Volume : 5 | Issue : 6 | June 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

Research Paper

Diagnosis of Breast Lump By Fine Needle Aspiration Cytology

Medical Science

KEYWORDS : FNAC , BENIGN LESIONS, BREAST CARCINOMA , FEMALE.

Dr.Vidyanand Pandit	PG 3rd yr ,GAJRA RAJA MEDICAL COLLEGE GWALIOR,(M.P) 474009
Dr.Atul Kumar Pandey	PG 2nd yr , GAJRA RAJA MEDICAL COLLEGE GWALIOR,(M.P) 474009
Dr.Rajesh Gaur	Professor and head , GAJRA RAJA MEDICAL COLLEGE GWALIOR,(M.P)

ABSTRACT

Breast carcinoma is the most common malignant tumour and the leading cause of death from cancer in women. A large number of patients in india have been suffering from breast cancer. Now-a-days, Fine needle aspiration cytology (FNAC) is being performed as a pre-operative test to evaluate breast lump. FNAC is cost effective and can prevent unnecessary surgery. As FNAC became more reliable in diagnosing malignancy and thereby the use of frozen-section histology had been reduced by about 80%. But erroneous diagnosis is more common with FNAC than with histopathology. Present study aimed to see the accuracy of FNAC and in the diagnosis of palpable breast lumps and to study their correlation. In this study 260 patients were included in the study and FNAC was done in all the patients. Among these 66 cases were found malignant and benign cases were 169 . Histopathology was done in total 25 cases. Fibroadenoma is mostly found in below 20 years group and malignancy is mostly occurring in older age group. However, the study has shown a much higher performance of FNAC than other previous studies indicating the improved skill in cytological diagnosis to a satisfactory level.

INTRODUCTION

Breast carcinomas are one of the leading causes of cancer in women. Fine Needle Aspiration Cytology (FNAC) is one of the important components of 'triple approach', which has been widely accepted for the preoperative diagnosis of breast lesions (1). Fine Needle Aspiration Cytology is a well-established and widely acceptable, reliable technique in the evaluation of symptomatic breast lesions. The procedure is safe, cost effective, minimally invasive, rapid & as sensitive as biopsy(2,3,4).FNAC helps in separation of Malignant lesions that require more radical surgery, from Benign ones that can be conservatively managed. FNAC also helps in identification of various cytomorphological lesions, as well as the minimal residual disease, recurrent lesion for the purpose of planning therapeutic protocol & eventual follow up. Following several advantage of FNAC (find needle aspiration cytology)

1. Immediate diagnosis relieves the patient anxiety and save time.

2. A definite treatment plans can be prepared.

3. It is cost effective, allowing one step definitive surgery including lymph node.

AIMS AND OBJECTIVES

The aims of our present study are as follow Demonstrate the utility, feasibility & accuracy of FNAC & its continuing role in diagnosis of breast lesions

1. Female breast lesions –Various cytomorphological pattern & incidence of malignancy.

2. To determine the accuracy of fine needle aspiration cytology in the diagnosis of breast lesions.

3. To correlate the cytological findings with histopathological examinations for breast lesions.

MATERIAL AND METHODS

This RETROSPECTIVE Fine Needle Aspiration Cytology study was carried out at GAJRA RAJA Medical College & JAGroup of Hospitals, GWALIOR, during the period of JAN 2014 to APRIL 2015,on 260 patients with breast lesions; among which cyto-histopathological correlations were obtained in 25 cases. The records of 260 patients who had undergone FNA of breast lump during the study period were retrieved.

FNAC was done by standard procedure by expert faculty by using 22g needle & without any Anaesthesia. Prior to aspiration, detailed history with physical examination of both the breasts and the lump were carried out to assess its size, mobility, and evidence of clinical signs of malignancy. Palpable axillary lymph nodes were aspirated to exclude metastases. The slides were stained with MAY GRUNWALD GIEMSA (CYTOLOGY) ,Haematoxylin and Eosin (H and E) stain(HISTOLOGY).

RESULTS

The age of the patients in the present study varied from 14 to 80 years. The most common age group came for fnac for breast lump was 16-25 years.Total of 260 breast lumps were aspirated during the study period of which all cases were reported. Histopathology examination of breast pathology was found in total of 25 cases. The FNAC report was correlated with the final histopathology report in all cases. Benign breast lesions were common in the age group of 14-25 years and malignant breast lesion common in the age of 46-55 years of age. Among total cases incidence of various lesions were found to be Fibroadenoma 163(62.7%),ductal carcinoma 49(18.9%) phyllodes tumor 1(0.4%),fibrocystic disease 09 (3.4%), fibroadenosis 22(8.4%),epithelial hyperplasia 05(1.9%) , inflammatory lesion 05 (1.9%) , lactating adenoma 02(0.75%),ADH 04(1.5%).Fibroadenoma was the commonest benign breast lesion and ductal carcinoma was the most common malignant lesions. most common breast involved was found to be left side and upper outer quadrant was the commonest site. most common size of palpable lump was 1 to 3 cms in size out which 136(52.3%) cases were benign and 10 (4.0%) cases were malignant.most malignant lesions were 4 to 6 cms in size.

DISCUSSION

Breast cancer is the most common type of cancer in women, age 40- 50 yrs. It is the second leading cause of cancer deaths, about 250000 women die of this disease every year(1). So early detection & management requires the search for best diagnostic modality(3) FNAC of breast

Volume : 5 | Issue : 6 | June 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

lumps is an accepted and established method for determining the natures of breast lumps with a high degree of accuracy [4,5]. Application of Fine Needle Aspiration (FNA) for the diagnosis of palpable breast masses was first introduced by Martin and Ellis in 1930 and since then, it has been established as an important tool in the evaluation of breast lesions.

In this present study benign breast disease were most common , showing fibroadenoma(62.7%) as a commonest lesion similar findings also presnt in studies of dr.meena et al 2014 (52%), panjavani et al 2013.

In the present study, all the 25 cytologicallydiagnosed cases were confirmed same findings on subsequent histopathological examinations. So, in our study, a 100% cytohistopathological correlation was observed for breast lesions. Zhang Qin et al., [11], AZ Mohammed et al., [12], Tiwari M [10] had also observed the same results in their studies.

A difference was noted in the incidences of benign and malignant breast lesions amongst various studies, which may be explained on the basis of variables like the duration of study period, number of cases studied, age group of patients, etc.

CONCLUSION

The FNAC of breast is cheap, safe and highly accurate preoperative method for diagnosis of breast lesions.Preoperative categorization of breast lesions is utmost important for management of the patient.Some false negative results are inevitable. Sampling errors and interpretation errors are responsible for false negative results.

Therefore, correlation between clinical examination, cytopathology and histopathology holds high significance in diagnosis of breast cancer.

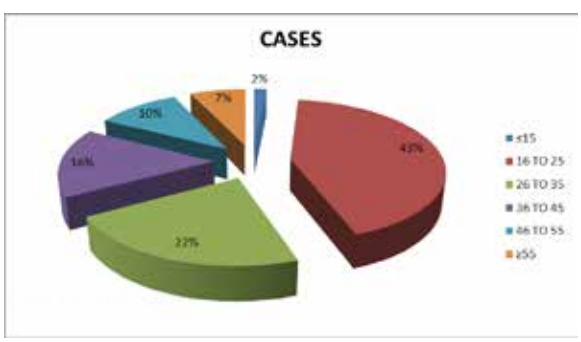

FIGURE 1. AGEWISE DISTRIBUTION OF BREAST LESIONS

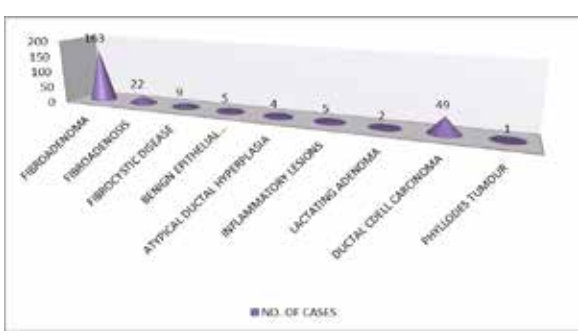

FIGURE 2.CYTOMORPHOLOGICAL DISTRIBUTION OF VARIOUS BREAST LESIONS

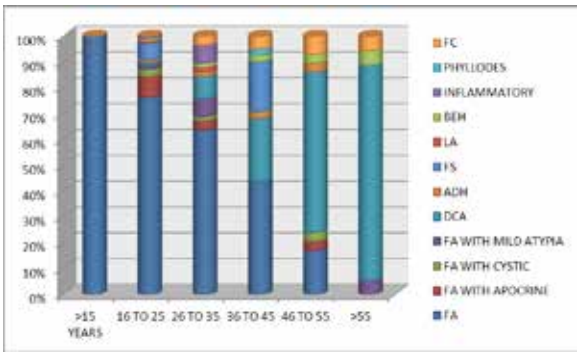

FIGURE 3.AGE WISE DISTRIBUTION OF SPECTRUM OF VARIOUS BREAST LESIONS

FIGURE 4: PICTURE SHOWING LARGE BREAST MASS(45YR/F) MALIGNANT PHYLLODES TUMOUR.

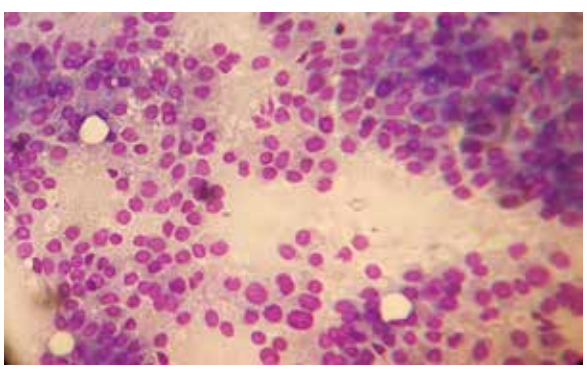

FIGURE 5: THIS PICTOMICROGRAPH SHOWING LOOSE CLUSTERS OF PLEOMORPHIC DUCTAL CELLS,DUCTAL CELL CARCINOMA(MGG,X400).

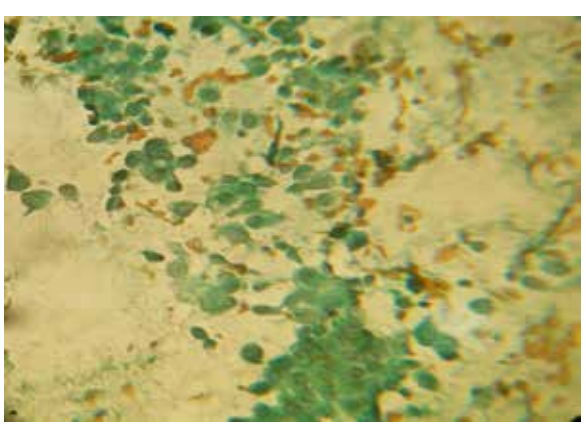

FIGURE 6: THIS PICTOMICROGRAPH SHOWING LOOSE CLUSTER OF HIGHLY PLEOMORPHIC CELLS,DUCTAL CELL CARCINOMA (PAPS,X400).

REFERANCES

(1) Kocjan G, Bourgain C, Fassina A, et al. The role of breast FNAC in diagnosis & clinical management: a survey of current practice. Cytopathology. 2008;19:271–78.

(2) Oyama T, Koibuchi Y, Mckee G. Core needle biopsy as a method for breast lesions;comparision with fine needle aspiration cytology(FNA) Breast Cancer 2004;11(4):339-42.

(3) O'NellS, Castelli M, Gattuso P, KluskensLetal.Fine Needle aspiration Cytology of breastlesionswiyhhistopathologicalcorrelation.Surgery 1997;122(4):824-8.

(4) McManus DT & Anderson NH. Fine Needle Aspiration Cytology of breast.CurrentDiagnPathol 2001; 7: 262-271.

(5) Orrel and Sterretts 2012,fine needle aspiration cytology, 5th edition.

(6) Disc.RakhshindahBajwa et al D;/Biomedica vol26 Jul-Dec2010/Bio7-Docp124-129.

(7) O'NellS, Castelli M, Gattuso P, KluskensLetal.Fine Needle aspiration Cytology of breast lesions wiyhhistopathologicalcorrelation.Surgery 1997;122(4):824-8.

(8) Purasiri P, Abdalla M, Heys SD, Ah-See AK, McKean ME, Gilbert FJ, et al. A novel diagnostic index for use in the breast clinic.J R CollSurgEdinb. 1996;41:30–34. [PubMed]

(9) Kaufman Z, Shpitz B, Shapiro M, Rona R, Lew S, Dinbar A. Triple approach in diagnosis of dominant breast masses: combined physical examination, mammography and fine-needle aspiration. J SurgOncol. 1994;56:254–57. [PubMed]

(10) Tiwari M. Role of FNAC in diagnosis of breast lumps. Kathmandu University Medical Journal. 2007;5:215–17.

(11) Zhang Qin, NieShigui, Chen Yuhua, Zhou Limei. Fine Needle Aspiration Cytology of Breast Lesions: Analysis of 323 Cases. The Chinese-German Journal of Clinical Oncology.2004;3(3):172–74.

(12) Mohammad AZ, Edino ST, Ochicha O, Alhassan SU. Value of fine needle aspiration biopsy in preoperative diagnosis of palpable breast lumps in resource-poor countries: a Nigerian experience. Annals of African Medicine. 2005;4(1):19–22.