

A study of various FNAC finding of the breast lump at tertiary health care center

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Abstract

Background: There is increasing awareness with associated anxiety and stress among women, who perceive every symptom in breast as cancer, compelling them to seek medical advice. **Aims and Objectives:** to study various FNAC finding of the breast lump at tertiary health care center. **Methodology:** This was a cross-sectional study carried out in the department of pathology of a tertiary health care centre during the one year period i.e. June 2017 to June 2018, in the one year period with suspected breast lump, written explained consent sent to pathology department for cytological evaluation (FNAC), all such samples were stained after standard pathological procedure and evaluated by expert pathologist for the various lesions like Benign, malignant etc. the data collected was entered to excel sheets and presented in the tabular expressed in percentages. **Result:** The various cytological lesions were i.e. Fibrocystic disease in 7.55%, followed by Benign proliferative breast diseases (BPBD) With atypia in 16.98%, Without atypia in 20.75%, With granulomatous reaction/Mastitis in 16.98%, Galactocele in 7.55%, Cystic lesions in 1.89%, Lactational changes. In 5.66%, Gynecomastia in 3.77%, Intraductal Papilloma in 1.89%, Fibroadenoma in 7.55%. Over all the benign lesions present in 90.57%. Overall the malignant lesions present in 7.55% only the various malignant lesion found were Pleomorphic Ductal Malignancy, Ductal Malignancy with Axillary Metastasis, Ductal Malignancy with Inflammation, Invasive Lobular Carcinoma 1.89% in each respectively. **Conclusion:** In the cytology overall the benign lesions were more common i.e. Fibrocystic disease, Benign proliferative breast diseases, Cystic lesions and in malignancy Pleomorphic Ductal Malignancy, Ductal Malignancy, Invasive Lobular Carcinoma etc.

Key Word: Breast lump, Benign proliferative breast diseases (BPBD), Malignant lump

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INTRODUCTION

There is increasing awareness with associated anxiety and stress among women, who perceive every symptom in breast as cancer, compelling them to seek medical advice. It is sometimes difficult to determine whether a suspicious lump is benign or malignant simply from clinical assessment.¹ Due to its increasing incidence, morbidity and mortality breast cancer is the commonest malignant tumour responsible for 18.4% of all female

cancers worldwide. As it is the leading cause of death from cancer in women,^{2,3} the major concern of the surgeon and the responsibility of the surgical pathologist lies in the ability to differentiate a benign from a malignant lesion. Although open surgical biopsy is the 'gold standard' for diagnosis of palpable breast lesions, in recent years two types of minimally invasive breast biopsy techniques, core needle biopsy (CNB) and fine needle aspiration cytology (FNAC), have become established for the diagnostic evaluation of palpable breast lesions.⁴ A triple test consisting of clinical examination, mammography and FNAC is considered the gold standard in making a definitive assessment of breast lumps.⁵ In resource poor settings, FNAC comes readily useful for its obvious advantages. It is a cheap, fast, and reliable diagnostic method. It also reduces the frequency of open biopsies.⁵ So we have studied various FNAC finding of the breast lump at tertiary health care center.

METHODOLOGY

This was a cross-sectional study carried out in the department of pathology of a tertiary health care centre during the one year period i.e. June 2017 to June 2018, in the one year period with suspected breast lump written explained consent sent to pathology department for cytological evaluation (FNAC), all such samples were stained after standard pathological procedure and evaluated by expert pathologist for the various lesions like Benign, malignant etc. the data collected was entered to excel sheets and presented in the tabular expressed in percentages

RESULT

Table 1: Distribution of the patients as per the age

Age	No.	Percentage (%)
11-20	3	5.66
20-30	9	16.98
30-40	17	32.08
40-50	12	22.64
50-60	7	13.21
>60	5	9.43
Total	53	100.00

The most common age group in our study was 30-40 were 32.08%, followed by 40-50 were 22.64%, 20-30 were 16.98%, 50-60 were 13.21%, >60 were 9.43%, 11-20 were 5.66%.

Table 2: Distribution of the patients as per the benign lesions

Benign breast lesions	No.	Percentage (%)
Fibrocystic disease	4	7.55%
Benign proliferative breast diseases (BPBD)	9	16.98%
With atypia		
Without atypia	11	20.75%
With granulomatous reaction/Mastitis	9	16.98%
Galactocele	4	7.55%
Cystic lesions	1	1.89%
Lactational changes	3	5.66%
Gynecomastia	2	3.77%
Intraductal Papilloma	1	1.89%
Fibroadenoma	4	7.55%
Total	48	90.57%

The various cytological lesions were i.e. Fibrocystic disease in 7.55%, followed by Benign proliferative breast diseases (BPBD) With atypia in 16.98%, Without atypia in 20.75%, With granulomatous reaction/Mastitis in 16.98%, Galactocele in 7.55%, Cystic lesions in 1.89%, Lactational changes In 5.66%, Gynecomastia in 3.77%, Intraductal Papilloma in 1.89%, Fibroadenoma in 7.55% Over all the benign lesions present in 90.57%.

Table 3: Distribution of the patients as per the malignant lesions

Malignant lesions	No.	Percentage (%)
Pleomorphic Ductal Malignancy	1	1.89%
Ductal Malignancy with Axillary Metastasis	1	1.89%
Ductal Malignancy with Inflammation	1	1.89%
Invasive Lobular Carcinoma	1	1.89%
Total	4	7.55%

Overall the malignant lesions present in 7.55% only the various malignant lesion found were Pleomorphic Ductal Malignancy, Ductal Malignancy with Axillary Metastasis, Ductal Malignancy with Inflammation, Invasive Lobular Carcinoma 1.89% in each respectively.

DISCUSSION

To diagnose the breast lumps, triple approach of clinical examination, sonomammography, and fine-needle aspiration cytology (FNAC) of the breast is widely used method.^{6,7} FNAC is widely accepted technique in the evaluation of breast lumps. The technique has gained wide acceptance in the past four decades and is increasingly being used to sample a wide variety of body tissues. The goal of breast lump aspiration cytology is to differentiate between malignant lesions from benign lesions and also from inflammatory conditions. It is used as a diagnostic purpose, for understanding the etiology of breast lump.⁸ The breast is modified gland of skin appendages. It consists of epithelial and stromal tissue. Various non-proliferative and proliferative epithelial and stromal lesions are noted in breast lumps. These lumps are easily accessible for FNAC study which gives pre-operative diagnosis in various lesions. The significance of doing cytomorphological study of palpable breast lump is to give the clinician pre-operative diagnosis on the features of FNAC.⁹ The earliest large scale use of Fine Needle aspiration Cytology FNAC as a diagnostic tool in the management of palpable masses was recorded in Memorial Hospital, New York, United States in the 1930s but it did not gain much encouragement in United States during the ensuing years. The technique had resurgence in Scandinavia during the 1950s and 1960s, where it flourished before spreading to other parts of the world.¹⁰ True FNAC for breast aspirations were first introduced in the beginning of 1960s by Franzen and Zajicek at the Karolinska Hospital in Stockholm.¹¹ Being an oncologist, Franzen introduced standard May-Grunwald Giemsa stains on air-dried smears to allow for rapid interpretation. Despite their success, it was not until 1980s that FNAC became widely used. The reasons included lack of confidence in the sensitivity and specificity of the procedure, fear of tumour implantation in the needle track, lawsuits, and surgeons not willing to relinquish the use of histological biopsy technique.¹² FNAC of the breast is commonly used as part of the diagnostic triad, which in addition to FNAC includes

clinical breast examination and radiological evaluation (mammography and ultrasonography). The diagnostic accuracy is close to 100% when all three modalities favour a benign or malignant diagnosis.¹³ Open surgical excision biopsy remains the diagnostic “gold standard” to which other methods must be compared, with almost 100% sensitivity.¹⁴ However, compared to FNAC and CNB, excision biopsy is expensive and associated with a greater degree of patient morbidity. Open biopsy leaves a visible scar that is cosmetically undesirable and may complicate mammographic follow up. In addition, open biopsy is associated with a significantly longer “turn – around” time than that which accompanies FNAC.¹⁵ In our study we have seen The most common age group in our study was 30-40 were 32.08%, followed by 40-50 were 22.64%, 20-30 were 16.98%, 50-60 were 13.21%, >60 were 9.43%, 11-20 were 5.66%. The various cytological lesions were i.e. Fibrocystic disease in 7.55%, followed by Benign proliferative breast diseases (BPBD) With atypia in 16.98%, Without atypia in -20.75%, With granulomatous reaction/Mastitis in 16.98%, Galactocele in 7.55%, Cystic lesions in 1.89%, Lactational changes in 5.66%, Gynecomastia in 3.77%, Intraductal Papilloma in 1.89%, Fibroadenoma in 7.55%. Over all the benign lesions present in 90.57%. Overall the malignant lesions present in 7.55% only the various malignant lesion found were Pleomorphic Ductal Malignancy, Ductal Malignancy with Axillary Metastasis, Ductal Malignancy with Inflammation, Invasive Lobular Carcinoma 1.89% in each respectively. These findings are similar to Jayawant Mahadani *et al*¹⁶ they found Total 211 cases were studied, the incidence of breast lesions was maximum in the age ranged from 21 to 30 years [121 (57.34%)]. There were 98.57% female patients. Of the total cases, 177 were in the benign category and 34 belonged to the malignant category. Among 211 cases, 107 cases (50.71%) were available for histopathological examination. Most commonly encountered benign breast lesion was fibroadenoma (87/177; 49.15%). Most commonly encountered malignant breast lesion was invasive ductal carcinoma (IDC) [32/34; 94.11%].

CONCLUSION

In the cytology overall the benign lesions were more common i.e. Fibrocystic disease, Benign proliferative breast diseases, Cystic lesions and in malignancy Pleomorphic Ductal Malignancy, Ductal Malignancy, Invasive Lobular Carcinoma etc.

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