

A Clinical and Histopathological Correlation in Management of Breast Tumours

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ABSTRACT

Background: Breast Cancer is one of the leading causes of death among females. The aim of this study is to evaluate different modes of presentation of breast cancer. Moreover, the study also evaluates the correlation between clinical examination and histopathological examination.

Methods: The prospective study was undertaken in all patients being presented or admitted in our Surgery Outpatient department or Surgery ward respectively. After obtaining due consent, 50 patients with a breast mass/lump are included for the study. After thorough history and clinical examination of all patients presented to surgical OPD with complaints of palpable breast lump were directed for FNAC examination. Once the diagnosis of breast cancer is confirmed, all data was entered in the pre-structured proforma.

Results: The most common presenting complaint of the patients was lump in the breast (27 patients). However, 13 patients, 6 patients were admitted with complaints of Pain and nipple retraction respectively. The most common histopathological finding of breast tumor is Intraductal type

(84%). All cases had similar histological and FNAC reports.

Conclusion: Regular screening of high risk patients together with awareness program should be performed for timely detection of the disease.

Keywords: Breast Cancer, Mammography, Screening.

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INTRODUCTION

Breast is an organ with glandular structure it undergoes repeated changes as the reproductive life of women goes on. The changes in the breasts can be both physiological and pathological. However, pathological changes can be an extreme extension of normal process and can progress to disease states like lumps, lesions etc.¹ The commonest mode of presentation of breast pathology is a palpable lump which may alarm most of the women for breast cancer. In certain instances, these palpable lumps may be associated with discharge, pain or redness. The key of survival in any patient with breast pathology is early diagnosis and prompt treatment. In developing countries, unawareness, various religious and social factors and the fear of infertility hampers early diagnosis and treatment.²

After lung cancer, the second leading cause of death among women is breast cancer. Breast cancer may be of carcinoma or sarcoma types but luckily the incidence of sarcoma of breast is less than 1%.¹ According to the American Cancer Society the global burden of carcinoma breast is about more than one million and out of these approximately 465,000 women dies due to this entity. However, early detection and prompt management has curtailed down the death rate from breast cancer from 1990 and about 40,910 breast cancer deaths were reported in 2007.²

The common contributory factors behind breast cancer particularly in adults is stress and urban life style.³ Improved screening and treatment are the cornerstone for decreasing the death rate from breast cancer and this has been observed in various western countries where a decreasing trend of deaths from carcinoma breast has been observed.⁴

Approximately 27% of females of western world accounts for breast cancer but its incidence are particularly low in Japan and other developing countries.^{5,6} This can be because of early marriage, dietary, social, and other factors.⁷ Breast cancer is a dreadful disease, so it becomes important from the surgeon point of view that it should be diagnosed with minimally invasive investigations and appropriate treatment should be started once the diagnosis is confirmed. In modern era, fibroadenoma of breast has been managed by the surgeons appreciably. The early diagnosis and treatment of breast cancer is required as if at all the malignancy turns up to malignant state it would be very difficult to treat it. The presence of distant metastasis leads to a number of complications to the patient and thereby making it difficult for the surgeons to effectively manage it. Rao and Ganesh advocated that all female patients with a palpable lump and over 30 years of age presenting to Outpatient department of the hospital has to be

underwent thorough evaluation for breast cancer.⁸ De Geest et al proposed Mammography as an effective technique for investigating carcinoma breast.⁹ Based on above literature, the aim of our study is to study various modes of clinical presentations of patients with breast cancer. Moreover, in this study we have also correlated the clinical marker of carcinoma breast with histopathology.

MATERIALS & METHODS

The prospective study was undertaken in our hospital in all patients being presented or admitted in our Surgery Outpatient department or Surgery ward respectively. After obtaining due consent, 50 patients with a breast mass/lump are included for the study. The study involves a pre-structured proforma in which the screening details, history, vitals (Pulse rate, blood pressure) and other relevant information regarding diagnosis of the patients (laboratory investigations, histopathological examination) of the patients were entered. The management of the patients was planned according to the clinical evaluation and its correlation with histopathological examination. Any patient not giving consent to be a part of the study, having mastitis or any other non-tumor pathological condition was excluded from the study.

After thorough history and clinical examination of all patients presented to surgical OPD with complaints of palpable breast lump all were directed to undergo FNAC examination. Once the diagnosis of breast cancer is confirmed, all data was entered in the pre-structured proforma. The original three dimensional macroscopic tumor sizes of the clinically palpable tumor and axillary lymph nodes were also recorded. Once the necessary routine investigations were performed all patients were evaluated for fitness of surgery by performing pre-anaesthetic evaluation. The patients after receiving fitness for surgery by the anaesthesia personnel all underwent a modified radical mastectomy with axillary lymph node clearance. The lymph node was dissected upto the level I and level II although the technique was not uniform in all the patients as a number of surgeons working at the surgical units of the institution performed this procedure.

Marking of the dissected lymph nodes of breast tissue was done using silk sutures to help the pathologists for easy identification of lymph nodes. All specimens were sent to Pathology department and the size of tumour was recorded. The pathologists report comprises of size of the tumor which was correlated by our findings and also the histological grade of the tumor.

RESULTS

The study comprises 50 patients and all patients were successfully enrolled. There were no drop outs.

Out of 50 patients, 34% of the patients were of age group between 41-50 years. Only 4 patients were found to be less than 30 years of age and 7 patients were more than 60 years of age. [Table 1]

Table 1: Age Distribution.

Age (years)	Number of Patients (Percentage)
<30	4 (8)
31-40	12 (24)
41-50	17 (34)
51-60	10 (20)
>60	7 (14)

Table 2: Size of Tumor

Tumor Size (cms)	Number of Patients (Percentage)
<2 cms	8 (16)
2-5 cms	26 (52)
>5 cms	16 (32)

The most common presenting complaint of the patients was lump in the breast (27 patients). However, 13 patients, 6 patients were admitted with complaints of Pain and nipple retraction respectively. [Figure 1]

The most common site for presentation of breast cancer was observed to be at upper outer quadrant (50% patients). However, 8 patients, 6 patients, 1 patient and 10 patients had presenting site as upper inner, lower outer, lower inner and central quadrant of the breast. [Figure 2]

Figure 1: Presenting Complaint.

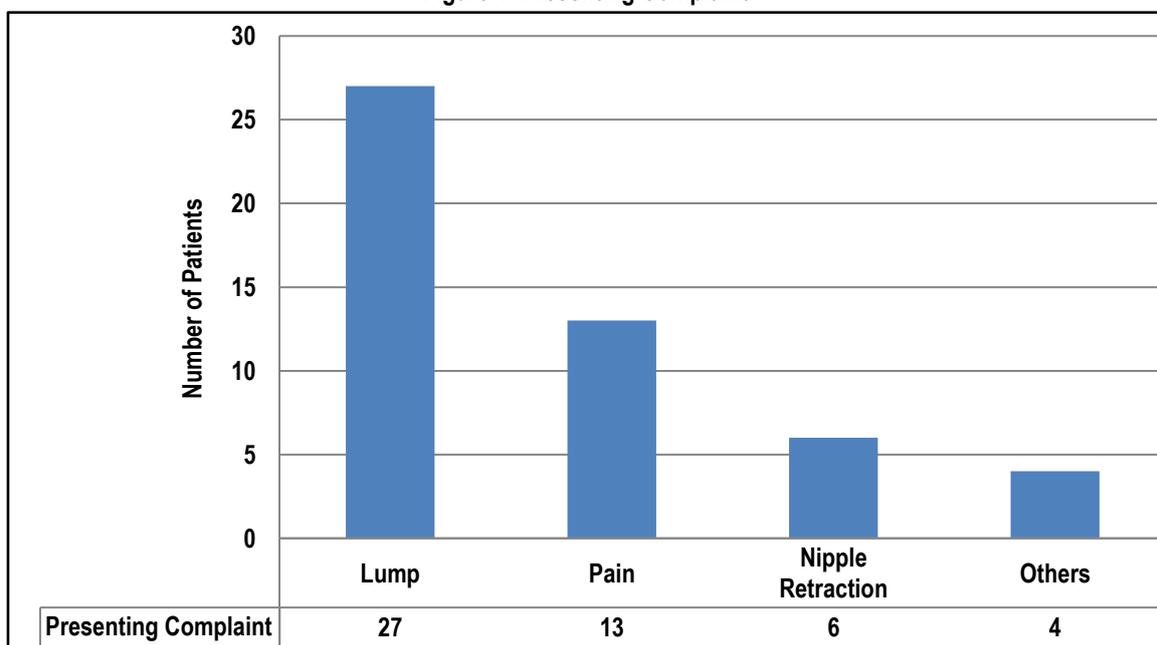


Figure 2: Site Involved.

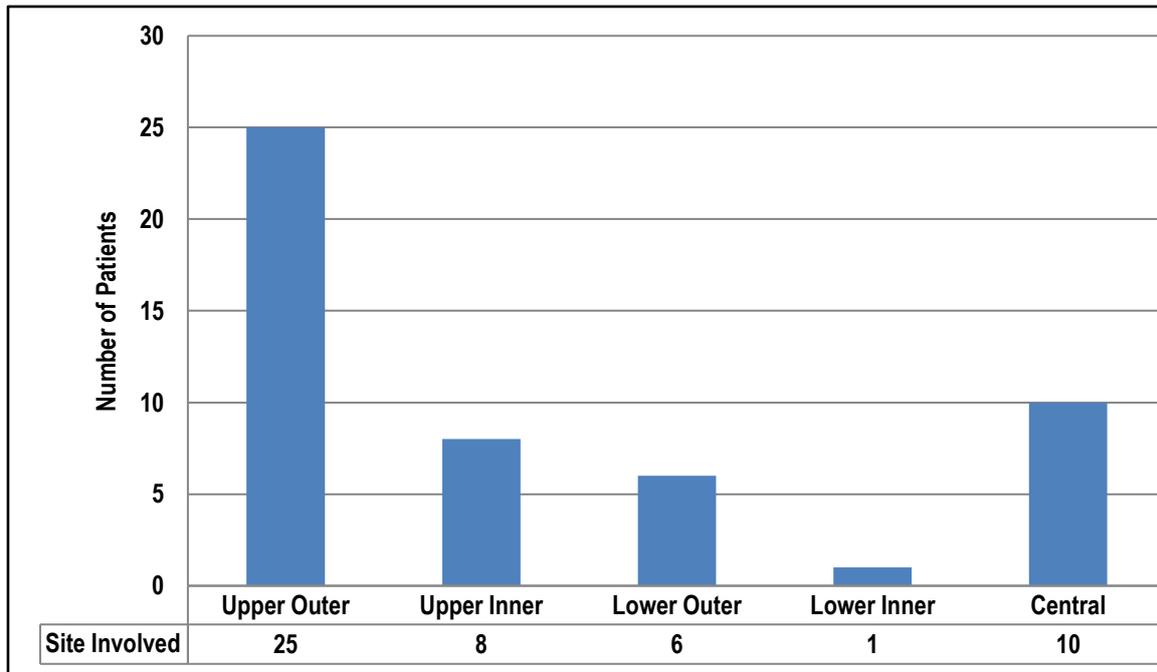


Table 3: Histological type of tumor.

Histopathology	Number of Patients (Percentage)
Intraductal	43 (84)
Medullary	2 (4)
Atypical Medullary	2 (4)
Cribriform	2 (4)
Comedo	1 (2)

Table 4: Grade of Tumor.

Group	Number of Patients (Percentage)
I	4 (8)
II	32 (64)
III	12 (24)
None	2 (4)

Table 5: Comparison of FNAC (Preoperative) and Histopathology (Postoperative).

Histopathology Type	Number of Patients (Percentage)	FNAC	Number of Patients (Percentage)
Intraductal	43 (84)	Intraductal	43 (84)
Medullary	2 (4)	Medullary	2 (4)
Atypical Medullary	2 (4)	Atypical Medullary	2 (4)
Cribriform	2 (4)	Cribriform	2 (4)
Comedo	1 (2)	Comedo	1 (2)

DISCUSSION

The study enrolled fifty patients presented/admitted with diagnosis of breast cancer. The age of the patient varied from twenty five to seventy one years with maximum number of patients were observed in the 41-50 yrs age group, similar to the study conducted in India.¹⁰ However, Veronesi et al observed in his study that the incidence was higher in the patients with elderly age group with their mean age of more than sixty years.¹¹ The commonest sign/symptom of presentation of patients in our study was breast lump (54%). Our work is further supported by Tyagi et al.,¹⁰ who also reported breast lump as the commonest mode of presentation in 100% of the cases. 26 patients (52%) in our study presented with breast lump of size 2-5 cms range. 16 patients

Table 2 depicts that 52% of the tumours were between 2-5 cms of size. However, 16 patients had tumour size of more than 5 cms and 8 patients had tumour size of less than 2 cms. [Table 2]

The most common histopathological finding of breast tumor is Intraductal type (84%). Only 2 patients were observed to be having Medullary, Atypical Medullary and cribriform type and 1 patient of comedo type was also observed. [Table 3]

The commonest grade of breast tumour was Grade II which was observed in 64% of the patients. Grade I and Grade III of breast tumours were observed in 8% and 24% of the patients respectively. [Table 4]

As shown in Table 5, all cases had similar histological and FNAC reports.

(32%) had lump of more than 5 cms and only 8 patients (16%) had a lump of less than 2 cms. Our data is contradicted by the western studies as they observed that the maximum number of patients presented with lump size of less than 2 cms. This can be explained from the fact that better screening techniques, frequent self-examination of the breast and timely mammography during hospital visit makes it possible for earlier detection of breast tumours.^{12,13} Moreover, patient education and more vigilance towards the disease also play an important role in early detection of the disease. Our study had a maximum number of patients with tumor 2-5 cms. This is probably due to the poor screening facilities available and also lack of awareness among the general population regarding self- examination and the disease.

The commonest quadrant involved in breast tumors in our study was the upper outer quadrant in 25 patients (50%) followed by the lower outer and lower inner quadrant in 6 and 1 patient respectively. This can be explained from the fact that the upper outer quadrant of the breast possesses an increased amount of breast tissue. Infiltrating Ductal carcinoma is the commonest histological type of breast tumor in our study in 43 patients (84%) and our observation is further supported by other texts.¹³

The study reveals a direct relationship between the size of the tumour and axillary metastasis. There have been a number of studies to compare and correlate the relationship between breast tumor size and Axillary lymph node status and evaluate if a certain group of patients may be excluded from Axillary dissection based on tumor size. Such studies though many in number, there are very few Indian literature available about the same.¹²⁻¹⁶ These results are of particular importance as histologic involvement of lymph nodes has a direct correlation with prognosis which depends on- the number and level of nodes involved, and the extent of disease in each nodes.¹⁷ The study further reveals that quite large size of lump was observed in the patients presenting to us and many of these were associated with positive lymph nodes. Therefore, it is advisable to perform axillary dissection of level I/II in patients with larger size of tumor. It will help stage the disease accurately, obtain regional disease control and may benefit survival, yet nearly 50% of tumors up to 5 cms have involvement of axillary nodes. In case of small sized breast cancers of less than 2 cms which are usually axillary sample negative, may prevent a full axillary clearance.

Before going for the surgery a proper plan has to be established by biopsy of a palpable or image guided lesion. The approach for diagnosis is image guided core biopsy however, open biopsy is being performed for lesions not responsive to core biopsy or when core biopsy proved to be non-diagnostic. The biopsy using FNAC is also helpful in diagnosing breast lesions but it carries a higher false negative rate. After performing biopsy we can obtain ER/PR/HER 2 receptors and the presence of invasion to lymphatic vessels. Preoperative staging to be performed in all patients for the assessment of the extent of the disease. An estimation of prognosis can be assessed by the histopathology of the tumor and axillary lymph node. These all help in proper selection of surgical procedures to be performed on the patient. In our study, most of the patients presented with a tumor size of more than two cms and all underwent modified radical mastectomy and chemotherapy (depending on their pathological nodal status).

The limitation of this study is the small sample size of patients as the study was conducted at one hospital over a small time frame and the results can be better ascertained if long term follows up is performed. Another limitation in our study is the inability to correlate the type to the tumor with axillary metastasis as infiltrating ductal variety is the commonest type of the tumor we observed.

CONCLUSION

1. The three tests that are used for screening of breast cancer: Breast self-examination, physical examination by a trained examiner and low dose mammography. For this, a breast clinic with team of surgeon, radiotherapist, medical oncologist and the pathologist should be established in most

of the referral hospitals with facilities for multi-disciplinary treatment of breast tumor.

2. Regular screening of high risk patients together with awareness program should be performed for timely detection of the disease.

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