



INCIDENCE, CYTOLOGICAL AND HISTOPATHOLOGICAL STUDY OF BREAST LESIONS IN A PERIPHERAL TERTIARY CARE CENTER

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ABSTRACT

Background: Breast lesions are one of the most commonly encountered lesions in women.

Diagnosis by fine needle aspiration cytology (FNAC) and histopathological correlation of same cases was done in a tertiary care hospital.

Methods: We conducted a retro and prospective study from June 2018 to June 2019. A total 108 cases included presenting with palpable breast lump in which 90 cases were also subjected to surgical biopsy or mastectomy.

Results: Following observations and inferences were arrived. Cytologically, most common diagnosis was fibroadenoma 66.6% (60 cases) (Fig 2), followed by Fibrocystic breast disease 16.6% (15cases) carcinoma 7.7% (7 cases) (Fig 5) phylloides 3.3%(3 cases),mastitis 2.2%(2 cases),gynaecomastia2.2%(2 cases) and galactoceles 1.1%(1 case).In the present study 90 cases were studied histologically and correlated with fnac studies.

Conclusions: we concluded that breast lesions are easily accessible to FNAC, which is an easy, cost effective and less time-consuming procedure. FNAC is used to diagnose both benign and malignant lesions.

KEYWORDS : Breast, Cyto-histological correlation, FNAC Breast benign and malignant.

INTRODUCTION:

Breast lump is one of the commonest presentation of breast lesions. The diagnosis of breast disease can be achieved by doing fine needle aspiration cytology (FNAC). FNAC is widely used and accepted as a reliable method of making initial diagnosis in breast diseases. The aim of the study is to evaluate the accuracy of FNAC compared to histopathological examination of biopsy and the prevalence of breast diseases in the rural population.

MATERIALS&METHODS:

A study consisting of fine needle aspiration cytology (FNAC) of breast lesions and their histopathological correlation was conducted at tertiary health center in rural area, over a period of one year. The diagnostic accuracy of this series was assessed and compared with data obtained from the Indian and international literature.

The study was conducted at Department of Pathology, govt medical college,Pudukkottai, a tertiary health care centre in rural area of Tamilnadu,India. The study was carried during June 2018-June 2019. FNAC was performed on 108 cases that came with history of breast lump. Out of these we received only 90 specimens for surgical histopathology examination.. Before doing FNAC the procedure was explained to the patient and the consent was obtained. Detailed history was taken followed by clinical examination. The lump is fixed with one hand, skin over the lump is cleaned with surgical spirit, with a quick single motion 24 G needle with 5 ml disposable syringe fnac done.Aspirated material was taken on labeled glass slides. These smears were stained with haematoxylin eosin and Papanicolaou stains. 90 cases were subjected to surgical biopsy or mastectomy.

All biopsy specimens were processed by fixation, dehydration, and clearing followed by impregnation with wax.The wax blocks were cut in 5-6 μ sections & stained by hematoxylin and eosin stain. The diagnoses in all the cases were made on histopathological examination of processed tissue. All cases were reviewed by the authors and diagnosis was confirmed. The relative frequency of tumors and the distribution of age, sex and location were analyzed

RESULTS:

In this study, 108 subjects with breast lesions with lump were studied by fnac, out of which 90 cases had histological biopsies also. Following observations and inferences were arrived.

Cytologically, most common diagnosis was fibroadenoma66.6% (60 cases) (Fig 3&4), followed by Fibrocystic breast disease 16.6% (15cases) carcinoma 7.7% (7 cases) (Fig5&6)phylloides3.3%(3 cases)(fig1&2),mastitis2.2%(2 cases),gynaecomastia2.2%(2 cases) and galactoceles 1.1%(1 case).In the present study 90 cases were studied histologically and correlated with fnac studies.

Out of which most common diagnosis was fibroadenoma73.3% (66 cases), followed by Fibrocystic breast disease 8.8% (8cases) carcinoma 8.8% (8cases) phylloides2.2%(2 cases),mastitis2.2%(2 cases),gynaecomastia2.2%(2 cases) and galactoceles 1.1%(1 case) and tubular adenoma1.1%(1 case).

80 cases out of 90 FNAC had a corresponding histological diagnosis. Out of 80 biopsies done, the discrepancies at cytology were as follows: six cases reported as fibrocystic breast disease in cytology were reported as fibroadenoma in histology One case reported as malignant phylloides in histology was reported as benign phylloides in cytology One case reported as tubular adenoma in histopathology was reported as fibrocystic disease in cytology Two cases of mastitis in fnac were reported as mastitis in histopathology

DISCUSSION:

Out of 90 cases biopsied, 8 cases show malignancy in histopathology. In cytology 7 cases show dyskaryotic changes proved to be malignant in histology also. All benign cases reported in cytology were proved as benign in histology except one. Therefore, the FNAC proved to be 93.8 % sensitive and 90% specific in the diagnosis of malignant lesions. In our study, out of 90 cases, 8 (8.8%) cases were showing malignancy and 82 cases (91.2%) were showing benign and non-neoplastic nature of lesions. Pattari SK et al. studied 71 histologically confirmed cases and documented infiltrating ductal carcinoma as the most common lesion.³ in our study also infiltrating ductal carcinoma is the most common malignant lesion. Unlike our study, Jayaram G al. in their study of FNAC found fibrocysticdisease (39.8%) as the most common lesion.⁴ in our study fibroadenoma is the most common lesion.

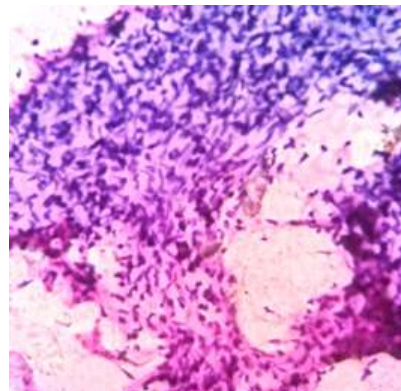


Figure 1.phylloides cytology.H & E 40X

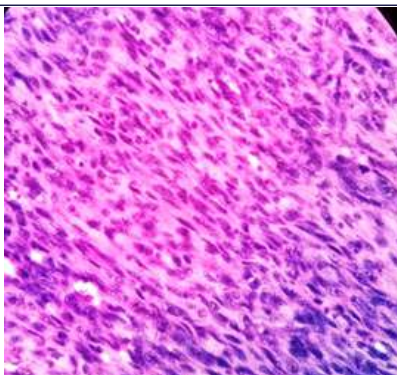


fig 2.phyllodes histopath H&E 40X

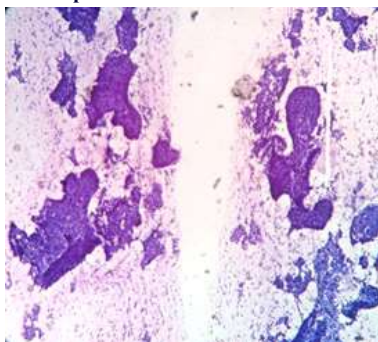


Figure 3. fibroadenoma cytology.H & E 40X

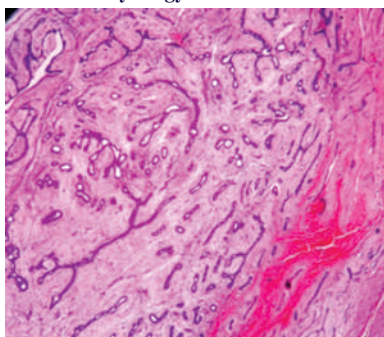


fig 4.fibroadenoma histopath.H&E 40X

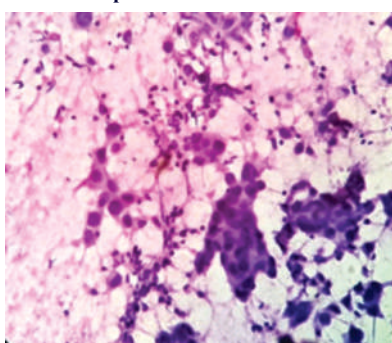


fig 5.carcinoma breast.cytology.H&E 40x

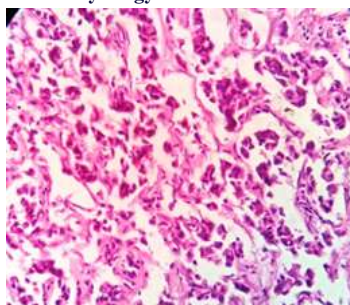


fig 6 carcinoma breast.histopath H&E 40X

Khanna R et al showed 61.3% benign and non-neoplastic nature of lesions and 38.7% malignancy.⁵ benign lesions were much higher in our study.. Most common nature of lesions are fibroadenoma 73.3% (66 cases) (Figure 2&3), followed by Fibrocystic breast disease 8.8% (8cases). carcinoma 8.8% (8cases) (Fig 5&6)phyllodes 2.2%(2 cases),mastitis 2.2%(2 cases),gynaecomastia 2.2%(2 cases) and galactocele 1.1%(1 case) and tubular adenoma 1.1%(1 case).80 cases out of 90 FNAC had a corresponding histological diagnosis.

In this prospective study comprising of 108 cases with complaints of breast lump, the age of the patients ranged between 13 to 70 years, among which 105 were females and 3 were males. Most of the cases were presented with lump breast and pain breast. . On cytological examinations cases diagnosed as malignant in which smears were highly cellular atypical ductal epithelial cells, irregular angulated clusters of atypical cells, nuclear enlargement and nuclear hyperchromasia. There is absence of single bare nuclei of benign type and presence of necrosis. (Figure 5) these cases were diagnosed as infiltrating duct carcinoma after histopathology (Figure 6).Cytological smears of fibroadenoma shows features of staghorn clusters and single bare bipolar nuclei were seen in all the cases. Fragments of fibromyxoid stroma were seen in cases of phyllodes.

The age of the subjects in the present study ranged from 13 to 70 years. Majority belonged to 21-30 years age group .Patients more than 70 years were not reported.The mean age group was 41-50 years.

Average age was slightly lower than the study undertaken by Bhargava V et al. who found the mean age at 52.26 years.⁶ In the study undertaken by Doussal VL et al. the median age was higher and found to be at 57 years. Ganiat O et al. reported maximum number of patients with malignant lesions in the fourth to seventh decade of life.⁷ In the present study, 108 subjects presented with breast lump and pain. Out of these, 76 cases presented with lump as the main presenting symptom while 24 with lump and pain, 4 with pain .associated with retracted nipple and 4 (8.10%) with non specific symptoms. In concurrence with this study, breast lump was the main presenting symptom in our study.

In our study, the total number of cases diagnosed cytologically as fibroadenoma (60)correlated with the FNAC diagnosis, giving a sensitivity of 100%. The sensitivity of FNAC in diagnosing fibroadenoma in our study was comparable to study by Kollur et al, which gives a sensitivity of 100%.¹³

In our study fifteen cases were diagnosed in cytology as fibrocystic breast disease, but in histopathology out of these 15 cases 6 cases turned out as fibroadenoma and one case as tubular adenoma.Seven cases were diagnosed as malignancy in cytology.all seven cases were proved malignant in histopathology.out of 3 cases of phyllodes in cytology two were confirmed as phyllodes in histopathology and other one turned out as malignant phyllodes.According to age most of the benign lesions occur in the young and middle aged people.malignant lesions are common in middle and old age.

Table 1.comparison of cytology with histopathology.

Clinical diagnosis	FNAC	HISTOPATHOLOGY
FIBROADENOMA	60	66
FIBROCYSTIC BREAST DISEASE	15	8
MASTITIS	2	2
CARCINOMA	7	8
PHYLLOIDES	3	2
TUBULAR ADENOMA	0	1
GALECTOCELE	1	1
GYNAECOMASTIA	2	2

Table 2.Age wise distribution of cases

AGE	FIBROADE NOMA	FCD	MASTITIS	CARCIN OMA	PHYLL OIDES	GALEC TOCELE
13-20	14	3	-	-	-	-
21-30	18	8	2	-	-	2
31-40	15	2	-	-	-	-
41-50	10	2	-	2	3	-
51-60	3	-	-	4	-	-
61-70	-	-	-	2	-	-
>70	-	-	-	-	-	-

According to this study benign lesions are common in younger age

group.malignant lesions are common in middle and older age group. The percentage of malignancy on cytology was 7.7%, the findings were similar to findings Wang HH, Gupta S K and it was less as compared to series Kher AV, Stavric GD and Fleichter GE.¹²⁻¹⁸

CONCLUSION

FNAC is an effective modality for the diagnosis of breast lesions. It is a safe, simple, and cost effective outpatient procedure associated with negligible complications. It helps the clinicians for early diagnosis and specific management thus reducing morbidity and mortality. Considering histological diagnosis as the gold standard,we concluded that breast lesions are easily accessible to FNAC, which is an easy, cost effective and less time consuming procedure. FNAC is used to diagnose both benign and malignant lesions. It is more sensitive and specific in diagnosing malignant lesions.

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