

## Role of Modified Triple Tests in Early Detection of Malignancies in Breast Lumps

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### Abstract:

**Introduction :** Breast diseases are at a rising trend in recent years among young women. Many cancers are diagnosed at advanced stages. Carcinoma breast that too invasive ductal variety is the most commonest of all.

**Aims and objectives:** Earlier detection of malignancy in breasts with the aid of modified triple test which includes clinical examination, USG breast, FNAC of breast lump.

**Materials and methods:** A prospective study done at Government Mohan Kumaramangalam Medical College Hospital for a time period of 1 year from November 2016 to November 2017. A total of 103 patients were included in the study.

**Inclusion criteria-** Female > 20yrs and willing for lump excision.

**Exclusion criteria-** females <20 yrs, males, Advanced diseases of breast, patients not willing for lump excision.

**Results** Based on the studies 17 /20 of nipple discharge cases ,30/50 painless lumps, 19/21 axillary lymphnode cases, 33/39 hard lumps were malignant. sensitivity of USG ,clinical examination, FNAC, MTT 86.8% ,86.34% 92% ,97.36% respectively.

**Conclusion** Modified triple test is far better in early detection of breast malignancies than individual tests

**Keywords** – Breast, clinical examination, FNAC, Malignancy, Ultrasonography,

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### I. Introduction

Breast diseases are increasing in incidence and prevalence due to the advances in diagnostic techniques and chronicity of the disease. Breast lumps unless and otherwise proved as benign are a nightmare for both the patients and the surgeons. Therefore proper easy and early detection of malignancies of the breast is the need of the hour. Since the incidence of carcinoma breast amongst younger women is in an increasing trend especially less than 40 ,child bearing productive age groups, the diagnosis of carcinoma breast plays a major role even with respect to social and national importance. A triple test of clinical examination, mammogram and ultrasound study of breast was being carried out with a fair amount of success rates. But there are not cases that have not been missed by this triple test. So in order to improve our diagnostic standards, from non invasive to invasive mode of investigation but yet a simple and outpatient basis procedure was incorporated in to this system of screening test . This is now to be called as modified triple test.

### II. Aims And Objectives

Earlier detection of malignancy in breasts with the aid of modified triple test which includes clinical examination, USG breast, FNAC of breast lump.

### III. Materials And Methods

A prospective study done at Government Mohan Kumaramangalam Medical College Hospital for a time period of 1 year from November 2016 to November 2017. A total of 103 patients were included in the study.

A proper ethical clearance and informed written consent was obtained from the individuals subjected to the study. Inclusion criteria included Female > 20yrs and willing for lump excision. Exclusion criteria included females <20 yrs, males, Advanced diseases of breast, patients not willing for lump excision

### IV. Results

Patients were clinically radiologically and by Aspiration cytology from breast lump were evaluated. They were taken up for excision and biopsy surgery. postoperatively HPE report was compared with the preoperative diagnosis and the effectiveness of modified triple test was studied.

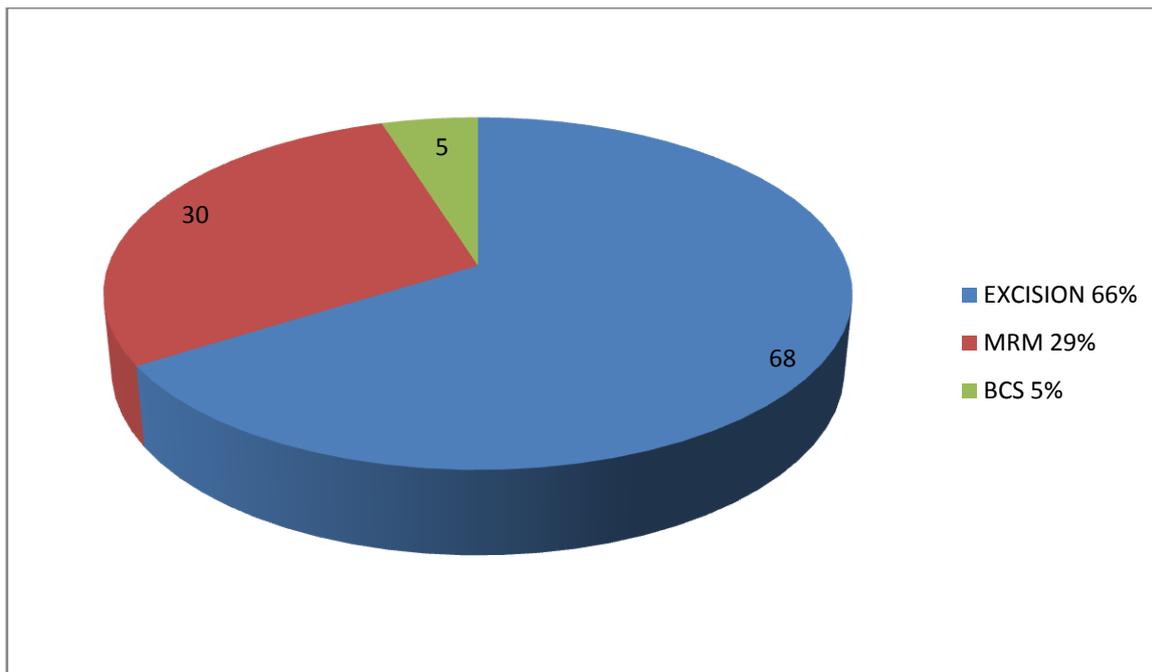


Fig 1 surgical method

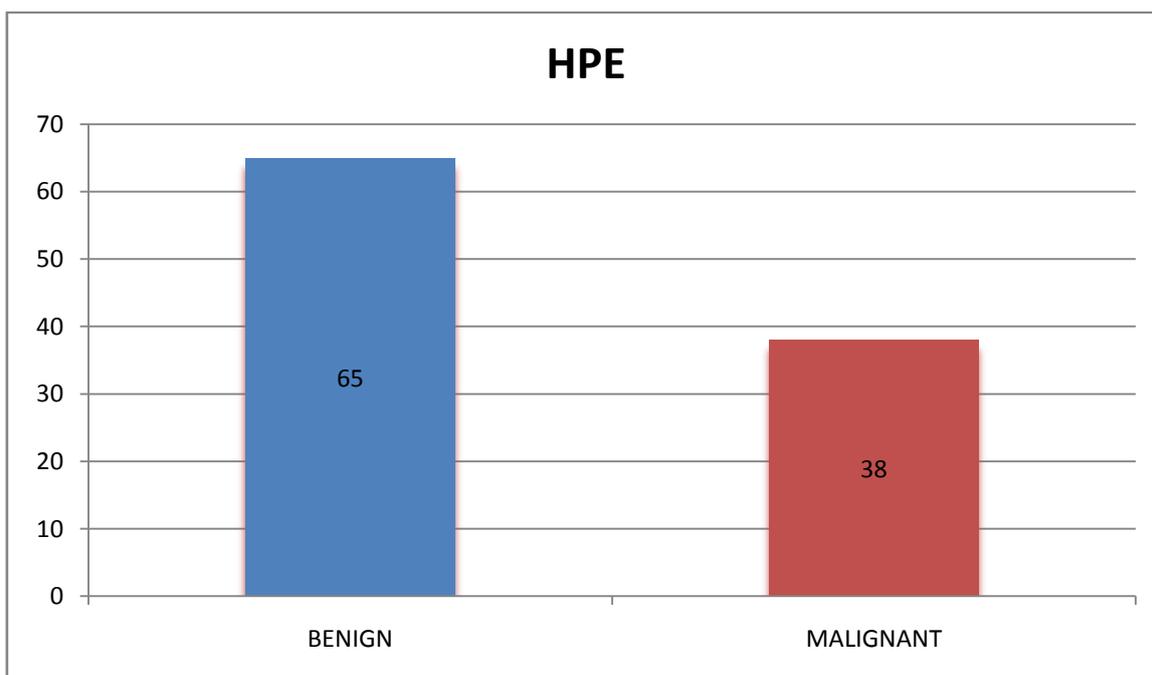


Fig 2 HPE report

TABLE 1 HPE REPORT

	HPE-BENIGN	HPE-MALIGNANT
NO.OF PATIENTS	65	38
PERCENTAGE	38	36.9%

TABLE 2 AXILLARY LYMPHNODES IN RELATION WITH HPE REPORT

	HPE-BENIGN	HPE-MALIGNANT
AXILLARY LYMPHNODE +	2	19
AXILLARY LYMPHNODE -	63	19

P VALUE-0.001

**TABLE 3 FNAC REPORT IN RELATION WITH HPE REPORT**

	HPE-BENIGN	HPE-MALIGNANT
FNAC + FOR MALIGNANCY	0	33
FNAC – FOR MALIGNANCY	59	1
INCONCLUSIVE	6	2

P VALUE -0.001

**TABLE 4 USG REPORT IN RELATION WITH HPE REPORT**

	HPE-BENIGN	HPE-MALIGNANT
USG + FOR MALIGNANCY	0	33
USG – FOR MALIGNANCY	60	0
INCONCLUSIVE	5	5

P VALUE -0.001

**TABLE 6 MTT RESULTS**

MTT	HPE MALIGNANT	HPE BENIGN
MALIGNANT	37	0
BENIGN	1	65

P VALUE -0.001

**TABLE 7 MTT STATISTICS**

SENSITIVITY	97.36%
SPECIFICITY	100%
POSITIVE PREDICTIVE VALUE	100%
NEGATIVE PREDICTIVE VALUE	98.48%

**TABLE 5 COMPARISON OF SENSITIVITY AND SPECIFICITY OF EACH OF THE TESTS WITH ALL IN COMBINATION**

TEST	SENSITIVITY	SPECIFICITY	+PREDICTIVE VALUE	-PREDICTIVE VALUE
CLINICAL EXAMINATION	86.34%	91%	85%	84.42%
USG BREAST	86.84%	100%	100%	92.86%
FNAC	92.10%	100%	100%	95.58%
MODIFIED TRIPLE TEST	97.36%	100%	100%	98.48%

### V. Discussion

Based on the above results it can be concluded that a combination of different types of evaluating methods confers a greater advantage in terms of diagnostic accuracy and saves valuable time with respect of commencement of treatment for malignant cases.

Clinical criteria suggestive of malignancy such as painless lump,hardness of lump,nipple retraction,fixed axillary node involvement,peau d orange appearance of skin fixity of the lump can not be taken up for confirmation of malignancy. Similarly breast lumps assesed by USG in the grades of BIRADS are also at risk of being missed for malignancy when done alone. More invasive procedure like FNAC can be relied upon with comparative credibility but exceptions in that too are there at times. A combination of all factors in the diagnosis of a cancer breast is more reliable since the results are commanding its accuracy.

The “TT,” was initially described in the mid-1970s, by Johansen C. as the evaluation of palpable breast masses by physical examination, mammography, and FNAC. The TT has proved a reliable tool for the accurate diagnosis of palpable breast masses, due to its technical simplicity, and resulted in substantially reduced expense and morbidity compared with open surgical biopsy.[5]

Due to the reduced sensitivity and specificity of lesion detection by mammography in young women under 40 and the usefulness of sonography in this group of patients, researchers dealing with women under 40 combined sonography with mammography to the scoring system and the modified TTS was introduced which is an integration of clinical breast examination, sonography and FNA.[10]

The TTS reliably guides evaluation and treatment of breast lesions. Lesions scoring 3 or 4 are always benign. Lesions with scores  $\geq 6$  are malignant and should be treated accordingly. Confirmatory biopsy is required only for the lesions that receive a TTS of 5.

## VI. Conclusion

At present the modified triple test is a well developed tool that can , with fair amount of success be used for early detection of carcinoma breast at younger age groups ther by avoiding life long morbidity and mortality.This field is evolving day by day and the means to detect wide spread metastasis cannot be picked up by this test.There are many hormonal and receptor assays that are creeping into practice to

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