

LUMP BREAST; ROLE OF FNAC IN DIAGNOSIS

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ABSTRACT... Background: Lump breast is a fairly common presenting complaint for which patient seeks medical advice and becomes anxious about the diagnosis. Fine needle aspiration cytology (FNAC) for the diagnosis of lump breast has been proved as a simple, rapid and economical Procedure. The present study was done to evaluate the diagnostic accuracy of fine lump breast in our set-up compared with open biopsy. **Methods:** The study was conducted in surgical department of Nishtar Hospital Multan and Frontier Medical College Abbottabad. One hundred female patients with lump breast were selected for the study and their medical history was recorded. The age range was 15- 65 years. All of the patients under went FNAC of the lump breast followed by open biopsy for comparison. **Results:** The results reveal that this study shows a sensitivity of 87.5% for FNAC to pick malignant lesions and specificity of 82.4% while over all diagnostic accuracy 84%. **Conclusions:** Fine needle aspiration cytology is safe, easy, cheap and accurate procedure. Its sensitivity and specificity is fairly high and is a good alternative to open biopsy. FNAC should be routinely used and open biopsy should be performed in doubtful cases only.

Key words: Fine needle aspiration cytology, specificity, sensitivity.

INTRODUCTION

Human breast has got a lot of physical as well as physiological importance in female. Because of increase awareness of breast cancer in the general public, lump breast has become even more common and also very demanding on the part of clinician to diagnose it correctly and speedily¹. Carcinoma breast is extremely rare below the age of 20 but there after, the incidence.

Steadily rises so that by the age of 90 hereby 20% of women are affected².

The diagnosis of lump breast depends on a triple assessment. This comprises:

- ▶ Clinical history and examination.
- ▶ Radiological mammography and/ or ultrasonography.
- ▶ Cytopathology-fine needle aspiration cytology and biopsy or open biopsy³.

It is extremely depressing for a lady if her breast is amputated. Mastectomies can only be prevented if breast disease is diagnosed at the earliest and fine needle

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aspiration cytology (FNAC) can be very helpful to surgeons in early diagnosis and management of breast pathology. Fine needle aspiration cytology can establish whether the lump is solid or cystic. When the lump is solid cells can be obtained for cytological examination⁴.

The technique of FNAC is effectively being practiced as a diagnostic modality in our country. The procedure can be adopted as a routine pre-operative investigation for superficially accessible lesions. Ultrasound guided FNAC is carried out in deep seated organs⁵.

It is less traumatic, easy to perform, much economical and can be performed as an outdoor procedure⁶.

FNAC provides an added dimension to clinical management of lump breast so it directs the clinician to proceed with definite therapy.

This study has been carried out not only highlights the merits and demerits of FNAC but also compare the result of FNAC in palpable lump breast with post operative histopathology reports and so to find out its accuracy in our setup.

MATERIALS AND METHODS

A total number of hundred patients with lump breast were included in this study. All of those were females and their age ranging from 15 to 65 years. FNAC was performed on those patients. Before the procedure of FNAC a detailed history of lump breast was taken and the thorough examination was done. The patients were informed about the procedure and consent for FNAC and then open biopsy was taken. The patients were subjected to FNAC. The slides were examined under microscope. After FNAC, all of the patients were subjected to open biopsy. Specimen were sent for histopathology. The results of the two biopsy procedures were compared.

Kappa statistic is used to measure the agreement between FNAC and Histopathology results.

RESULTS

The results of FNAC were divided in groups: Malignant, suspicious of malignant benign and unsatisfactory.

Malignant report meant that there was no doubt about the malignant cells. Suspicious of malignancy meant that either aspirate was very scanty or aspirate contained benign material in combination with abnormal malignant looking cells, benign meant presence of adequate tissue elements for study with no malignant cells while unsatisfactory meant absence of essential epithelial or other tissue elements for the smear.

Table-I. Histological diagnosis (n=100)

Category	No. Of patients	%age
Benign	68	68.0
- Fibroadenoma	50	
- Fibrocystic disease	04	
- Chronic mastitis	08	
- Tuberculous mastitis	02	
- Traumatic fat necrosis	04	
Malignant	32	32.0
- Intraductal carcinoma	12	
- Invasive ductal carcinoma	18	
- Lobular carcinoma	02	

Table-II. Comparison of FNAC and histopathology in diagnosis of benign breast disease (n=100)

Disease	FNAC	Histopathology
- Fibroadenoma	46	50
- Fibrocystic disease	02	04
- Chronic mastitis	06	08
- Tuberculosis	-	02
- Traumatic fat necrosis	02	04
Total	56	68

Table-III. FNAC efficacy

Histopathology	FNAC			
	Malignant	Benign	Unsatisfactory	Percent Correct
Malignant	28	00	04	87.5%
Benign	00	56	12	82.4%
Overall Percentage				84%
<i>Kappa = 0.7, P = 0.000</i>				

According to FNAC analysis concluding diagnosis of malignant was made in 24 patients 4 cases were regarded as suspicious and 56 lesions were benign 16 lesions were unsatisfactory out of total 100 patients.

RESULTS OF HISTOPATHOLOGY

Histopathology reports showed that 68 lesions out of 100 cases were benign where as 32 were malignant. Out of benign lesions 50 were fibroadenomas, 4 were fibrocystic disease, 8 were chronic pyogenic mastitis, 4 were traumatic fat necrosis and 2 cases of tuberculosis, were diagnosed. In 32 malignant cases, there were 12 intraductal carcinoma 18 were invasive ductal carcinoma and 2 were lobular carcinoma.

There is satisfactory strong agreement between the results of FNAC with Histopathology ($Kappa = 0.7, p = 0.00$).

DISCUSSION

A comparison was made between the results of FNAC and histopathology of the lump breast in 100 patients. For malignant lesions, diagnosed by histopathology FNAC could detect 24 out of 32 malignant tumours (75%) and 4 were graded as suspicious of malignant (12.5%) four malignant lesions remained undiagnosed. Pathologist declared them unsatisfactory and request for open biopsy. For 68 lesions, labeled as benign by histopathology. FNAC could diagnose 56 (82.2%) lesions, 12(17.6%) were unsatisfactory.

In these 68 cases FNAC could diagnose 46 fibroadenoma, fibrocystic disease in 2, chronic pyogenic mastitis in 6 and traumatic fat necrosis in 2 cases.

There were 28 true positive and four false negative in malignant group of lesions where as in benign group, there were 56 true positive and 12 false negative cases. Muchiri and penuer et al from department of pathology university of Nairobi, during 1990-91 described that FNAC has 95% accuracy in differentiating benign from malignant lesions in lump breast⁷.

In 1991 Petra et al described an over all diagnostic rate 88.67% and concluded that FNAC is a reliable primary diagnostic procedure for lump breast⁸.

In 1991 Khanna et al in their article entitled- FNAC, imprint cytology and tru-cut needle biopsy in lump breast, shown a specificity of 100% for all the three procedures. There was a sensitivity of 96.3% for imprint cytology, 98.4% for FNAC and 100% for tru-cut needle biopsy⁹.

A study entitled "Diagnostic value of FNAC of breast lesions and its co-relation with open biopsy" carried out at Liaqat Medical College Haderabad in 1993 the author shown a diagnostic accuracy of 96.5%, sensitivity 96.5% and specificity 96.4%. Thus the concluded that FNAC is a highly accurate diagnostic procedure for breast lesions¹⁰.

A similar study was done at District Headquarter Abbottabad and shown that the sensitivity of FNAC was 76.47%, specificity 100% and diagnostic accuracy 76.6%¹¹.

Another study, carried out at Chandka Medical College, shown 90% overall diagnostic accuracy¹².

The Procedure was found to be simple and little equipment was required. Complications such as excessive bleeding and haematoma formation were not encountered. In addition the procedure was found to be time saving. As the patient needs no pre-operative investigation or hospitalization, time spent on operation, post operative recovery and histopathological reporting, is saved. All that is beneficial to the surgeon, pathologist and the patient .

CONCLUSION

In this study 100 cases have been evaluated with FNAC followed by histopathological reporting to compare the results. The result reveal that present study shows a sensitivity of 87.5% for FNAC to pick malignant lesion and specificity of 82.4% while over all diagnostic accuracy turn out to be 84%. This study has shown that FNAC of palpable lump breast is a simple, less traumatic, rapid and cost-effective procedure and having a high patient compliance rate.

FNAC neither require any anesthesia nor leave a scar. The equipment needed for FNAC is minimal and technique is easy to master. It can be repeated whenever needed.

FNAC has a high degree of accuracy to commit diagnosis of breast malignancies and also benign lesion.

Thus it can be safely concluded that fine needle aspiration cytology is an ideal investigative modality in cancer detection programmes and in the management of patients presenting with lump breast. It should be routinely used and open biopsy performed in doubtful cases only.

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