



STUDY OF FINE NEEDLE ASPIRATION CYTOLOGY IN PALPABLE BREAST LUMPS AT TERTIARY CARE HOSPITAL, SURYAPET, TELANGANA

Dr. B. V. Anuradha Devi

Assistant Professor, Department of pathology, Government Medical College, Suryapet, Telangana.

Dr. A Smita Reddy

Associate Professor, Department of pathology, Government Medical College, Suryapet, Telangana.

Dr. Anunayi Jestadi

Professor and HOD, Department of pathology, Government Medical College, Suryapet, Telangana.

ABSTRACT

Introduction: Breast carcinoma is the second most common malignancy in India preceded by cervical carcinoma. Palpable breast lumps either self detected or identified by clinician are common, efficient evaluation and prompt diagnosis are necessary to rule out malignancy. Clinical examination, radiological evaluation and tissue sampling – Triple assessment needed for definitive diagnosis. FNAC has a good sensitivity, specificity and accuracy in the diagnosis of both neoplastic and non-neoplastic breast lumps. The present study is aimed to analyse the incidence and various cytomorphological spectrum of breast lesions done by FNAC.

Materials & Methods: This is retrospective observational study conducted in Department of Pathology, Government Medical College/ Government General Hospital, Suryapet, Telangana from January 2020 to December 2021 (2years). Clinical history was taken and FNAC done. Smears are stained with H&E stain and assessed.

Results: In our study, 87 female patients were analysed. Age group of patients ranged from 15years to 70years. There was slight preponderance in right breast lesions 45cases(51.7%). Most common lesion in our study was fibroadenoma which constituted 36 cases (41.3%), peak incidence in 21-30year age group. Second most common lesion was duct cell carcinoma accounting for 27cases(31%), peak incidence seen in 41-50years age group.

Conclusion FNAC is a simple, safe, cost effective procedure which is a component of triple assessment. It helps to differentiate benign from malignant lesions in majority of cases when combined with clinical and radiological examination for definitive management.

KEYWORDS : Breast Lump, Fine Needle Aspiration Cytology, Fibroadenoma

INTRODUCTION

Palpable breast lumps are the common complaints of patients visiting surgical outpatient departments. Breast lesions have a wide spectrum and range from inflammatory lesions, benign ductal and stromal proliferations to malignant neoplasms. Breast carcinomas are leading cause of morbidity and mortality in women^{1,2}. In Indian, breast carcinoma is the second most common malignancy preceded by cervical carcinoma, comprising 22.2% of all new cancers diagnosis and 17.2% of all cancer deaths². The triple test investigation, which includes clinical evaluation, radiological examination and pathological examination, reduces the likelihood of missing the diagnosis to less than 1%³. FNAC is simple, rapid, inexpensive initial preoperative diagnostic tool to differentiate benign from malignant breast lesions. FNAC has a good sensitivity, specificity and accuracy in the diagnosis of both neoplastic and non-neoplastic breast lumps thereby assisting in early diagnosis and further management⁴. The present study is aimed to analyse the incidence and various cytomorphological spectrum of breast lesions done by FNAC.

MATERIALS & METHODS

This is retrospective observational study conducted in Department of Pathology, Government Medical College/ Government General Hospital, Suryapet, Telangana from January 2020 to December 2021 (2years). Patients who presented to surgical OPD for palpable breast lumps were referred to Cytology department. Detailed clinical history of the patient was taken, physical examination of the swelling was done. Details of any investigations like USG, haematological, serological if done were noted. FNAC procedure was explained and consent taken. Swelling was fixed with one hand, with all aseptic precautions 22-23G needle, 10ml syringe was inserted into the swelling and negative pressure applied. Aspirated material was smeared on the glass slides and fixed in 95% Isopropyl alcohol. Smears

were then stained with Hematoxylin & Eosin stains and assessed by cytopathologist. Male patients with palpable breast lumps were excluded from the study.

RESULTS

In our study, 87 female patients who presented with palpable breast lumps were analysed. Age group of patients ranged from 15years to 70years. Age wise distribution of 87 patients included in this study is shown in table 1. Peak incidence of cases 26 (29.8%) was noted in 41-50years age group followed by 21-30years (24cases, 27.5%). There was slight preponderance in right breast lesions 45cases(51.7%) when compared to left breast 39cases(44.8%), and 3cases(3.4%) were seen in bilateral breasts(table 2)

Table 1- Age Wise Distribution Of Cases

AGE	NUMBER OF CASES	PERCENTAGE
11-20	8	9.1%
21-30	24	27.5%
31-40	12	13.7%
41-50	26	29.8%
51-60	10	11.4%
61-70	7	8%

Table 2 – Side Wise Distribution Of Cases

	RIGHT BREAST	LEFT BREAST	BILATERAL
NO OF CASES	45 (51.7%)	39 (44.8%)	3 (3.4%)

Table 3- Cytomorphological Spectrum Of Breast Lesions

DIAGNOSIS	NO OF CASES	PERCENTAGE
Acute suppurative inflammatory lesion	6	6.8%
Galactocele	2	2.2%
Fibrocystic disease	12	13.7%
Fibroadenoma	36	41.3%
Atypical ductal hyperplasia	4	4.5%

Duct cell carcinoma	27	31%
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Table 4 – Age Distribution Of Breast Lesions

	11-20	21-30	31-40	41-50	51-60	61-70
Acute suppurative inflammatory lesion		2	2	1	1	
Galactocele		1	1			
Fibrocystic disease		2	4	3	3	
Fibroadenoma	7	21	4	4		
Atypical ductal hyperplasia			1	2	1	
Duct cell carcinoma			2	14	4	7

Most common lesion in our study was fibroadenoma which constituted 36 cases (41.3%), peak incidence in 21-30year age group. The youngest patient with fibroadenoma was 15year old. Second most common lesion was duct cell carcinoma accounting for 27cases(31%), peak incidence seen in 41-50years age group. Youngest patient diagnosed with duct cell carcinoma was 34year old. Fibrocystic disease was the third most common lesion which constituted 12cases(13.7%), peak incidence seen in 31-40year age group. We found 6cases(6.8%) of acute suppurativeinflammatory lesion, 4cases(4.5%)of atypical ductal hyperplasia and 2cases(2.2%) of galactocele in post partum females.

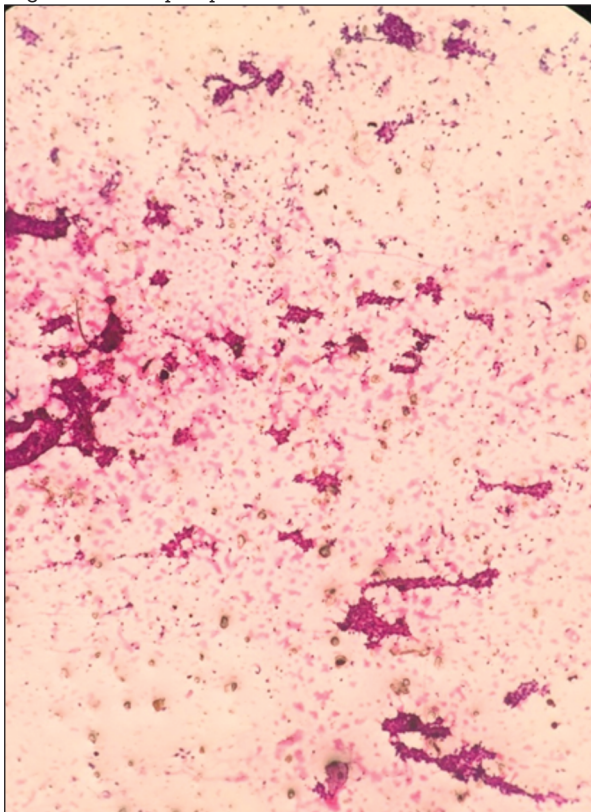


Fig 1- Fibroadenoma, H&E, 4X

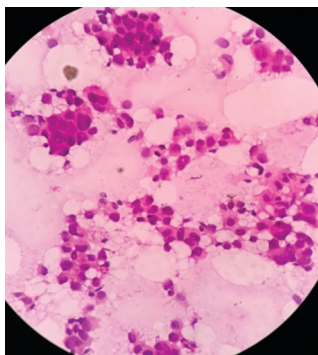


Fig 2 – Duct cell carcinoma, H & E, 40X

DISCUSSION

The application of FNAC for the diagnosis of palpable breast masses was first introduced by Martin and Ellis in 1930. Since then, it has been established as an essential tool in the evaluation of breast lesions⁵. Fine needle aspiration cytology of breast lump is a simple, safe, cost effective and time saving procedure². A total of 87 patients with palpable breast lumps were included in our study. Inadequate samples were excluded from the study. Youngest patient in our study was 15year old diagnosed with fibroadenoma and oldest patient was 70year old with duct cell carcinoma. Majority of cases with palpable breast lumps were observed in third to fifth decades which is in comparison with Chamdanwale et al.⁶ & Likhar et al⁷ studies. We have observed slight preponderance in right breast lesions(45 cases, 51.7%) than left breast (39 cases,44.8%) which is in comparison with Binayke R et al⁸ study. In contrast, Ahmad F et al² observed more cases in left breast.

In our study, Fibroadenoma is the most common breast lesion with majority of cases seen in 21-30years age group which is similar to Ahmad F et al², Kochhar et al⁹, Khanzada et al¹⁰, Iyer et al¹¹, Akhtor et al¹², and Irabor et al¹³ Studies. We observed 1case of cellular fibroadenoma in 48year old. Majority of cases of fibroadenoma occurred before menopause this is consistent with other studies showing fibroadenoma to be the most common breast mass in young women¹⁴. Duct cell carcinoma is the second most common breast lesion with peak incidence in 41-50years age group which is similar to study done by Khan et al¹⁵. We found fibrocystic disease as the third common lesion with 12cases(13.7%) in comparison with studies done by Anyanwu S et al¹⁶ and Jeje EA et al¹⁷.

We observed 6cases(6.8%) of acute suppurative inflammatory lesion, 4cases(4.5%)of atypical ductal hyperplasia and 2cases(2.2%) of galactocele in post partum females in comparison with Rahman MZ et al¹⁸, Tiwari M¹⁹ and Bukhari MH²⁰ et al studies. Peak incidence of Inflammatory lesions are seen in 21-40year age group which can be explained by the fact that breasts during reproductive age show periodic changes with menstruation, increased blood flow and dilated ducts during pregnancy and lactation making them more susceptible to infections²¹.

CONCLUSION

In our study, we found that Fibroadenoma is the most common benign breast lesion with peak incidence in 21-30years and duct cell carcinoma is the most common malignant breast lesion with majority of cases in 41-50years age group. FNAC is a simple, safe, cost effective procedure which is a component of triple assessment. It helps to differentiate benign from malignant lesions in majority of cases when combined with clinical and radiological examination for definitive management.

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