



STUDY OF FINE NEEDLE ASPIRATION CYTOLOGY IN BREAST LESIONS.

Pathology

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ABSTRACT

Introduction- Breast lump is the most common presentation of breast diseases ,although most of cases are benign it causes anxiety regarding possible malignancy. Preoperative diagnosis helps in planning the correct surgical and therapeutic treatment .Fine needle aspiration cytology is considered as successful and less complicated procedure with excellent results for diagnosis of breast lesions. **Objective-** To classify breast lesions **Materials And Methods** – Study duration is January 2021 to December 2022. **Study population**-122 cases. Study population having breast lump were subjected for FNAC at pathology opd, VDGMC,Latur. Smears obtained by FNAC subjected for microscopic examinations using Papanicolaou's stain and evaluated. **Observations and Results-** The study population was female predominant, represented by 97.55% and 2.45% male patients. Age ranging from 15 to 80 years. Among this 9.84 % cases were non neoplastic and 90.16 % cases were neoplastic. The commonest breast lesion detected by FNAC is fibroadenoma accounting 37.70%. **Conclusions-** Cytological examination of breast lesions prior to surgical treatment serves as a rapid, economical and valuable diagnostic tool. It is a simple, cost effective, quick and less painful procedure.

KEYWORDS

Breast, FNAC, Fibroadenoma.

INTRODUCTION

Breast lump is the most common presentation of breast disease. Although most of the cases of breast lump are benign it causes anxiety regarding possible malignancy.1

Although benign lesions are common however there is no doubt that malignant lesions are increasing especially in younger women nowadays. Physical examination, mammography, fine needle aspiration cytology, and core needle biopsy are very important in this aspect.2

FNAC is a simple ,minimally invasive,cost effective outpatient based and a rapid diagnostic method for breast lesions.3.

The expected and significant role of cytological diagnosis is to distinguish benign from malignant.4

Fine needle aspiration cytology (FNAC) of breast lump is an accepted and established method to determine the nature of the lump and it may play an important role when it is difficult to determine the nature of breast lump by clinical examination.5

AIMS AND OBJECTIVES

- To classify various breast lesions.
- To study age wise distribution of breast lesion

MATERIAL AND METHOD

- Study period-January 2021 to December 2021
- Study population-122 cases
- Study Settings- VDGMC,Latur.

Initial data were obtained by history taking and clinical breast examination and cytology samples were obtained by FNAC performed on each patients with breast lump.

Aspiration was done using 22G needle and smears fixed in methanol and slides were stained by papanicolaou's stain and microscopic examination was done

RESULT

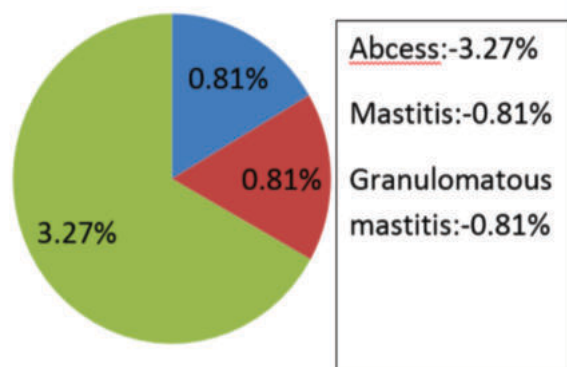
FNAC was requested for a total of 122 breast lumps during study period . There were 3 male patients having gynecomastia. Age group of the patients ranged from 11 to 80 years.

Inflammatory cases-4.9%

Benign cases-68.0%

Malignant cases-16.3%

Inflammatory Lesions(6)



Graph 1- Bar diagram showing distribution of cases according to inflammatory breast lesions

Table 1- Distribution of cases according to benign lesions in breast

Benign lesions (83)	Cases	%
Fibroadenoma	46	37.70%
Fibrocystic disease	11	9.01%
Proliferative breast disease without atypia	9	7.37%
Benign cystic lesion	4	3.27%
Galactocoele	4	3.27%
Benign phylloid	2	1.63%
Lactating Adenoma	3	2.45%
Fat necrosis	1	0.81%
Gynaecomastia	3	2.45%

Table 2- Age wise distribution of cases of FNAC breast lesions

Age	Inflammatory Cases-%	Benign	Atypia	Malignancy
11-20	2(33.3%)	27(32.9%)	1(7.6%)	-
21-30	2(33.3%)	23(27.7%)	5(38.4%)	1(5%)
31-40	1(16.6%)	26(31.2%)	4(30.7%)	5(25%)
41-50	-	4(4.8%)	3(23.0%)	4(20%)
51-60	1(16.6%)	2(2.4%)	-	6(30%)
61-70	-	1(1.2%)	-	2(10%)
71-80	-	-	-	2(10%)

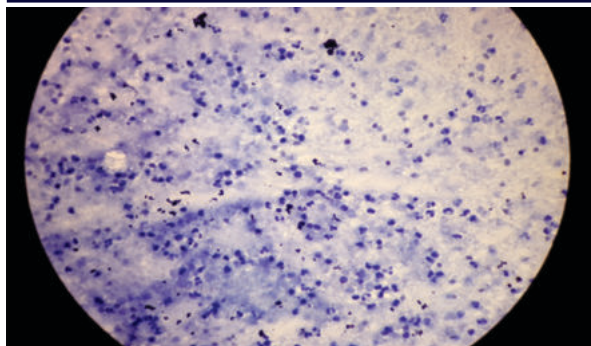


Photo 1- Mastitis- showing abundant polymorphonuclear leukocytes clusters and discrete ductal cells with mild atypia.

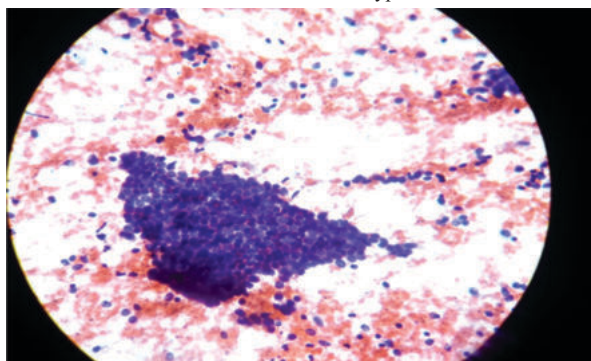


Photo 2 - Fibroadenoma- showing hyper cellular smear, Antler horns like tight clusters, Monolayered sheets of ductal cells, Ductal cells- round, monomorphic, fine regular chromatin, small nucleoli Many bipolar spindle shaped cells

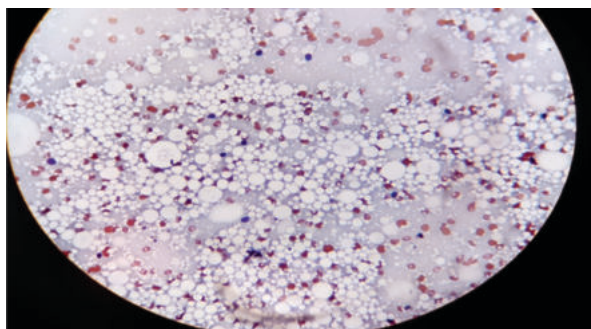


Photo 3- Galactocoele- showing large cells with abundant vacuolated cytoplasm. Background shows amorphous material

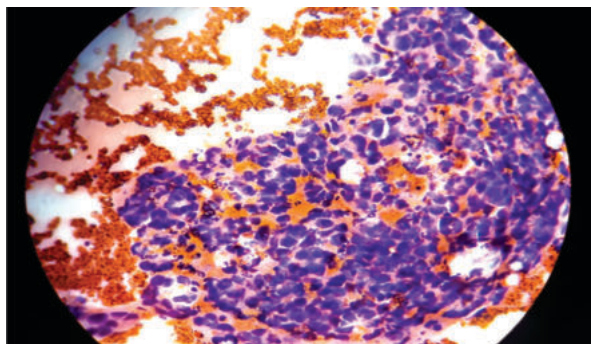


Photo 4- Infiltrating duct carcinoma –showing hypercellular smear Clusters and dissociated ductal cells with nuclear crowding Enlarged, pleomorphic hyperchromatic nuclei, fine to coarse clumped chromatin with prominent nucleoli Myoepithelial cells absent.

DISCUSSION

FNAC of breast lesion is an accepted and established method for determining the In present study out of 122 cases the most common lesions were Benign (83 cases,68.03%), followed by malignant (20 cases,16.39%), breast lesions with atypia (13 cases,10.6%).

inflammatory lesions (6cases,4.9%). In present study age of all benign cases ranged from 11-70 years with majority of cases between 11 to 20 years (27 cases,32.5%) and age of all malignant cases ranged from 21-80 years with majority of cases between 51 to 60 years (6 cases,30%).

Study done by Kazi Farzana et al ⁴ showed that malignant cases ranged from 21-60 years age group. Study done by Evith M. et al ⁶ Showed that all benign cases ranged from 11-50 years and malignant cases between 31-80 years.

Our study shows 68.03% cases of benign lesions and 16.39% cases of malignant lesions which similar with the study of Sahil I et al ⁹ and Ashish Kosthi et al ¹¹

Table 3- Comparision of breast lesions in present study with other studies.

Breast lesions	Present study	Tiwari M et al 5	Evinth M. pereira et al 6	Dr. Geeta Devi et al 7	Venkataramana Babu P et al 8	Sachin A Badge et al 10
Acute mastitis	0.81%	-	1.90%	-	2.96%	-
Granulomatous mastitis	0.81%	-	4.76%	3.8%	0.7%	-
Abcess	3.27%	6.6%	-	4.7%	-	-
Fibroadenoma	37.7%	39.6%	41.91%	40.29%	49.25%	55%
Fibrocystic disease	9.0%	5.5%	5.71%	2.8%	10.37%	6.36%
Proliferative breast disease without atypia	7.3%	-	0.95%	0.95%	-	-
Benign cystic lesion	3.2%	-	-	-	0.7%	-
Galactocoele	3.2%	5.5%	-	0.95%	0.7%	1.36%
Benign phylloid	1.63%	-	0.95%	0.95%	0.7%	0.90%
Lactating adenoma	2.4%	-	-	-	-	1.82%
Fat necrosis	0.8%	-	-	-	0.7%	-
Gynaecomastia	2.45%	-	-	-	-	2.73%
Malignancy	16.39%	6.6%	32.39%	65.8%	18.5%	26.36%

Our study shows fibroadenoma as most common benign lesion (37.37%), similar findings also observed in study done by Tiwari et al ⁵, Evinth M. Pereira et al ⁶, Dr. Geeta Devi et al ⁷, Venkataramana Babu P et al ⁸, Sachin A Badge et al ¹⁰

Second most common benign lesion in our study is fibrocystic disease in (9.01%). Evinth M. Pereira et al also reported fibrocystic disease as 2nd most common benign lesion followed by fibroadenoma.

CONCLUSION

The cytological examination of breast lesions prior to surgical treatment serves as a rapid, economical and valuable diagnostic tool.

FNAC is considered as successful and less complicated procedure with excellent result.

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