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Evaluation And Comparison Of Breast Lump By Modified Triple Assessment And Triple Assessment"

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INTRODUCTION : Breast lumps are frequent among reproductive-age women. Most women with breast disease develop a breast mass. Patients are evaluated by history and physical exam, imaging (mammography, breast USG), and FNAC or core needle biopsy to establish a diagnosis and management plan. Mammograms find invisible masses. Risk factors include menarche, menopause, steroids, contraception, breast surgery, trauma, and radiation. Pain, lumps, and discharge characterise cancerEarly diagnosis of benign and malignant tumors is difficult. Most women fear cancer, especially deadly breast cancer. Several nations are increasing breast cancer screenings and asymptomatic treatment. Imaging and pathology have revolutionised lesion diagnosis. No test is perfect. Many breast clinics have adopted a "triple test" policy and Modified triple test with immediate reporting to provide a "One Stop diagnostic Service" where patients are evaluated by history and physical exam, imaging (mammography, breast USG), and FNAC or core needle biopsy to establish a diagnosis and management plan on the clinic visit .

REVIEW OF LITREATURE

Breasts are modified sweat glands composed of ductule and lobules spread in adipose tissue and connective tissue. In the fifth or sixth week of fetal growth, two grouped ectoderms (papillae, milk lines) of the stomach wall surface can be seen in the embryo. When the ectoderm grows internally to form the primary tissue buds in the stroma, each breast will form. Thereafter, the main buds start the growth of 15–20 additional buds. The main (mastoid) duct develops, which causes a superficial breast pit. In the early stage, mesenchymal hyperplasia turns the mammary glands into nipples Each breast will form when the ectoderm grows internally to form the primary tissue buds in the breast. In the early stage, mesenchymal hyperplasia turns the mammary glands into nipples. The primary blood supply to the breast comes from the internal mammary artery. External branches of the third to sixth intercostal nerves provide sensory nerves for the breast as well as the anterolateral upper body wall surface.

Breast Masses are benign masses, with fibroadenomas and cysts being the most common benign masses. Approximately 90% of masses are benign in women in their 20's to early '50s. 40% of breast complaints in women aged 40-69 were for breast lumps or masses. Almost half of the cases on a global scale are in developed countries (Bellanger et al., 2018)[21]. The most significant mammography value is observed in women aged 50–69 years. The primary **Blood supply** to the breast comes from (1) the perforated branch of the internal mammary artery; and (2) the side branch of the posterior intercostal artery, as well as the branch from the axillary artery, consisting of the greatest thoracic, lateral, and thoracic branches of the thoracic artery. The second, third, and fourth former intercostal perforators, and branches of the internal mammary artery create, the median mammary artery in the breast. The veins of the breast and also chest wall surface adhere to the direction of the artery, and the veins flow to the armpit.

Magnetic resonance imaging is used as a screening test for women with suspected hereditary breast cancer. A thorough clinical breast exam (CBE) is imperative in assessing a breast mass. The physician should start the CBE by looking at both breasts and noting any abnormalities or asymmetry. Palpation of breasts should be achieved systematically fashion by following a linear or circular pattern. Mammograms can pick up two types of lesions: soft tissue masses and clustered micro calcification masses.

Radiologists use the Breast Imaging-Reporting and Data System (BI-RADS) to assess whether a group is benign or potentially malignant. The CBE alone detects up to 10% of breast cancers while more than 90% are found through mammograms. Fine Needle Aspiration (FNA) biopsy is commonly used for breast mass biopsy. Good FNA technique has 98% sensitivity and 97% specificity when performed by experienced operators. Core needle biopsies require larger volumes of local anesthesia and have an increased risk of bleeding.

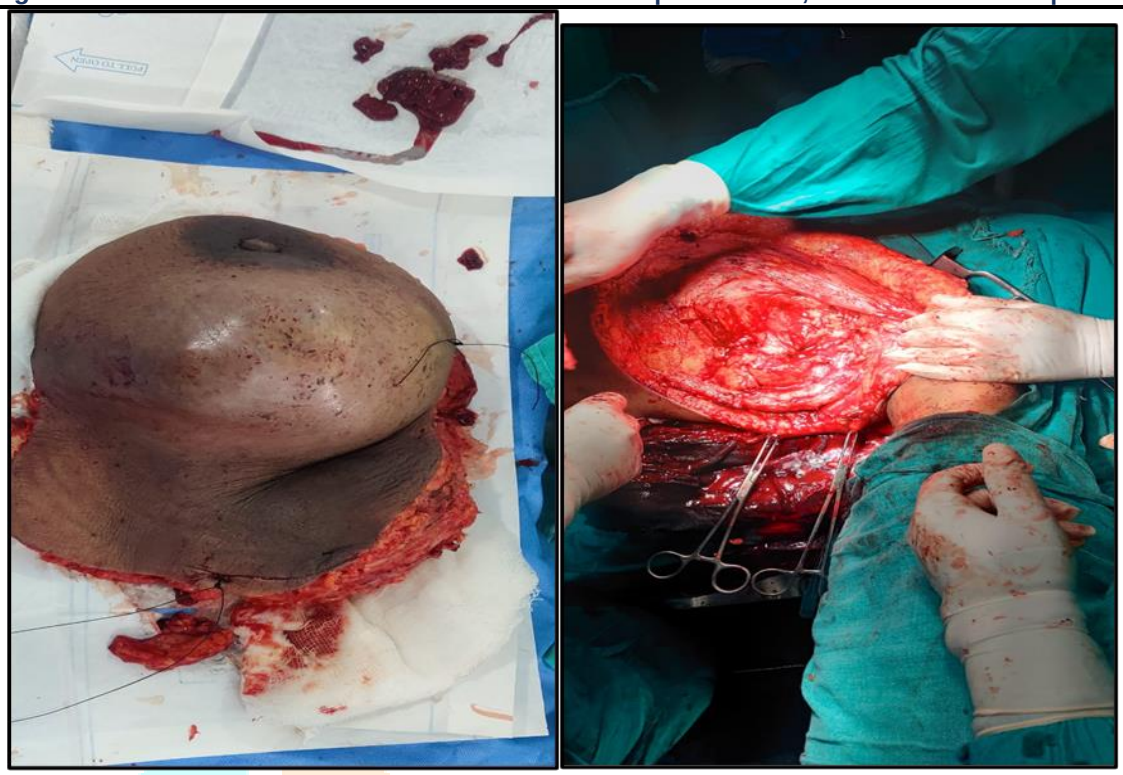
The traditional approach to palpable breast masses involves direct fine needle aspiration (FNAC) of the referred case. Studies have found nearly 100% diagnostic accuracy when all three elements (i.e., examination, mammogram and FNAC) are concordant. A clinician can proceed directly with definitive therapy without an interventional open biopsy if all the components of TT are malignant. The modified triple test (MTT) comprising of clinical breast examination, ultrasound and fnac was 100% accurate in diagnosing breast lesions when all three elements were concordant (benign or malignant). Among the three components, FNAC had the highest specificity.

MTT was beneficial in reducing the number of unnecessary open biopsies to confirm the diagnosis. Triple Assessment an overall accuracy of 100%. Fibrocystic disease was the commonest lesion with, 30 years as the average age of presentation. Malignancy was detected above 47 years of age. Out of 50 patients, the three tests concurred in 42 (35 benign and 7 malignant) cases.

Mannarakkal et al (2017)[45] studied the Effectiveness of Triple Test in Early Detection of Carcinoma Breast. One hundred were studied, and of that 56 patients were diagnosed with malignancy and 44 with benign lesions.

Breast cancer is the most common malignant tumor in women in the world. Breast cancer patients account for as much as 36% of oncological patients. An estimated 2.089 million women were diagnosed with breast cancer in 2018 (Nardin et al., 2020)[20]
This malignant tumour is increasing in all regions of the world, but the highest incidence occurs in industrialised countries. Almost half of the cases on a global scale are in developed countries (Bellanger et al., 2018)[21].
This trend is mainly due to the so-called Western lifestyle, associated with a poor diet, nicotinism, excessive stress and little physical activity. In the case of breast cancer, mammography has become recognised as screening. The most significant mammography value is observed in women aged 50–69 years (Bellanger et al, 2018)[21].
TABLE 2: Common Risk Factors for Breast Cancer (Sabel and Micahel, 2015)[5]

- Gender (females 100 times more likely to be affected)
- White Race
- Higher Socioeconomic Class
- Northeastern United States
- BMI >33, 27% increased Risk
- Increase in Age
- Family History (BRACA-1 and BRACA-2 gene positive)
- Environmental Exposure to Radiation
- Benign Breast Conditions
- Smoking
- More than one alcoholic drink a day
- Late pregnancy
- Early first Menses
- Nulliparity
- Late Menopause
- DES Exposure in Utero
- Estrogen Supplementation
- Increased Breast Density
- Prior Biopsies



BREAST CARCINOMA

When compared with the, final histopathology report, triple assessment tests had a sensitivity and specificity of 100% and 97.7%. respectively. Mammography of the breast consists of two standard views, i.e., lateral oblique (MLO) and a craniocaudal view (CC). 81 female patients with palpable breast lump who had undergone clinical breast examination, FNAC and subsequent excision biopsy were included in the study. Triad of clinical breast examination, Ultrasonography and fine-needle aspiration cytology was highly accurate in the diagnosis of breast lumps.

Lesions were considered triple test positive, if lesions were FNAC positive and any one of the remaining two modalities also gave a positive(malignant) interpretation. Triple assessment is the gold standard diagnostic tool for the palpable breast lumps in early detection of malignancy avoiding biopsies. A prospective cross sectional study of 80 female patients attending the outpatient department at the Department of General Surgery, Narayana Medical College, Nellore, was undertaken. Ultrasonography was an essential first imaging modality in the diagnosis of women under 25 years with breast lesions. The commonest benign lesion was fibroadenoma (104 cases, 51.2%) and all the malignant lesions were invasive ductal carcinoma (IDC) (3 cases, 1.47%).

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