

ORIGINAL ARTICLE

Usefulness of FNAC for assessing breast lump cases

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ABSTRACT:

Background: Breast lump is the most common presentation in most of the breast diseases. In India, breast cancer is the second most common cancer in women. The present study was conducted to evaluate cases of breast lump with FNAC. **Materials & Methods:** 74 breast specimens were wet smear fixed with ether-alcohol mixture stained with hematoxylin and eosin and papanicolaou stain. The air-dried smear stained with May-Grunwald Giemsa stain. **Results:** lesions were benign such as fibroadenoma in 34, lactating adenoma in 6, fibrocystic change in 5, galactocele in 3, benign phyllodes in 4 and inflammatory breast disease in 2 cases. Malignant lesions were invasive lobular carcinoma in 6, invasive duct carcinoma in 12 and papillary carcinoma in 2 cases. The difference was significant ($P < 0.05$). **Conclusion:** FNAC is a reliable diagnostic tool of breast lumps. Clinicians should continue to embrace this rapid and inexpensive diagnostic technique in the surgical management of breast lumps.

Key words: Breast, FNAC, invasive lobular carcinoma

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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, 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.²

Breast lump is the most common presentation in most of the breast diseases. In India, breast cancer is the second most common cancer in women. Most of the cases in breast lesions are benign.³ The fine-needle aspiration cytology (FNAC) was first introduced by the Martin and Ellis in 1930. The FNAC of breast lump is highly sensitive, easy to perform, and cost effective that can be carried out at outpatient department. FNAC has various benefits over the open tissue biopsy. It is rapid and reliable procedure.⁴ It helps in planning of

treatment in the breast lump, and we can also perform molecular ancillary technique, i.e., progesterone receptor and estrogen receptor, proliferation antigen (Ki 67), and DNA pattern analysis. Thus, the FNAC has reduced the number of open breast biopsies. Accuracy in the diagnosis can be increased by multiple sampling of appropriate sites by ultrasonography guidance and/or mammographic localization.⁵ The present study was conducted to evaluate cases of breast lump with FNAC.

MATERIALS & METHODS

The present study was conducted among 74 breast specimens obtained from general surgery department. Data such as name, age etc. of patients was recorded. The examination of breast lump was done with recording of size and site of lump, consistency, fixation to skin and underline tissue, and retraction of nipple along with regional lymph node involvement. Procedure was done using 24-gauge needle fitted on 10 ml disposable syringe in syringe holder. The wet smear fixed with ether-alcohol mixture stained with hematoxylin and eosin and papanicolaou stain. The air-dried smear stained with May-Grunwald Giemsa stain. Results thus obtained were statistically analyzed.

RESULTS

Table I Distribution of specimens

| Age group (Years) | Number | P value |
|-------------------|--------|---------|
| 20-40 | 24 | 0.05 |
| 40-60 | 40 | |
| >60 | 10 | |

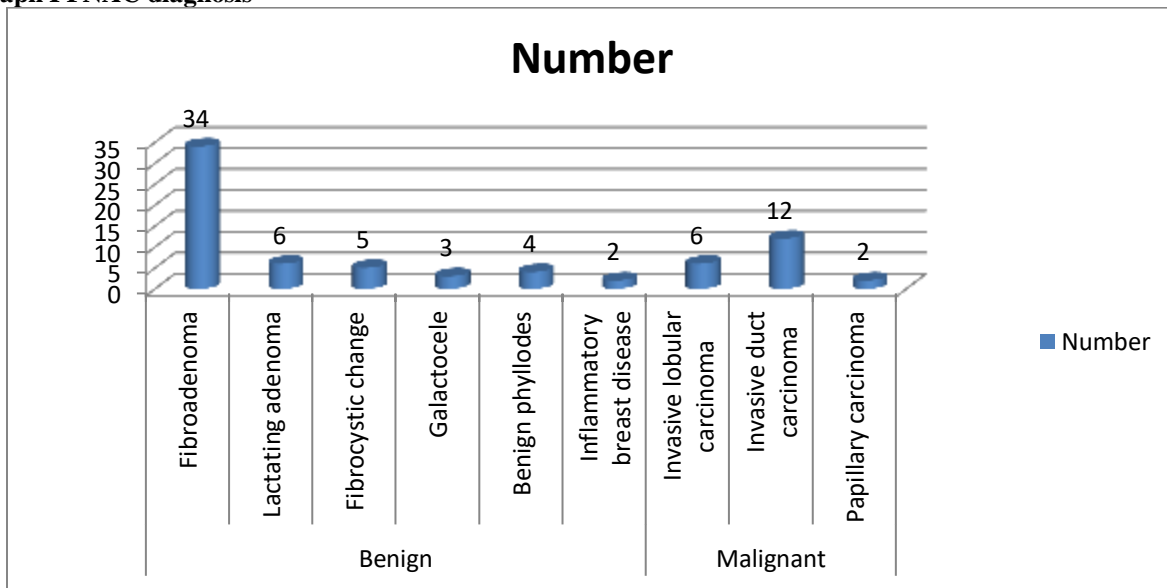
Table I shows that out of 74 specimens, age group 20-40 years had 24, 40-60 years had 40 and >60 years had 10 cases. The difference was significant (P< 0.05).

Table II FNAC diagnosis

| Diagnosis | Lesions | Number | P value |
|-----------|-----------------------------|--------|---------|
| Benign | Fibroadenoma | 34 | 0.02 |
| | Lactating adenoma | 6 | |
| | Fibrocystic change | 5 | |
| | Galactocele | 3 | |
| | Benign phyllodes | 4 | |
| | Inflammatory breast disease | 2 | |
| Malignant | Invasive lobular carcinoma | 6 | 0.04 |
| | Invasive duct carcinoma | 12 | |
| | Papillary carcinoma | 2 | |

Table II, graph I shows that lesions were benign such as fibroadenoma in 34, lactating adenoma in 6, fibrocystic change in 5, galactocele in 3, benign phyllodes in 4 and inflammatory breast disease in 2 cases. Malignant lesions were invasive lobular carcinoma in 6, invasive duct carcinoma in 12 and papillary carcinoma in 2 cases. The difference was significant (P< 0.05).

Graph I FNAC diagnosis



DISCUSSION

There has been an increasing use of cytology techniques as diagnostic tools in the preoperative assessment of patients with breast lesions. This is due to high level of awareness among the clinicians of the role of cytology techniques, as a useful diagnostic tool and necessary

adjunct to clinical examination.⁶ Furthermore, these techniques are well tolerated by patients and meet their expectations in a timely response to their concerns. The benign lesions of the breast are the most common lesions in the young adults and middle-age groups, and this reflects the increase in awareness of patients and

their desire for early detection and medical care.⁷ This study has highlighted several potential benefits of fine-needle aspiration (FNA). The most important is that FNA is a simple, safe, and cost-effective method as the first line of investigation of palpable breast lumps, particularly in low-resource settings.⁸

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. A triple test consisting of clinical examination, mammography and FNAC is considered the gold standard in making a definitive assessment of breast lumps. In resource poor settings like ours, FNAC comes readily useful for its obvious advantages. It is a cheap, fast, and reliable diagnostic method.⁹ It also reduces the frequency of open biopsies. Some of the setback of FNAC includes pain and hematoma formation. It has also been found to have the potential to mask radiological assessment when done prior to mamography. It is also possible that the smears may be acellular (no cells are harvested) making cytological analysis impossible. These are described as inadequate aspirates and rates vary markedly, being particularly operator dependent and cases have to be converted to CNB which is able to solve the problem.¹⁰ The present study was conducted to evaluate cases of breast lump with FNAC.

In present study, out of 74 specimens, age group 20-40 years had 24, 40-60 years had 40 and >60 years had 10 cases. Jindal et al¹¹ in their study a total of 731 cases were obtained in the cytopathology section over 2 years out of which 220 (30.10%) cases were breast lump FNACs. Benign tumors contributed to 162 cases (73.64%) and malignant tumors to 58 cases (26.36%). Among benign tumor, fibroadenoma was the most common tumor which constituted 121 cases (55%). Infiltrating duct carcinoma was the most common malignant breast tumor in the present study comprising 53 cases (24.09%).

We found that lesions were benign such as fibroadenoma in 34, lactating adenoma in 6, fibrocystic change in 5, galactocele in 3, benign phyllodes in 4 and inflammatory breast disease in 2 cases. Malignant lesions were invasive lobular carcinoma in 6, invasive duct carcinoma in 12 and papillary carcinoma in 2 cases. Ukah et al¹² in their study all patients who had Fine Needle Aspiration Cytology of Breast lumps with subsequent histological confirmation over this period were included in the study. In the five years under review, a total of 289 FNAC of breast lumps were done. The aspirates were obtained from 275 (95.2%) females and 14 (4.8%)

males. There were 161 cases of FNAC with corresponding tissue for histological correlation giving a biopsy rate of 55.7%. The sensitivity of FNAC in determining the final histologic diagnosis was found to be 99.4% while the specificity was 100%. FNAC was able to determine final histologic diagnosis conclusively in 86.3% of cases.

The shortcoming of the study is small sample size.

CONCLUSION

FNAC is a reliable diagnostic tool of breast lumps. Clinicians should continue to embrace this rapid and inexpensive diagnostic technique in the surgical management of breast lumps.

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