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Pathology

Cytomorphological Study of Benign Breast Lesions by FNAC

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Original Research Article

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Abstract: A major clinical problem of women in reproductive age groups is benign breast lesion. Fine needle aspiration cytology (FNAC) plays an important role in diagnosing these breast lesions. In the present study cytomorphological features of benign breast masses were studied by FNAC. The study was carried out on 153 patients who presented with breast masses. Of the 153 cases, 151 were females and 2 male patients. Age group ranged from 10 – 50 years. The various benign lesions included in the study are fibroadenoma, fibrocystic disease, inflammatory lesion, cystic lesion, galactocele and gynaecomastia. 1 case was diagnosed as lipoma. 4 cases had normal breast tissue. The two male patients with breast lesion were diagnosed with gynaecomastia. The most common benign breast lesion in our study was fibroadenoma. FNAC plays a significant role in rapid diagnosis of breast lumps.
Keywords: Benign breast disease, FNAC, fibroadenoma, fibrocystic disease, cytomorphology.

INTRODUCTION

Palpable mass in the breast is a common clinical presentation of women in the reproductive age groups. Among the palpable masses, cysts, fibroadenomas, and invasive carcinomas are the most common lesions. In premenopausal women benign palpable masses are more common [1]. Fine needle aspiration cytology (FNAC) is a widely used technique for evaluating breast masses as it is minimally invasive, inexpensive and produces speedy result [2]. The present study was conducted to study the cytomorphological features in cases of non-neoplastic breast masses.

MATERIALS AND METHODS

The present study was conducted in the department of Pathology, Assam Medical College & Hospital, Dibrugarh. It was a retrospective study conducted from November 2016 to October 2017. Clinical details were taken from departmental records.

Inclusion criteria

All cases diagnosed as non-neoplastic benign breast disease were included in the study.

Exclusion criteria

All malignant cases were excluded from the study.

Procedure for FNA

Informed written consent was taken from the patient and the procedure of FNAC was explained to the patient in detail. The procedure was performed by a trained cytopathologist. No anaesthesia was applied during the procedure. The skin over the lump was cleaned with spirit swab and was stabilized by hand. A 23 gauze needle was introduced; suction was applied by retracting the syringe plunger to the 1-2 ml mark and suction was kept at this level throughout the sampling period. Needle tip was moved back and forth in different directions. Then needle was withdrawn by releasing the suction. The needle containing aspirated material was rapidly separated from the syringe and air was drawn into the syringe. The needle was reattached to the syringe and the material was expressed on a glass slide. Five to six slides were prepared for each patient. The air dried smears were stained with MGG stain.

RESULTS

A total of 153 cases were included in the study, of which 151 were females and 2 were male patients. The most common presenting symptom was palpable mass in the breast followed by pain in the breast. Age group ranged from 10 – 50 years. The most common age group ranged from 20 – 29 years, followed by 10 – 19 years. (Table 1)

The most common benign breast lesion in our study was fibroadenoma comprising of 95 cases (62%). 15 cases (9.8%) were diagnosed as fibrocystic disease. Inflammatory lesion was found in 18 cases (11.7%). Cystic lesion was found in 10 cases (6.5%).

Galactocele was found in 8 cases (5.2%). 1 case was diagnosed as lipoma. 4 cases had normal breast tissue. The two male patients with breast lesion were diagnosed with gynaecomastia. (Table 2)

Table-1: age distribution

Age group in years	No of cases	Percentage
10-19	38	24.8 %
20-29	67	43.7%
30-39	23	15%
>40	25	16.3%

Table-2: type of lesion

Cytological diagnosis	No of cases	Percentage
Fibroadenoma	95	62%
Fibrocystic disease	15	9.8%
Inflammataory lesion	18	11.7%
Cystic lesion	10	6.5%
Galactocele	8	5.2%
Lipoma	1	0.6%
Gynaecomastia	2	1.3%
Normal breast tissue	4	2.6%

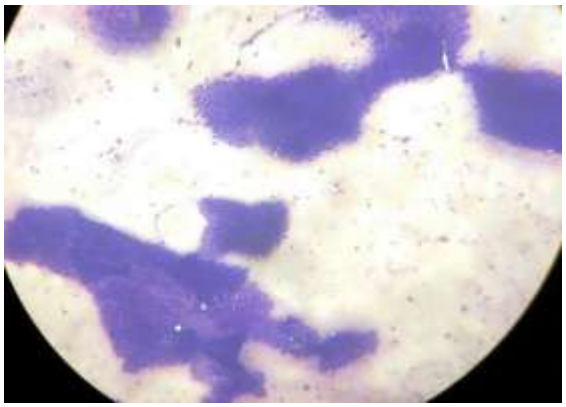

Fig-1: FNA of Fibroadenoma showing branching pattern of ductal epithelial cells with fibromyxoid stroma

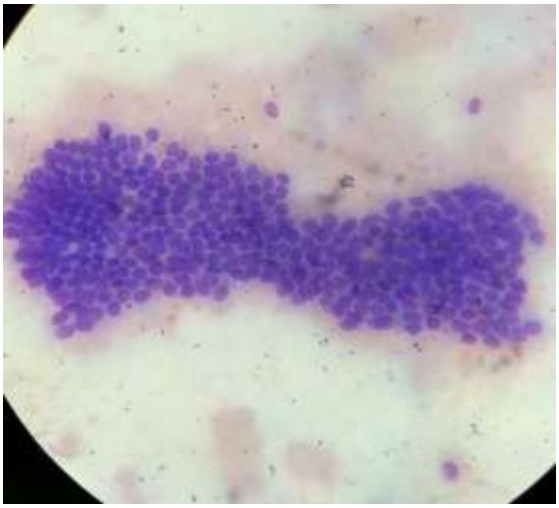

Fig-2: Fibroadenoma with ductal epithelial cells and few bare bipolar nuclei in the background

DISCUSSION

The present study was conducted to evaluate the distribution of the various cytological patterns of benign breast lesion. The most common lesion in our study was fibroadenoma with 95 cases (62%). Similar results were reported by Sangma *et al*. [3] with 52.74% cases and Albasri *et al*. [4] with 43.3% cases.

Of the 153 cases, 14 cases (9.8%) were diagnosed as fibrocystic disease. Sangma *et al*. [3] reported 19.7% cases of fibrocystic disease in their study while Albasari *et al*. [4] found 23.4% cases. Of the 14 cases of fibrocystic disease in our study, seven cases had features of both fibrocystic disease and fibroadenoma.

Among the inflammatory lesions, suppurative lesion was found in 10 cases, breast abscess in 3 cases, mastitis in 3 cases, and fat necrosis in 1 case. 2 cases were diagnosed with gynecomastia which was similar to study done by Elmadhoun *et al*. [5] 3% and Albasri *et al*. [4] 3.1% respectively.

Evaluation of breast lesions by triple assessment using clinical, radiological and FNAC correlation can produce 99% accuracy for both benign and malignant lesions [6]. FNAC is an effective technique for diagnosis and management of breast lesions. It avoids an unnecessary biopsy and is also helpful in prognostication of the tumor factors such as nuclear grading, mitotic index, and hormone receptor status [7].

CONCLUSION

Breast lesions pose a major public health problem in India. In a resource limited health setting, FNAC proves to be an ideal cost effective technique for evaluation of breast lesions [5]. It is a minimally invasive technique with good diagnostic accuracy [8]. Hence, FNAC should be used as a routine diagnostic procedure for evaluation of breast lumps.

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