

CYTOPATHOLOGICAL EVALUATION OF BREAST LUMPS: CLINICAL CORRELATION IN A SURGICAL OUTPATIENT SETTING AT BSMMU, DHAKA

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Abstract

Background: A breast lump is the most common symptom associated with both benign and malignant breast diseases. But identification of benign from malignant lump is so crucial for patient management. Clinical diagnosis is possible with CBE (clinical breast examination) but cytopathology by doing FNAC is proven essential for confirm the diagnosis for management protocol. **Objective:** The objective of this study was to evaluate the role of FNAC to detect the different breast lumps in diagnosis and their comparison. **Methods:** A prospective crosssectional study was conducted over a period of one year from January 2011 to December 2011. A total of 115 patients were included in this study. All breast lumps were diagnosed clinically in out-patient department of surgery, BSMMU, Dhaka, Bangladesh compared with the FNAC findings. Data were collected from these patients by a preformed questionnaire and finally the data were analyzed. **Results:** Among the 115 patients 26(22.61%) patients found malignant and benign 89(77.39%) which was done by FNAC. **Conclusion:** The present study was undertaken to evaluate in diagnosing breast mass lesions individually by doing FNAC in out-patient department for definitive management of a patient.

Keywords: Breast lump, FNAC, benign, malignant.

I. Introduction

Breast disease in women encompasses a spectrum of benign and malignant disorders. [1] The most common breast problems for which women consult a physician are breast pain, nipple discharge, and a palpable mass. Early menarche (before the age of 12), late natural menopause (after the age of 55), not bearing children, and first pregnancy over the age of 30 all increase lifetime exposure to oestrogen and progesterone and the risk of breast cancer. [2] Breast lumps occur due to a variety of etiology ranging from benign conditions such as breast cysts and fibroadenoma, infective/inflammatory conditions such as lactational mastitis, granulomatous mastitis, and antibioma to malignant like ductal carcinoma. FNA cytology of the breast lump has been used in Edinburgh for several years, and evidence of its value in diagnosis has already been presented. [3] FNAC is a less invasive, simple, cheap, and outpatient department (OPD)-based procedure with rapid results. Accurate pre-operative evaluation is important as it allows rapid referral of malignant cases for further treatment and thus improves the cure rate and survival rate and

discharge of benign cases from the clinic. FNAC can play a pivotal role in the primary categorization of breast lump and comparatively early diagnosing benign and malignant in majority of cases. [3-6] The aim of this study is to correlate the different diagnosed breast lump by FNAC in out-patient department.

II. Methodology

This study was a prospective and cross-sectional study and conducted on 115 consecutive women attending in the Surgery out -patient department in the BSMMU, Dhaka, Bangladesh in between January 2011 to December 2011. All female patients with breast lump at the 11 to 80 years of range were included in the study.

Male patient with breast disease and patient with histopathologically proved diagnosis were excluded in this study. There were no ethical problems as before study procedure conducted, verbal consent of patient was taken. Disagreed cases were not included in this study. Relevant information (according to questionnaire) were taken from patients and physical examination were done in detail. In all cases experienced pathologist analyzed the cytology report of FNAC of all breast lumps. If a case was unclear, a second pathologist was consulted. All data were analyzed manually in view of the objective of this study. Frequency, distribution and proportions were calculated for the values. Results were published in tabulated form.

III. Result

The total number of cases were 115. Most of the patients were in the age group 21 -50 years. Among them 37 (32.17%) cases were present in 31-40 years of age group. Left sided breast lump was more 67(58.26%). Breast lump with pain was 33(28.70%) and breast lump with nipple discharge was 21(18.26%). Cytopathologically benign breast lesions were 89(77.39%) and malignant 26(22.61%). The commonest disease of the breast were fibroadenoma 40 (34.78%), duct cell carcinoma 23 (20%) and another commonest benign but notorious disease granulomatous mastitis 19(16.52%).

Table I: (Age distribution of different breast lumps)

Age of the patient	Number of cases (n=115)	Percentage (%)
11-20	05	4.35
21-30	23	20.0
31-40	37	32.17
41-50	24	20.87
51-60	14	12.17
61-70	11	9.56
71-80	01	0.87
Total	115	100.0

Table II: Distribution of clinical symptoms of the patients (n=115)

Variables	Number (n=115)	Percentages (%)
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Presence of a right breast mass		48	41.74
Presence of a left breast mass		67	58.26
Presence of associated pain	Yes	33	28.70
	No	82	71.30
Presence of nipple discharge	Yes	21	18.26
	No	94	81.74

Table III: Distribution of cytological outcome and diagnosis of the breast masses (n=115)

Nature of mass (by FNAC)		Number (n=115)	Percentage (%)
Benign	Fibroadenoma	40	34.78
	Fibrocystic disease	13	11.30
	Galactocele	10	8.70
	Granulomatous mastitis	19	16.52
	Phylloides tumor	7	6.09
Malignant	Invasive ductal carcinoma	23	20.0
	Lobular carcinoma	3	2.61
	Total	115	100.0

IV. Discussion

The European projects included three series which used FNA cytology in second stage screening, but separate evaluation of its role was not reported. In Edinburgh such assessment can be made and shows clearly that FNA cytology contributes substantially to a retrospective and restricted selection, when combined with clinic assessment category; the yield of cancer is then maximised while maintaining a greater than 50% reduction in benign biopsy specimens. [7, 8]

Total 115 patients were included in this study. The breast diseases were more common between the age of 31-40 years and it was 37(32.17%). Bukhari MH, Arshad M showed that the distribution was 23, 76,166,86,53,16 and 5 cases respectively. This disparity due to more number of cases according to age range in this study. [9]

In comparison between benign and malignant cases among the 115 cases. In cytopathology 89 (77.39%) were benign and 26(22.61%) cases were malignant. Ahmed S, Raza SZ found the percentage of benign 80% and that of malignant 20%. [10]

This study revealed that maximum diseases were benign in nature. Among them 40(34.78%) were fibroadenoma, 13(11.30%) were fibrocystic disease and only 26(22.61%) were malignant. Next granulomatous mastitis 19(16.52%) and galactocele 10(8.70%) were present. Okoye and co-workers [11] and Muddegowda et al. [12] found that fibroadenoma was also the most common benign breast lesion followed by fibrocystic diseases. Another study revealed of the 750 solid nodules 625(83%) were benign

and 125(17%) were malignant. The overall negative to positive biopsy ratio was 5:1. [13] Bukhari MH found mastitis 4.32% and breast tuberculosis 2.3%. Erogen F found 24.75% granulomatous mastitis and 7.29% tubercular mastitis. [14]

V. Conclusion

Lump in the breast is a common clinical manifestation with etiology ranging from benign to borderline lesions to frank malignancy. The most common benign lesion was fibroadenoma in the present study. Similarly, the most common malignant lesion was invasive ductal carcinoma. Breast-related ailments were found frequently in females of the reproductive age group and in the outer upper quadrant of the breast. From the study, we can draw the conclusion that there is a positive correlation between clinical diagnosis and FNAC in out-patient department.

References

Monica M. Evaluation of common breast problems. Am Fam Phys 2000; 61:2371-8?

McPherson K, Steel CM, Dixon JM. ABC of breast diseases. Breast cancer —Epidemiology, risk factors, and genetics. Br Med J 2000; 321:624-8.

Dixon JM, Anderson TJ, Lamb J, Nixon SJ, Forrest APM. Fine needle aspiration cytology in relationships to clinical examination and mammography in the diagnosis of a solid breast mass. Br J Surg 1984; 71:593-6.

Galen R, Gambino SR. Beyond normality. In: The predictive value and efficiency of medical diagnosis. New York, John Wiley and Sons, 1975. pp 10-14.

Abele JS, Miller TR, Goodson WH, Hunt TK, Hohn DC. Fine needle aspiration of palpable breast masses. A program for staged implementations. Arch Surg 1983; 118:859-63.

Barrows GH, Anderson TJ, Lamb J, Dixon JM. Fine needle aspiration of breast cancer. Relationship of clinical features to cytology results in 689 primary malignancies. Cancer 1986; 58:1493-8.

Chetty U, Kirkpatrick AE, Anderson TJ, et al. Localisation and excision of occult breast lesions. Br J Surg 1983; 70:607-10.

Svane G, Silfversward C. Stereotaxic needle biopsy of non-palpable breast lesions. Cytologic and histopathologic findings. Acta Radiol Diagn 1983; 24:283-8.

Bukhari MH, Arshad M, Jamal S et al. Use of fine needle aspiration in the evaluation of breast lumps; SAGE-Hindani access to research pathology research international vol. 2011 article ID 689521.

Ahmed S, Raza SZ and Khan TM. To evaluate the accuracy of FNAC in palpable breast lump at breast clinic of Abbasi shaheed Hospital, Karachi; Pak J Surg. 2010; 26(2): 111-117.

Anyikam A, Nzegwu MA, Ozumba BC, Okoye I, Olusina DB. Benign breast lesions in Eastern Nigeria. Saudi Med J 2008; 29:241-4.

Muddegowda PH, Lingegowda JB, Kurpad R, Konapur P, Shivarudrappa A, Subramaniam P. The value of systematic pattern analysis in FNAC of breast lesions: 225 cases with cytohistological correlation. J Cytol 2011; 28:13-9.

Stavors AT, Thickman D, Rapp CL, Dennis MA, Parker SH, Sisney GA. Solid breast nodules: use of sonography to distinguish between benign and malignant lesions. Radiology 1995; 196: 123-34.

Erogen F, Ersoy YE, Akaydin M et al. Corticosteroid treatment and timing of surgery in idiopathic granulomatous mastitis confusing with breast carcinoma. Breast cancer reaserch and treatment. 2010; 123: 447-452.