# Specimen of Structured Abstract: Efficacy of FNAC in Palpable Breast Lumps

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**To determine the efficacy of FNAC in breast lumps, 60 patients with palpable breast lumps were included in this study, over a period of one year i.e. from August 1997 to August 1998. Results of FNAC were compared with postoperative histpathological reports. FNAC could detect 20 out of 20 malignant tumours (100%). Out of those 20 malignant tumours 12 were invasive ductal carcinomas and 8 were intraductal carcinomas (100%). There were no false positive results, thus FNAC accuracy was 100%. For 40 lesions labeled as benign by the histopathologist, FNAC could detect 30(75%) lesions while 10(20%) were labeled unsatisfactory for diagnosis. FNAC could be very helpful in preoperative work up of patients with palpable breast lumps. FNAC has high degree of sensitivity, specificity and accuracy due to which it is not only a useful adjunct in the diagnosis of breast malignancies but it can also be extremely useful for identifying the benign lesion.**
**Key words: FNAC, breast lumps, mastectomy.**

Human breast has got a lot of physical as well as psychologtical importance in females. It is extremely depressing for a lady, fi her breast is excised. This situation is quite common in Pakistan where a surgeon has to perform mastectomy due to the dangerous nature of the lump in her breast and it is all due to the late referral of the cases and delayed diagnosis of the disease. Mastectomies may only be prevented if breast diseases are diagnosed at the earliest and FNAC can be very helpful for early diagnosis of breast disease[1].

FNAC has gained much popularity during the recent past. It is procedure that can be performed on out door basis, very economical and less traumatic. It does not need any anaesthesia and hospitalization. FNAC can help in early detection of a malignant lesion and so help a surgeon to carry out a definitive curative surgery at an early stage.

## Patients and methods

Ninety patients were admitted in Surgical Unit-1, Nishtar Hospital, Multan during the period of 12 months. Out of these 90 patients, 30 were not operated, and so excluded from the study. All these patients were admitted via Outpatient Department and FNAC was carried out on the same day. Results of FNAC are categorized in different groups according to the criteria of Melchar et al[2] ;(Table 1).

Table 1. Grading of cytological (FNAC) smeear ( Melcher et al[2])

| | |
|---|---|
| Malignant | Unequivocal malignancy |
| Suspicious | Scanty specimen with few abnormal cells having features of malignancy or benign material in combination with abnormal cells. |
| Benign | No evidence of malignancy, epithelial cells in tight clusters, uniformity in cell size and shape with regular chromatin. |
| Unsatisfactory | Absence of epithelial and other tissue elements, or scanty cells considered inadequate for diagnosis |

FNAC reports of these patients were collected on the next day and surgery was done on the next available list. Histopathology of breast specimens was carried out in all these patients and results were compared with FNAC.

## Results

According to FNAC analysis, conclusive diagnosis of malignancy was made in 20 patients, while 30 lesions were labeled as benign. Pathologists were unable to commit a diagnosis in 10 lesions and requested for operative or true cut biopsies. These smears were categorized as unsatisfactory (Table 2).

Table 2. Cytological diagnosis n=60

| Diagnosis | Number of patients |
|---|---|
| Malignant` | 20 |
| Benign | 30 |
| Unsatisfactory | 10 |

Histopathology reports showed that 40 lesions out of 60 were benign where as 20 were malignant. Amongst the malignant cases, there were 12 invasive ductal carcinomas and 8 intraductal carcinoma (Table 3)

Table 3. Histopathological diagnosis Vs FNAC (n=60)

| Histopathology | | FNAC |
|---|---|---|
| Benign | 40 | 30 |
| Fibroadenoma | 20 | 15 |
| Fibrocystic disease | 15 | 12 |
| Chronic pyogenic mastitis | | ] |
| Mastitis | 04 | 02 |
| Tuberculous mastitis | 01 | 01 |
| Malignant | 20 | 20 |
| Intraductal Ca | 08 | |
| Invasive ductal Ca | 12 | |

*In 10 patients FNAC was non-conclusive

**Discussion**

In this study FNAC could detect 20 out of 20 malignant tumours. Out of these 20 malignant tumours, 12 were invasive ductal carcinomas (100%) and 8 were intraductal carcinomas (100%). There were no false positive results and FNAC accuracy was 100%.

For 40 lesions labeled as benign by histopathology, FNAC could diagnose 30(75%), while 10(25%) were unsatisfactory for diagnosis. Among these 30 cases, FNAC could diagnose 15(75%) fibroadenomas, fibrocystic disease in 12(80%), chronic pyogenic mastitis in 2(50%) and tuberculous mastitis in 1(100%).

In this study, the analysis of cytological reports have shown that for most of the lesions, the pathologist could make a correct diagnosis except for the lesions with acellular smear. Lowest rate of diagnosis was observed in chronic pyogenic mastitis. Pathologists were reluctant to commit a diagnosis of chronic mastitis in two cases and requested for open biopsy. There were 20 true positive and 0 false negative in malignant groups of lesions where as in benign disease there were 30 true positive and 10 false negative cases.

The analysis of various analysis data regarding the sensitivity and specificity of FNAC has shown a sensitivity of 100%, specificity of 100%, diagnostic accuracy of 83.3%, false positive rate of 0% and false negative rate of 0%. These results are more or less similar with the study conducted byZajicek[3]. In another study the sensitivity of FNAC was 86.9%, specificity was 78.6% and accuracy was 84%[1]. Yong et al carried out a study of Singapore and found the accuracy of FNAC over 90%[7]. These figures are more or less similar to the study carried out by Florentine BD et al in America[8].

Another study regarding the efficacy of FNAC was carried out in Brazil and according to this study FNAC detected malignancy with a sensitivity of 92.1% (87.7%), specificity of 98.6% (94.7%), in 6.2% of cases, the material was unsatisfactory[9]. Mr. Joshi et al found the accuracy of FNAC 100%, for male breast lesions[10]. These results are almost comparable with the study carried out at Agha Khan Hospital, Karachi, where specificity and sensitivity of FNAC in the palpable breast lesions was 86.1% and 89.2% respectively with a positive predictive value of 93% and efficacy of 88.2%[6]..

**References**


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