TRIPLE ASSESSMENT
EFFICACY IN DIAGNOSIS OF MALIGNANT BREAST LUMP

ORIGINAL
PROF-2040

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ABSTRACT... Objectives: To determine the efficacy of triple assessment in diagnosis of malignant breast lumps in female patients taking core biopsy as a gold standard. **Setting:** Breast Clinic, Unit-III, Department of Surgery, Nishtar Hospital, Multan. **Period:** October 2007 to March 2008. **Material & Methods:** A total 0f 100 patients of breast lump, above the age of 14 years, having palpable lump of any size in breast were selected according to inclusion criteria. **Results:** Out of 100 patients included in the study most of the patients were in the age group 45-54 years i.e. 46 (46%) followed by 32 (32%) in the age group 35-44 years. According to occupation 67 (67%) were house wives, 13 (13%) were teachers and 5 (5%) were nurses. In 48 (48%) patients the lump size was 2 cm, 35 (35%) patients had lump size from, 2-4 cm while in 17 (17%) patients lump size was > 4 cm. Presenting symptoms like lump was present in 50 (50%) patients, pain alone 25(25%) patients, discharge in 20 (20%) patients and discharge with pain in 5 (5%). Lymph node status like grade-0 was seen in 60 (60%) patients, grade-1 in 21 (21%) patients, grade-2 in 15 (15%) patients and grade-3 in 4 (4%) patients. **Conclusions:** Triple assessment is a valuable tool for an accurate non surgical diagnosis of breast lump, allows assessment of breast cancer patient for conservative and neo-adjuvant primary treatment before surgical treatment.

Key words: Triple assessment, mammography, palpable lump breast, CA breast.

INTRODUCTION

Breast lumps have a variety of etiologies benign and malignant. Fibroadenoma is the most common benign breast lump and invasive ductal carcinoma is the commonest malignancy[1]. Breast cancer is the most commonly diagnosed cancer among women in the United States and worldwide[2]. Although most breast carcinoma occurs in women older than 50 years, 31% of women diagnosed with breast cancer between 1996-2000 were younger than 50 years[2]. The incidence of malignancy increased from 0% in 2nd decade to 38.9% in 5th and 100% in 9th decade of life in Pakistan[3].

A thorough history of patient with breast cancer is always necessary to identify the risk factors[4]. Age of the patient at menarche, child birth and menopause[5], number of children lactated, history of oral contraceptive pills[6], exposure to radiation, chemotherapy and previous history of breast disease and trauma[7] are important.

Triple assessment is useful for preoperative diagnosis of breast cancer[8]. The triple assessment comprises of:-

1. Clinical breast examination (CBE)[9,10] is clinical examination of breast masses and skin changes such as dimpling infiltration rashes and unilateral nipple retraction or inversion.
2. Diagnostic mammography points the potential of a lesion to be malignant and screens its surrounding tissue[11].
3. In evaluating palpable lumps, fine needle aspiration cytology (FNAC) with 22-25 gauge needle used to aspirate cystic fluid or solid sample for cytology, FNAC is highly sensitive (98-99%)[12]. Exposure of a cytologist is a key factor in obtaining diagnosis and sampling[13].

Core biopsy is the gold standard of diagnosing malignant breast lumps. The purpose of this study is to find the efficacy of triple assessment of breast lumps and compare it with core biopsy so that triple assessment of breast lumps can be promoted as a useful tool for preoperative diagnosis of breast cancer.

PURPOSE OF STUDY

To determine the efficacy of triple assessment in diagnosis of breast lumps in female patients taking core

biopsy as a gold standard.

MATERIAL AND METHODS

This study was carried out in the Breast Clinic, Unit-III, Department of Surgery, Nishtar Hospital, Multan from October 2007 to March 2008. A total 0f 100 patients of breast lump, above the age of 14 years, having palpable lump of any size in breast were selected according to inclusion criteria. All patients underwent FNAC, mammography and clinical examination, were later subjected to core biopsy.

RESULTS

Out of 100 patients included in the study most of the patients were in the age group 45-54 years i.e.46 (46%) followed by 32 (32%) in the age group 35-44 years, as shown in Table-1.

According to occupation 67 (67%) were house wives, 13 (13%) were teachers and 5 (5%) were nurses (Table-II).

In 48 (48%) patients the lump size was 2 cm, 35 (35%) patients had lump size from, 2-4 cm while in 17 (17%) patients lump size was > 4 cm (Table-III).

Presenting symptoms like lump was present in 50 (50%) patients, pain alone 25(25%) patients, discharge in 20 (20%) patients and discharge with pain in 5 (5%) as shown in table-IV.

Lymph node status like grade-0 was seen in 60 (60%) patients, grade-1 in 21 (21%) patients, grade-2 in 15 (15%) patients and grade-3 in 4 (4%) patients shown in table-V.

Forty five patients were diagnosed by FNAC, 30 patients clinically, 25 by mammography and all 100 patients by core biopsy as shown table-VI.

The sensitivity, specificity, positive predictive value and negative predictive of clinical assessment, mammography and FNAC in the diagnosis and characterization of palpable breast lump was determine as shown in table-VII.

Table-I. Age distribution (n=100)

Age (years)	No. of patients	%age
25-34	15	15.0
35-44	32	32.0
45-54	46	46.0
55-64	07	07.0

Table-II. Occupation of patients (n=100)

Occupation	No. of patients	%age
House wife	67	57.0
Teacher	13	13.0
Nurse	05	05.0
Politician	03	03.0
LHV	03	03.0
Farmer	03	03.0
Banker	02	02.0
Govt. Servant	04	04.0

Table-III. Lump size (n=100)

Lump size	No. of patients	%age
2 cm	48	48.0
2-4 cm	35	35.0
> 4 cm	17	17.0

Table-IV. Presenting symptoms (n=100)

Complaint	No.	%age
Lump	50	50.0
Pain	25	25.0
Nipple discharge	20	20.0
Discharge with pain	05	05.0

Table-V. Grading of the lump breast (n=100)		
Grade	No. of patients	%age
0	60	60.0
1	21	21.0
2	15	15.0
3	04	04.0

Table-VI. Diagnostic procedures (n=100)		
Procedure	No. of patients	%age
Clinical	30	30.0
Mammography	25	25.0
FNAC	45	45.0
Core biopsy	100	100.0

Table-VII. Statistical analysis (n=100)

		Core biopsy		Total
		+ive	-ive	
Triple assessment	+	44 (TP)	14 (FP)	58
	-	08 (FN)	34 (TN)	42
Total		52	48	100

Sensitivity=84.6% *Specificity=70.8%*
Positive Predictive Value=75.9%
Negative Predictive Value=81.0%

DISCUSSION

Carcinoma breast is the commonest malignancy in females and a leading cause cancer related deaths[14]. According to Pakistan Medical and Research Council (PMRC) survey in 1977, its incidence was 24.4%15 and 32%16 of all cancers in females in Pakistan.

In this study triple assessment was compared with core biopsy as diagnostic tool in breast cancers. The age of the patients was divided into four groups and maximum number of the patients were in age group 45-54 years (46%) which is less as compared to Western countries[17]. These findings are consistent with a study from Saudia Arabia[18]. 60% of the patients were diagnosed in grade-0. 21 (21%) of the patients were in grade-1 and 15 (15%) were in grade-2 while 7 (7%) were in grade-3.

Lump size was 2 cm in 48 (48%) patients and it was 2-4 cm in 35 (35%) patients while it was > 4cm in 17 (17%) patients. This finding is according to other national studies[19]. The large tumour size is due to delays in presentation because of social or cultural factor or it could point to a more aggressive tumour occurring in Pakistani female.

Forty five patients were diagnosed by FNAC, 30 patients clinically, 25 by mammography and all 100 patients by core biopsy. There are several studies which show that if the results of clinical examination, mammography and FNAC are all combined, the accuracy of diagnosis reaches 100%. Based upon the concept of this triple test definite treatment of the patient without following the percutaneous biopsy can be started[20-24].

In our study we determine the sensitivity, specificity, positive predictive value and negative predictive of clinical assessment, mammography and FNAC in the diagnosis and characterization of palpable breast lump. In combination, clinical examination, mammography and FNAC were most accurate with 14 false positive and 8 false negative. Since the diagnosis of even a single false negative is unacceptable, application of the full triple test is mandatory.

CONCLUSIONS

The results of present study showed that triple assessment is a valuable tool for an accurate non surgical diagnosis of breast lump. This test is an accurate quick and cost effective method for the evaluation of the breast lump and can be applied as a safe alternative of open biopsy.

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Article received on: 29/06/2012 Accepted for Publication: 08/09/2012 Received after proof reading: 08/10/2012

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Article Citation:
Niaz MI, Farooq O, Tirmazi FH. Efficacy of triple assessment in diagnosis of malignant breast lump. Professional Med J Oct 2012;19(5): 620-624.