



EVALUATION OF PALPABLE BREAST LUMPS USING TRIPLE ASSESSMENT

General Surgery

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ABSTRACT

Background: Breast masses in women are common and cause much anxiety. The majority of lesions are benign. A quick reliable non-invasive or minimally invasive means of diagnosis helps to lessen the anxiety and aids in instituting early definitive care. The presentation of both benign and malignant diseases is not much different. Both may present with lump and nipple discharge etc. Pain usually absent or late feature in malignancy. To differentiate the benign breast diseases from malignant diseases of breast is not possible by physical examination alone or imaging alone. Hence there is need for triple assessment in palpable breast masses. **Objective:** This study was undertaken to know the sensitivity, specificity, positive predictive value, negative predictive value of each component of modified triple assessment individually. **Patients and methods:** A prospective cross sectional study of 80 female patients attending the outpatient department at the Department of General Surgery, narayana medical college and hospital, Nellore, from April 2021 to November 2022 with the complaint of a palpable lump/lumps in the breast was undertaken. **Results:** Of the 80 patients randomly referred for the study, 23 patients not fulfilling the inclusion criteria were excluded. Thus 57 patients with breast lumps were included into the study. Thus the final study group (N=57) underwent the Modified Triple Test(MTT) followed by excision biopsy, the results of which were available for comparison. Out of 57 cases that underwent triple assessment and histopathological assessment were 5 discordant results. These cases were given as malignant lesions by triple assessment and later they proved to be benign lesions on histopathological report. **Conclusions:** conclusion of our study is triple assessment is the gold standard diagnostic tool for the palpable breast lumps in early detection of malignancy avoiding biopsies.

KEYWORDS

INTRODUCTION

Breast masses in women are common and cause much anxiety. The majority of lesions are benign. A quick reliable noninvasive or minimally invasive means of diagnosis helps to lessen the anxiety and aids in instituting early definitive care. Majority of the breast lumps are benign. However breast malignancy is also common in women. The presentation of both benign and malignant diseases is not much different. Both may present with lump and nipple discharge etc. pain usually absent or late feature in malignancy. To differentiate the benign breast diseases from malignant diseases of breast is not possible by physical examination alone or imaging alone. Hence there is need for triple assessment in palpable breast masses. In the late 1970s, triple assessment for breast lumps was started in the UK, when fine-needle aspiration cytology (FNAC) was added to clinical breast examination (CBE) and mammography for the assessment of breast lumps[1].

According to National Institute for Health and Clinical Excellence (NICE) guidelines, for patients with symptoms that could be caused by breast cancer, diagnosis is made by triple assessment (clinical assessment, mammography and/or ultrasound imaging, and core biopsy and/or FNAC)[2]. Also, the Association of Breast Surgeons states that "wherever possible, a non-operative breast cancer diagnosis should be achieved by triple assessment, (clinical and radiological assessment followed by core biopsy and/or fine needle aspiration)[3].

AIMS AND OBJECTIVES:

The study is conducted with objective of assessing the reliability of modified triple test as whole when compared to the reliability of each individual component of modified triple test in making a diagnosis of palpable breast lumps. To study the sensitivity, specificity, positive predictive value, negative predictive value of each component of modified triple assessment individually.

MATERIALS AND METHODS

A prospective cross sectional study of 80 female patients attending the outpatient department at the Department of General Surgery, narayana medical college and hospital, Nellore, from April 2021 to November 2022 with the complaint of a palpable lump/lumps in the breast was undertaken.

(a) Inclusion Criteria:

- 1.) Female >14 years.
- 2.) c/o breast lump – clinically palpable as a localized lesion differing from the surrounding breast tissue.

(b) Exclusion Criteria:

1. Those who have already been diagnosed to have carcinoma of breast and treated for same.
2. Those patients who are not willing for triple assessment.
3. Patient in who breast lump is due to lactational breast abscess.

RESULT:

Of the 80 patients randomly referred for the study, 23 patients not fulfilling the inclusion criteria were excluded. Thus 57 patients with breast lumps were included into the study. Thus the final study group (N=57) underwent the MTT followed by excision biopsy, the results of which were available for comparison. Out of 57 cases that underwent triple assessment and histopathological assessment were 5 discordant results. These cases were given as malignant lesions by triple assessment and later they proved to be benign lesions on histopathological report. Amongst the individual tests; clinical examination was more likely to miss a malignancy (Sensitivity 75%); as against ultrasound (Sensitivity 92%) or FNA / CNB (Sensitivity 100%). FNA/CNB correctly identified malignancy in all 24 cases; while ultrasound misinterpreted 1 case as malignant (a case of Benign cystosarcoma phylloides) with specificities of 100% and 85% respectively. The MTT was 85% specific with malignant lesions. But 5 cases were misdiagnosed as malignancies and turned out in 3 cases to be Fibrocystic Disease and 2 cases were benign cystosarcoma phylloides – both benign lesions. Inconclusive results (n=4) on MTT were also confirmed to be benign lesions. Thus MTT, though had false positives with respect to malignancy but no false negatives (i.e.,) a negative predictive value of 100%. These data are comparable to the original triple test with its sensitivity (65%-96%) and specificity (55%-98%) as reported in various studies (Tables : 3 - 5).

Table 1: correlation of consistency of the lump with histopathological examination(N=57).

Consistency	Malignancy	Benign (p<0.001)
Hard	18	03
Firm	05	30
Soft	-	01

Table 2: Correlation between the histopathology and ultrasound scan(N=57).

Clinical stage	Malignant	Benign
Cystic	2 (25%)	6(75%)
Solid	22 (44%)	27(56%)

Table 3: Correlation between Clinical Examination and Histopathology Report (N=57).

	Clinical examination	Histopathological report
Benign	24 (42.1%)	33(57.9%)
Malignant	19(33.3%)	24(42.1%)
inconclusive	14(24.6%)	0

Table 4: Correlation Between FNAC Diagnosis And Histopathological Diagnosis (N=57)

	FNAC	Histopathology report
Benign	24(42.2%)	33(57.1%)
Malignant	27(47.3%)	24(42.1%)
Inconclusive	06(10.5%)	0

Table 5: Correlation Between Ultrasonogram Diagnosis And Histopathological Diagnosis (N=57).

	Ultrasonogram	Histopathology report
Benign	25(43.8%)	33(57.9%)
Malignant	29(50.8%)	24(42.1%)
Inconclusive	03(5.3%)	0

Table 6: Comparative Efficacy of Individual Components of Triple Assessment (N=57)

	Clinical examination	Ultrasound breast	FNAC	Modified triple assessment
Sensitivity	75%	92%	100%	100%
Specificity	97%	85%	100%	85%
Positive predictive value	95%	81%	100%	83%
Negative predictive value	84%	93%	100%	100%
P value	<0.001	<0.001	<0.001	<0.001

DISCUSSION

Breast lumps cause considerable morbidity and palpable masses potentially pose serious concerns prompting immediate evaluation especially in era of breast cancer awareness. This study mainly attempts to analyze the efficacy of triple assessment in the management of breast lumps and it is discussed in relation to clinical, imageological, cytological and demographic compositions using the recent years data. Of the 80 patients randomly referred for the study, 23 patients not fitting the inclusion criteria were excluded. Thus 57 patients with breast lumps were inducted into the study. Thus the final study group (n=57) underwent the MTT followed by excision biopsy, the results of which were available for comparison. Out of 57 cases there were 5 discordant results. These cases were given as malignant lesions by triple assessment and later they proved to be benign lesions on histopathological report. Accurate diagnosis of cancer has been a diagnostic dilemma since long. Currently a combination of three tests, i.e. clinical examination, imaging (USG) and FNAC (pathology) together called as triple assessment is used to accurately diagnose all palpable breast lumps. The triple assessment is taken positive if any of the three components is positive for malignancy and negative only if all of its components are negative for malignancy. In present study the stand alone clinical examination has sensitivity of 75% and specificity of 97% to diagnose malignancy. Same is in agreement with the khode et al(4) and rajan v et al(5), suman karwal et al(6). The results are in agreement with other studies like khattoon s et al(7), khode et al(4), homesh et al(8), sadiq et al(9), jayaram et al (10).The commonest histopathology/cytological diagnosis of breast lump in present study was fibroadenoma which is agreement with the study conducted by tiwari et al(11).

5. CONCLUSION:

Triple assessment is a very useful diagnostic tool to evaluate patients with palpable breast lumps and to detect patients with breast cancers with an overall accuracy of 99.3%.Triple assessment was useful in diagnosing breast cancers at an earlier stage, with most of breast cancers detected at stage I or stage II (T1 or T2 : N0 or N1, M0).When

the lumps are palpable clinically and of size more than 2 cms FNAC itself has a sensitivity of 100%.Where as when the lumps are assessment it is proved to be most reliable and cheapest mode of evaluation which involves limited resources.. The overall conclusion of our study is triple assessment is the gold standard diagnostic tool for the palpable breast lumps in early detection of malignancy avoiding biopsies.

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