactating adenoma	2	1.3%
	Benign phyllodes	2	1.3%
	Epithelial hyperplasia	1	0.6%
	Gynecomastia	3	2%
<b>Malignant lesion</b>			
	Ductal carcinoma in situ	1	0.6%
	Invasive duct carcinoma- No specific type	12	8%
	Papillary carcinoma	1	0.6%
	Total	150	100%



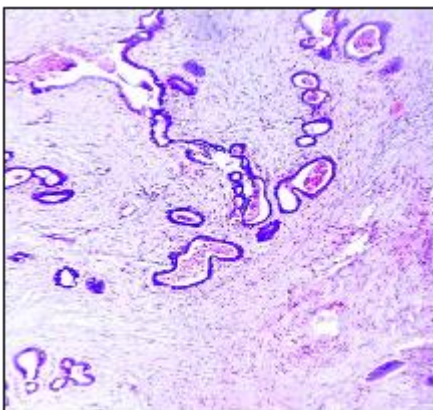
**Fig 1:** Pie diagram showing distribution of cases



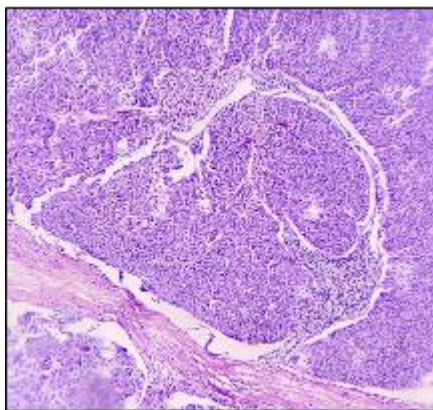
**Fig 1:** Fibroadenoma



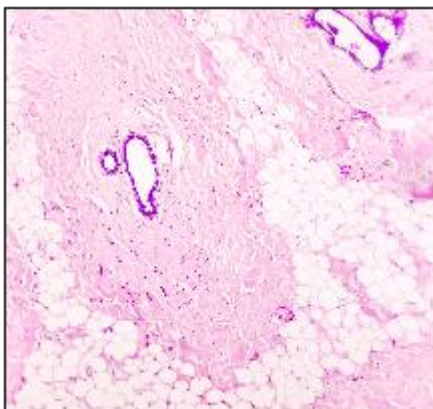
**Fig 5:** Phyllodes



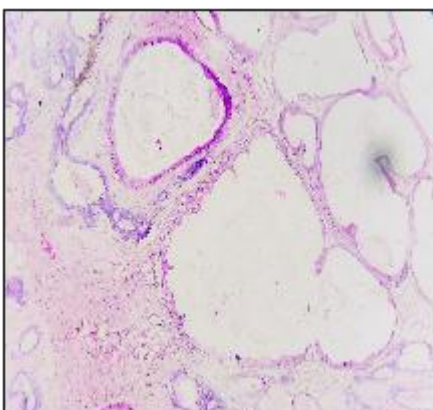
**Fig 2:** Acute Mastitis



**Fig 6:** Invasive duct carcinoma – No specific type



**Fig 3:** Hamartoma



**Fig 4:** Fibrocystic disease

**Discussion**

Breast cancer is the most common cancer worldwide. In India, age adjusted incidence rate is 25.8 per 100,000 women and mortality is 12.7 per 100,000 women [4]. Patient presents with the symptoms of palpable mass, pain in breast and nipple discharge, most common being palpable mass. Breast cancer is rare in women younger than 25years, but the incidence increases after the age of 30 years [2]. In our study the proportion of male affected is two percent (three cases). Proportion of male cases in various studies ranged from 2.7% to 3.7% [5, 6, 7]. The proportion of female affected is 98% in this study while in various studies, it is ranged from 96.3% to 97.3% [5, 6, 7]. Thus, diseases of breast are more common in females than males. In this study, unilateral cases (97.33%) were more common than bilateral (2.66%) cases. The right breast (52%) was affected more than the left breast (45.33%). Other studies also reported the unilateral breast lesions are more common than bilateral [8, 9, 10]. Upasham [11] reported 2.3% (two cases) cases of bilateral breast cancer. Pudale *et al.* [8] and Koorapati R *et al.* [9] reported that the involvement of right breast is 52.22% and 52% respectively which is well correlated with our study. We have seen that the benign breast diseases were more common in age group of 10 to 20 years and 21 to 30 years. Among the benign lesions, incidence of fibroadenoma was 77.33% which is comparable to Aslam *et al.* (71.3%) [12], Jadhav Dnyaneshwar S *et al.* (73.7%) [13] and Nandam *et al.* (75%) [14]. Next to fibroadenoma most common benign breast lesion was fibrocystic disease accounting for 4%. Most of the cases of fibrocystic disease were seen in age group of 31 to 40 years. Khan *et al.* [15] reported fibrocystic

disease to be the second commonest histopathologic entity. Amin *et al.* [16] and Geetanjali *et al.* [17] reported 13.7% and 6.06% of fibrocystic disease respectively. Lactating adenoma is well circumscribed mass seen during or after pregnancy. We reported 1.3% cases of lactating adenoma. Patil *et al.* [18] found 2.5% cases of lactating adenoma in the age group of 21-30 years. In our study all cases were seen in same age group. Phyllodes are the stromal tumors arising from intralobular stroma. We reported only two cases of Phyllodes i.e 1.3% in age group of 31 to 40 years. All were in benign category. Divyasree N *et al.* [19] recorded one case out of 185 cases and Nandam MR *et al.* [14] recorded two cases out of 132 cases contributing 0.54% and 1.51% respectively. Gynecomastia is enlargement of male breast. In our study incidence of gynecomastia was 2%. It is close to the study of Sulhyan KR *et al.* [20] i.e 2.5%. The incidence of sclerosing Adenosis in various studies is 0.4% to 0.8%. [12] [21, 22, 23] In our study it is 0.6% and is well correlated. One case (0.6%) of epithelial hyperplasia was noted in age group of 51 to 60 years in this study. Aslam HM *et al.* [12] recorded one case (0.4%) of epithelial hyperplasia. The present study noted the frequency of occurrence of hamartoma to be two percent of all lesions. While Mir MA *et al.* [23] reported 0.5% and Forae *et al.* [24] reported 0.3% of Hamartoma. Mastitis was reported in 1.3% of cases in present study and all cases were seen in age group of 31 to 40 years. Among malignant lesions, all cases were seen in female patient. This is supported by studies conducted at other institution. [25] Eight cases were seen in upper outer quadrant (UOQ), three cases in upper lower quadrant and two cases in retroareolar region. Singh SK *et al.* [26] and Darbre PD [27] also reported common site of breast lump is UOQ. In this study, invasive duct carcinoma- no specific type was the most common cancer comprising of 12 cases (8%). It is the most common type in various studies also. [28, 29] We observed one case of papillary carcinoma in 45year female which is comparable to study of Nikumbh *et al.* [30] and Neeli Divyasree *et al.* [31].

### Conclusion

Benign breast diseases are more common among young women. Fibroadenoma is the most common benign lesion followed by fibrocystic disease in this study. Among the malignant lesions, invasive duct carcinoma was most common and is seen in elderly women. Risk of malignancy increases with increasing age. Early diagnosis of malignancy is possible when clinical data, ultrasonography, mammography, cytology and histopathological findings are correlated. The pattern of breast lesions provides information for management of patient.

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