

Role of FNAC in Breast Lesions

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Abstract

Background: A study was designed to see the role of fine needle aspiration cytology (FNAC) in palpable breast lumps.

Materials and Methods: A total of 50 patients of breast lesions are taken over a period of 6 months. Proper diagnosis was given in FNAC and correlated with histopathology.

Results: Out of 50 case of breast lesions done, 25 cases were of Fibroadenoma breast which was the most common lesion we encountered. Followed by fibrocystic disease in 18 case, rest 10 cases were of ductal carcinoma, 2 case of mastitis. Histopathology was obtained in 48 specimens and was correlated. 2 cases of mastitis were treated medically. There was 100% sensitivity and specificity of FNAC compared to histopathology.

Conclusion. FNAC serves as a rapid, economical, and reliable tool for the diagnosis of palpable breast lesions because the cytopathological examination of these lesions before operation or treatment serves as an important diagnostic modality.

Introduction

Breast lesions are the most common lesions seen in our patients. They range from wide variety of lesions ranging from benign to malignant lesions. Although benign lesions are common however there is no doubt that malignant lesions are increasing especially in younger women nowadays. Hence a complete awareness is essential for all the females of reproductive age group in this matter. Breast lesions compasses a wide variety of lesions comprising of most common benign lesion of Fibroadenoma to most malignant breast lesion infiltrating ductal carcinoma physical examination, mammography, fine-needle aspiration cytology, and core needle biopsy are very important in this aspect.^(1,2)

Fine needle aspiration is very important procedure in this aspect as this helps in the further management of the cases. Whether simple excision procedure is required or mastectomy is required in that particular case. "Fine-needle aspiration (FNA) biopsy is an established and highly accurate in diagnosing breast lesions." The core biopsy (CB) is expensive and time consuming as compared to FNA procedure.⁽⁴⁻⁶⁾ Core Biopsy or tru cut needle biopsy is not widely used because of its complications, interpretation, and time-consuming results; breast lesions can be accurately diagnosed by triple test only FNAC, physical examination and Mammography.⁽⁷⁾

Material and Methods

A total of 50 patients of breast lesions are taken over a period of 6 months. Proper diagnosis was given in FNAC and correlated with histopathology. FNAC was done as a usual procedure using 23 gauge needle. Slides were fixed in ethanol and stained with hematoxylin and eosin stain and air dried smears were stained with giemsa and papa stain.

Results

Out of 50 case of breast lesions done, 25 cases were of Fibroadenoma breast which was the most common lesion we encountered. Followed by fibrocystic disease in 18 case, rest 10 cases were of ductal carcinoma, 2 case of mastitis. Histopathology was obtained in 48 specimens and was correlated. 2 cases of mastitis were treated medically. There was 100% sensitivity and specificity of FNAC compared to histopathology.

Discussion

Fine-needle aspiration cytology is widely used in the diagnosis of breast cancer because it is an excellent, safe, and cost-effective diagnostic procedure. One can get on site immediate report with minimal cost using inexpensive equipments and a simple technique. The most significant advantage of FNAC is the high degree of accuracy, rapid results, and a less invasive procedure than a tissue biopsy. FNAC of the breast can reduce the number of open breast biopsies.⁽¹¹⁻¹⁴⁾

The frequency of inadequate cases are variable in different studies ranging from 0 to 57.2% depending on various factors. The main causes for inadequate smears may be due to either lack of technical experience in performing FNA, preparation, and fixation of smears. FNA of ill-defined masses like or lesions with hyalinization and deeply located lumps may also be contributed to the inconclusive diagnosis.^(15,16)

Fibroadenoma is the most common lesion where it was common in the age group ranging from 15 yrs to 40 yrs, and presented with a well-defined palpable mobile nodule in the breast. Most common in young age. It yielded high cellularity, of grey white material in gross and microscopy revealed a cellular smears with ductal epithelial cells arranged predominantly in

staghorn pattern with myoepithelial cells and normochromatic ductal cells. Fibromyxoid stroma was seen in the background. Few of the patients were diagnosed as Fibroadenoma with epithelial hyperplasia which was revealed same in histopathology.

Fibrocystic disease was also common in middle aged females of around 35 to 40 yrs. They did not present with well-defined nodule but there were small nodular multiple swellings in majority of cases. Few of them complained of pain in the breast. Aspiration yielded scanty fluid material. Microscopy showed smears of moderate cellularity arranged in tiny clusters and small sheets. They were benign ductal epithelial cells. Background showed cyst macrophages which were diagnostic of the lesion.

Ductal carcinoma of breast was diagnosed in 18 cases. Most of them were between 35 yrs to 70 yrs of age. A 32 yrs aged lactating mother was also diagnosed with carcinoma in our study. They usually presented with an irregular mass without pain, some of them had enlarged lymph nodes too. A 70 year old lady had reported to the pathology department with ulcerated nipple and fixed skin with scaling on it. Aspiration yielded a grey white material. Microscopy revealed a highly cellular smears with malignant ductal epithelial cells in sheets and clusters. The cells were highly pleomorphic with prominent nucleoli and condensed chromatin. Tumor giant cells were seen. With these finding we reported as infiltrating ductal carcinoma for which all the 18 cases modified radical mastectomy was done and confirmed as carcinoma in histopathology with Bloom Richardson grading and TNM staging.

Mastitis was reported in 2 cases. The patients were 30 to 35 yrs aged and presented with pain in breast and fever. Aspiration yielded pus like material. Microscopy revealed a sheets of neutrophils with histiocytes and ductal epithelial cells in between. Background showed necrotic material. These patients were treated medically and responded to treatment.

Conclusion

The cytological examination of breast lesions prior to surgical treatment serves as a rapid, economical, and valuable diagnostic tool. Adhering to the principle of "Triple test," and acquisition of technical, observational, and interpretative skills will further enhance the diagnostic accuracy of proliferative conditions with atypia or suspicious lesions of breast.

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