



ROLE OF MAMMOGRAPHY IN EVALUATION OF BREAST LESIONS

Radiology

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ABSTRACT

Mammography plays an important diagnostic role and it is mostly preferred screening examination in patients to determine breast lesion. In the present study, it has been attempted to evaluate breast lesions by Mammography. In present prospective study we have included 30 patients above 30 years of age who has clinical impression of breast lesions and underwent mammography examination on GE Senographe 800T machine. In the present study 11 (36.66%) patients showed benign and 11 (36.66%) showed malignant breast lesions. Benign breast lesions were observed maximum in patients between 40-50 years (5 patients) and Malignant breast lesion were observed maximum in patients between 50-60 years (6 patients). Mammography examination revealed pathological findings in 30 patients (100%) which included breast pain (54.34%), Palpable lump (17.39%), Nipple discharge (6.52%) and Breast skin thickening (13.04). Thus Mammography scan may be useful as a adjunct modality to increase the diagnostic yield in patients with breast lesions.

KEYWORDS

Breast Lesions, Palpable Lump, Breast pain, Benign Breast Lesions, Malignant Breast lesions.

INTRODUCTION

Breast lesions are a common occurrence in females all over the world. The incident lesions is rising worldwide, especially in the developing countries. Breast lesions are classified according to their types. Benign breast lesion commonly affect the younger age group of about 40 to 50 years who form a percentage of patients presenting with breast complaints. A breast lesion carries a great possibility of being malignant.

Lesion is any abnormal change in the tissue of an organism, which is usually caused by any disease or trauma. A breast lesion is characterized by the formation of lumps in and around the breasts. It can also cause the breasts to swell abnormally in certain areas.

Some breast lesions are frequently felt during a self breast examination or when examined by a physician. Some lesions, however, may be present but not felt. These are called non-palpable lesions, and they are mostly detected during a screening mammogram test, which is more like an x-ray of the breast.

Mammography is designed specifically for evaluation of breasts. Breast lesion may show symptoms like- breast pain, palpable lump, nipple discharge, breast skin thickening. Conventional X-ray mammography is a high-resolution x-ray imaging of the compressed breast.

Mammography provides high-quality images at low radiation doses in the majority of patients. Mammography is the main modality for diagnosis in most developing countries because it is cheap, simple and widely available. However, it gives only a basic overview of the impression of breast lesions from 25th December 2021 to 5th June 2022. Patients were subjected to Mammography scanning and studied in N.S.C.B Subharti Medical College, Meerut. Study was performed with GE Senographe 800T machine.

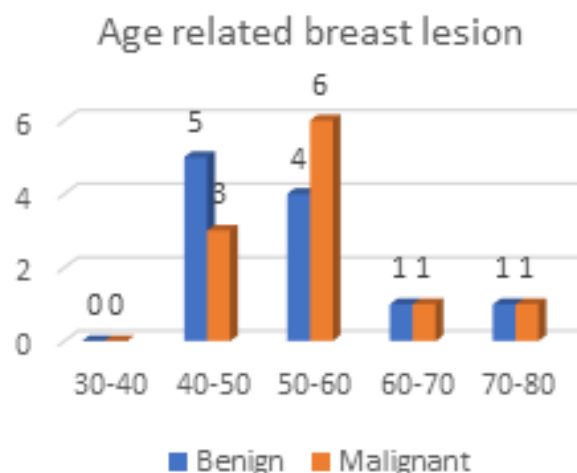
Mammography Technique

Mammography was performed by using GE Senographe 800T machine in two views (i.e., cranio-caudal and medio-lateral oblique views) are used. High kVp and low mAs exposures vary with thickness of the breasts with minimum kVp 26 to max kVp 28.

We used mammography to determine the location, density and

appearance. Result was coordinated with history and physical examination of the patients.

Graph no. 1: Age related breast lesion



DISCUSSION

The gold standard for evaluation of breast lesion is mammography and when it is combined with USG its sensitivity rate become high^[1].

But false negativity in case of mammography was represent to be 16.5%^[2].

30 cases were included in our study. Out of the total 30 patients included in our study, 25 patients presented with breast pain, 8 presented with palpable lump, 6 patients were of breast skin thickening, 3 patients were having nipple discharge and 4 presented with other non specific complains. Out of 30 patients included 11 patients were of benign and 11 patients were of malignant breast lesion and 8 patients were normal.

In our study patients were also distributed on the basis of age group.

Out of 30 patients the most frequent occurrence of breast lesion were of age group of 40-50 years in benign and 50-60 years in malignant breast lesions.

MATERIALS AND METHODS

This prospective study was conducted on 30 patients with clinical symptomatic and asymptomatic breast lesions. The source of data for this study were the patient referred to the Department of Radio-diagnosis and Imaging for the mammography breast lesion study from OPD/IPD/ER of Chhatrapati Shivaji Subharti Hospital, Subharti Medical College, Meerut, U.P. Duration of course is 2 year, and data was collected from 25th Dec 2021 to 5th June 2022.

LITERATURE REVIEW

R J Brenner, E A Sickles^[3] in 1989 did a study on “Acceptability of periodic follow-up as an alternative to biopsy for mammographically detected lesions interpreted as probably benign” and concluded that it is impossible to define succinctly the imaging features of all such lesions because of their protean manifestation. Likewise, because of the unique circumstances that pertain to each individual case, it is impossible to define a specific likelihood of malignancy below which periodic follow up becomes an alternative to biopsy.

EA Sickles^[4] in 1991 did a study on “Periodic mammographic follow-up of probably benign

RESULTS

In this study it was observed that out of 30 female patients 11 patients were having benign breast lesions, with maximum number of benign breast lesions were in the age group of 40-50 years i.e., 5 (45.45%) and 11 patients were having malignant breast lesions, maximum number of malignant breast lesion were in the age group of 50-60 years i.e., 6 (54.54%) and 8 patients were normal. Mammography examination revealed findings in 30 patients (100%) which includes breast pain (54.34%), palpable lump (17.39%), nipple discharge (6.52%), breast skin thickening (13.04%).

Table no. 1: Age group wise distribution of breast lesions.

S.No.	Age group	Type of breast lesion			
		Benign	%	Malignant	%
1.	30-40	0	0.00%	0	0.00%
2.	40-50	5	45.45%	3	27.27%
3.	50-60	4	36.36%	6	54.54%
4.	60-70	1	9.09%	1	9.09%
5.	70-80	1	9.09%	1	9.09%
Total	11	100%	11		100%

lesions: results in 3,184 consecutive cases” and concluded that, in each case after the study period, whether or not patients complied with the protocol, probably benign lesions were subsequently found to be malignant in 17 case. Fifteen of the 17 cancers were identified by means of interval mammographic change prior to development of palpable mass; all 17 were stage 0 or stage 1 tumors.

Eric L Rosen et.al^[5] in 2002 did a study on “Malignant lesions initially subjected to short-term mammographic follow-up” and concluded that short-term mammographic follow-up is often recommended for lesions that, in retrospect, do not fulfil established diagnostic criteria for probably benign lesions.

Mammography Imaging

Evaluation Of Etiological Factor For Breast Lesions

Having Dense Breasts: Dense breasts have more connective tissue than fatty tissue, which can sometimes make it hard to see lesions on mammogram. Women with dense breasts are more likely to get breast lesion.

Reproductive History: Starting menstrual periods before age 12 and starting menopause after age 55 expose women to hormones longer, raising their risk of getting breast lesion.

Family History Of Breast Or Ovarian Cancer: A women's risk for breast lesion is higher if multiple family members on either her mother's or father's side of the family have had breast or ovarian cancer.

Taking Hormones: Some forms of hormone replacement therapy (those that include both estrogen and progesterone) taken during menopause can cause risk for breast lesions when taken for more than five years. Certain oral contraceptives also have been found to raise breast lesions risk.

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