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Original Article

Modifying Triple Assessment In Young Age Group In Accordance With Clinical Presentation…A Cost Effective Approach

** Dr. Imrana Aziz, ** Prof. Qamarudin Baloch, *** Dr. Farhan Zaheer, **** Dr. Zia ud Deen*

Surgical Unit-II, Civil Hospital & Dow Medical University, Karachi.

ABSTRACT:

Introduction: Breast Cancer is the most common type of cancer in females presenting initially as palpable lump. The Triple assessment is considered a gold standard in assessing breast lump in female.This has been proven a very effective way of picking early disease but has also resulted in increasing cost and burden on the system. Keeping this in mind we conducted a study that in females under the age of 25, the goal being to prove that the first two components of the Triple Assessment are sufficient for differentiating between a benign and malignant breast lump, sparing the patient further fatigue along with conserving the resources to be utilized for the diagnosis and management of malignant patients. **Methods:** This was a cross sectional study performed in Civil Hospital Karachi in the Outpatients Department of Surgical Unit 1 over the period of July 2015 to November 2016. The number of patients included was 280, who were subjected to Triple assessment. The results of examination and ultrasound were compared to all triple assessment components. **Result:** Total number of twelve hundred and fifty (n=1250) patients presented in Outpatient department for breast complains. Out of which two hundred and eighty (n= 280) were females under age group of 25 years. The results of Fine needle aspiration cytology and ultrasound were compared, ultrasound having 95.7% sensitivity and 100% specificity. Results of clinical examination and ultrasound were compared with triple assessment the NPV was 100% while was specificity was 83.3% respectively. **Conclusion:** This focused cost effective approach will help in relieving the anxiety of the patients along with sparing them further physical and psychological trauma. Avoiding a invasive procedure will also help conserve the resources to be utilized effectively for management of diagnosed malignant patients.

KEYWORDS: Triple Assessment, Health Economy, Breast Complains.

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Correspondence :
DR IMRANA AZIZ
Surgical Unit-II,
Civil Hospital, Karachi.

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INTRODUCTION:

Breast Lump is the most common presenting complaint of patients visiting

breast clinics.[1] Breast carcinoma is the most common cancer in female patients but the risk of malignancy is minimal in young patients, . Over past 30 years, a lot of emphasis has been placed on triple assessment for early detection of malignancy [2 3]. All female patients with palpable breast lumps are subjected to triple assessment. It is taken as gold standard for patients presenting with symptomatic breast disease[4]. It comprises of a clinical examination, radiological imaging ultrasound or mammography and histopathological confirmation, be it a fine needle aspiration or core biopsy. Increasing the cost of malignancy care itself takes a major bulk of the health economy. Therefore, even though The Triple Assessment is a highly effective way in the diagnosis and management of breast cancer, not all the aspects of the triple assessment have been proven to be cost productive resulting in a financial burden and a source of anxiety for the patients.

The risk of malignancy is lowest in young age

FIGURE 1:
The age distribution of patients presenting with breast lump:

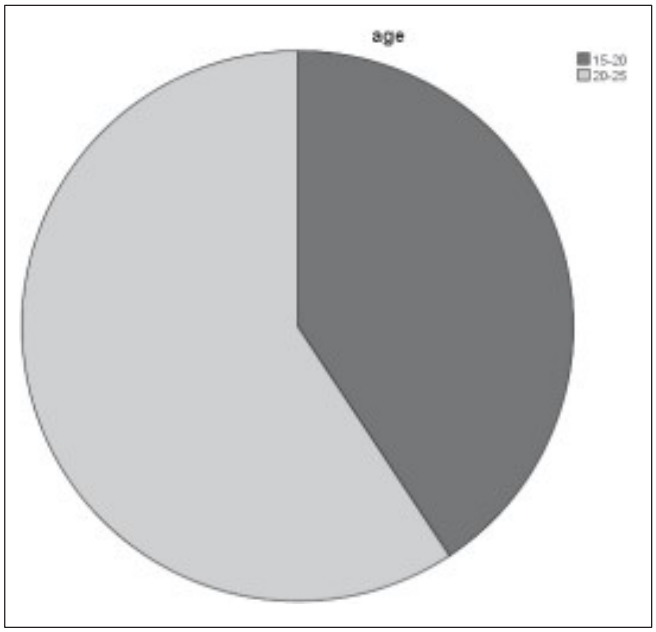


TABLE 1
age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15-20	114	40.7	40.7	40.7
	20-25	166	59.3	59.3	100.0
	Total	280	100.0	100.0	

TABLE 2
Different presentations of breast lump

complaints

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	fibrocystic disease	32	11.4	11.4	11.4
	breast lump	167	59.6	59.6	71.1
	mastalgia	53	18.9	18.9	90.0
	accessory breast	15	5.4	5.4	95.4
	Lipoma	13	4.6	4.6	100.0
	Total	280	100.0	100.0	

Bar chart representation of breast lump presentations figure 2

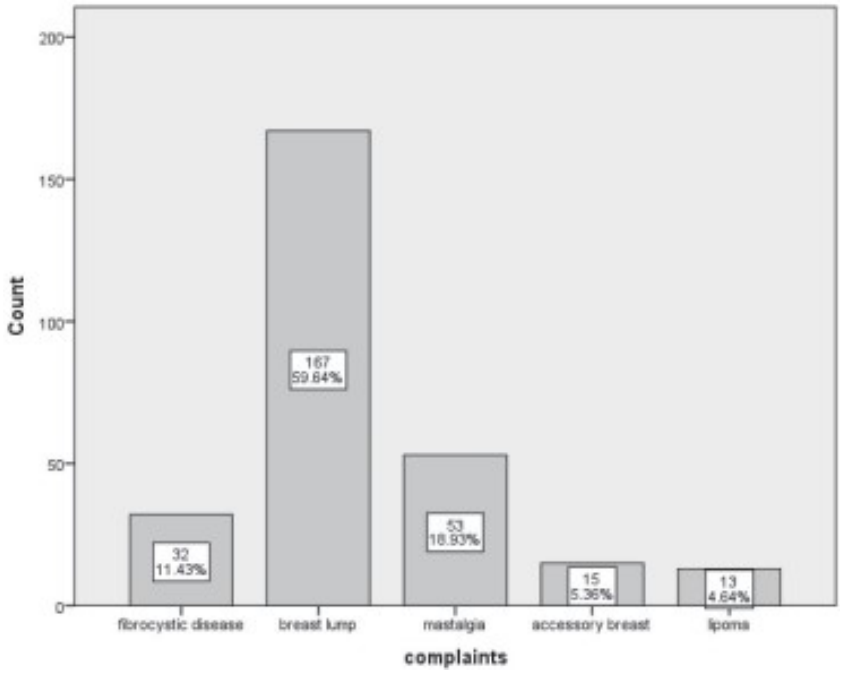


TABLE 3
comparison of result of ultrasound with ultrasound plus fine needle aspiration

ultrasound * fnac Crosstabulation

			fnac				Total
			normal	benign	suspicious	malignant	
ultrasound	normal	Count	32	4	0	0	36
		% within fnac	72.7%	1.7%	0.0%	0.0%	12.9%
	benign	Count	12	221	1	0	234
		% within fnac	27.3%	95.7%	25.0%	0.0%	83.6%
	suspicious	Count	0	6	3	1	10
		% within fnac	0.0%	2.6%	75.0%	100.0%	3.6%
Total		Count	44	231	4	1	280
		% within fnac	100.0%	100.0%	100.0%	100.0%	100.0%

group.[5] The young females under age of 25 can be diagnosed on Clinical examination and ultrasound which could be enough to exclude malignancy, avoiding the need of histopathology in all patients. Histopathology is reserved for patients who have any predicative feature of malignancy or suspicion of Phyllodes tumor, family history of malignancy[6].

The aim of our study is to compare the results of all the components of triple assessment, namely clinical examination, radiological evaluation and histopathological analysis with only clinical examination and radiological imaging under age of 25 years females i.e. the low risk group. These compared with the results of the histo-pathological

TABLE 4
comparison of triple assessment with only two components ; examination and ultrasound

examultrsound * tripleassessment Crosstabulation

			tripleassessment		Total
			benign	malignant	
examultrsound	benign	Count	274	1	275
		% within examultrsound	99.6%	0.4%	100.0%
		% within tripleassessment	100.0%	16.7%	98.2%
	malignant	Count	0	5	5
		% within examultrsound	0.0%	100.0%	100.0%
		% within tripleassessment	0.0%	83.3%	1.8%
Total		Count	274	6	280
		% within examultrsound	97.9%	2.1%	100.0%
		% within tripleassessment	100.0%	100.0%	100.0%

biopsy to check the diagnostic accuracy. This will determine which is more cost productive. As you can see, this can minimize patient's anxiety as well as the cost and work burden of cancer evaluating clinics

METHODS

A cross sectional study was conducted in Civil Hospital Karachi, in the Department of Surgical unit 1 from the period of June 2015 to July 2016 . Data was collected from females attending Out Patient Department of Civil Hospital Karachi Surgery Unit 1. Sample size was calculated with power of study being 80% and confidence interval of 95% as 277. Sampling technique was non-probability consecutive sampling.

All females under age group of 25 years were included with complaints of clinically palpable benign breast lump. Breast lumps with clinical suspicion of breast carcinoma and acute breast abscesses were excluded . Informed consents were taken for clinical evaluation and investigations. Patients underwent clinical history and examination followed by ultrasound and fine needle aspiration cytology and core biopsy

The data included detailed history , clinical examination graded as 1-4 ,1normal,2 benign , 3 suspicious and 4 malignant , the ultrasound findings as The Breast Imaging Report and Data System (BIRADS) of the American College of Radiology (ACR) and histopathology grade. 1-5
The data was analyzed using spss 22.0.

RESULTS

A Total number of Twelve hundred and fifty patients (n=1250) patients presented in Outpatient department for breast complaints. Out of which two hundred and eighty (n=280) were females under age group of 25 years fulfilled the inclusion criteria.Most of the females were in between age group of 20and 25 chart1 The most frequent complaint among them being clinically palpable lump (n=59.6%), followed by 120 patients with mastalgia 18.9% . Other frequent complaints were fibrocystic disease, accessory breast and axillary lipoma (table 1 FIGURE 1). All palpable lumps were assessed with triple assessment being clinical examination followed by their radigographic and histologic finding on grade 1-4 as normal, benign, suspicious and malignant. Patients who had suspicious findings had core biopsy to confirm diagnosis. The results of Fine needle aspiration cytology and ultrasound were compared ultrasound having 95.7% sensitivity and 100% specificity in Table 2. Results of clinical examinations and ultrasounds were compared

with triple assessment NPV 100% and specificity 83 .3% results in Table 3.

DISCUSSION

Cancer and its management are always a priority for health professionals and surgeons. Early diagnosis is a crucial aspect to effective management but it utilizes excess resources. Breast cancer being the commonest tumor in females[7], is subjected to triple assessment for early diagnosis minimizing the risk of missing early cancer[8]. It has proven to be an accepted criterion. Increasing awareness has resulted in more females attending breast clinics in anxiety of excluding breast carcinoma. Though all females over the age group of 30 are subjected to triple assessment for final diagnosis. Young females do not always need to undergo all the components[9]. Clinical breast examination and ultrasound are sufficient in excluding malignancy in low risk groups omitting the need of cytology [10,11,12]

In our study, we compared the results of all triple assessment components to two components, examination and ultrasound. As Canter et al concluded that most of the clinically discrete lumps in young females are fibroadenomas. In his study 321 women were evaluated on clinical examination, found to have fibroadenomas and 217 (68%)confirmed with histopatholgy[13]. Clinical examination in our study picked 213(90.5%) benign breast lumps . El Tahir et al[14]documented the diagnostic accuracy of clinical breast examination with sensitivity 88.7%, specificity 99.1%, and post predictive value as 98.5% as compared to 85.8% sensitivity in our study .

Ultrasound findings of our study showed 219 lumps to have benign findings and identified 24 case as suspicious and only 1 case as a malignancy. Cytology was consistent that 220 lumps evaluated as benign on clinical and radiological examination were also benign on cytology.

With advance, radiological technology the sensitivity of ultrasound has increased to 98%. Studies support these findings proving it as an effective tool [15] It is found that if two components have the same as proved result as triple assessment so the third component can be reserved only for those patients who have high risk family history or any suspicious lesion on ultrasound that has BIRADS 4 or more.

Our study showed that 280 patients under age of 25 years attended clinics for breast lump out of which 253 were proven to be benign on triple assessment as well as breast examination and ultrasound. Sensitivity of examination and ultrasound together was 99.6% and specificity 100% in our study. This emphasizes the fact that women under the age of 25 years have less incidence of breast malignancy and subjecting them to all triple assessment can be avoided. This will also decrease burden on breast clinics as well as preserve the resources.

This was a public sector hospital so the excessive quantity of patients makes it an important reason for the in correct utilization of resources.

CONCLUSION

This focused approach will help to minimize patient anxiety. It will also conserve the cost of patient care, which can be utilized appropriately for the management of high risk groups and diagnosed malignant patients. Thus, the success of this study will serve to benefit the patient and the community many fold.

CONFLICT OF INTEREST

There is no conflict among the authors on anything.

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Authors Contribution: * Researcher and conclusion of data, writing of manuscript. ** Critical review and supervise *** Help in collection of data and manuscript writing **** Statistical analysis and Biblography.

Conflict of interest:
There is no conflict among the authors on anything.