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Original Article

Clinico Pathological Profile of Male Breast Cancer Treated in a Regional Cancer Centre of Eastern India

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ABSTRACT
Male Breast Cancer is known to be an uncommon malignancy. Due to less number of cases available the research in the field is very few. The present study is aimed at finding the incidence, the age profile and the histological types and receptor status of male breast cancer cases treated in a Regional Cancer Centre in eastern India. Twenty seven cases of male breast cancer patients were registered in a regional cancer centre. The age wise incidence was observed. The clinicopathological profile like the histopathological pattern, the Tumour Node Metastasis (TNM) staging and the receptor status were analysed from case records. The median age of presentation in our study was found to be 61years. Out of the 27 cases 14 (51.85%) were found to be in advanced stage i.e stage III followed by 9(33.33%) cases in stage II. Apart from the common invasive duct carcinoma few uncommon variants like papillary, metaplastic, mucinous and invasive lobular were also found. In twelve numbers of cases (44.44%) the receptor status was ER +ve, PR +ve and HER-2 neu –ve followed by ER +ve, PR +ve and HER-2 neu +ve. Though maximum number of cases (45%) were found at age of 61-70 still a good number of cases (26%) are also registered at age of 51-60 and followed by 22% in 41-50 indicating that occurrence of male breast cancer is shifting towards younger age groups. Public awareness, early screening and detection shall be a must to have a better treatment response and quality of life.

Keywords-*male breast cancer, clinico pathological profile.*

Introduction

Male breast cancer is a rare malignant neoplasm. It accounts less than1 % of all types of cancer. In contrast to the extensive literature of female breast cancer less attention has been given to male breast cancer especially with regard to prognostic factors and systemic therapy.[1] The incidence of Male Breast Cancer (MBC) once thought to be relatively stable, now seems to be substantially increasing. Due to the rarity of the cancer, the sample size is often very small to observe an association between the risk factors and cancer[2]. We in our Regional Cancer Centre reviewed the clinicopathological profile of male breast cancer from January 2013 to December 2016. This study was approved by the Institutional Ethics Committee.

Materials & Methods

The case records of all MBC patients attended our centre from January 2013 to December 2016 were reviewed retrospectively. The cases were diagnosed histologically either by core needle biopsy or after final histopathological evaluation following a modified radical mastectomy were taken for study. Clinical history like age, occupation, family history, history of previous treatment etc were retrieved from the hospital records. Histopathological parameters of the tumour was evaluated for cell type, differentiation in situ, components, lymphovascular and perineural invasion. Receptor status for estrogens receptor, progesterone receptor and Her-2 neu receptor were reviewed from immune-histo-chemistry reports. Statistical analysis was done.

Results

A total number of 27 patients were available for study. The age distribution is given in Fig 1. It is observed that 45% of cases were in age group of 61-70 years with a median age of 61years. The histopathological pattern observed is placed in Fig. 2. Out of all cases 16 cases presented right side lesion while 10 cases presented left side lesion.

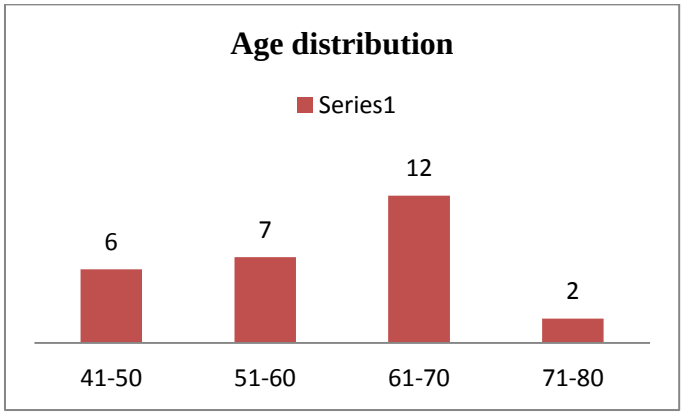

Fig. 1. Distribution of age in cases.

Table No 1 TNM staging and grade of differentiation

Sl No	Parameters	Number of cases
1	TNM Staging	
	Stage I	03 (11.11%)
	Stage II	09 (33.33%)
	Stage III	14 (51.85%)
	Stage IV	01 (3.70%)
2	Grade of differentiation	
	Grade I	15 (55.55%)
	Grade II	10 (37.03%)
	Grade III	02 (3.7%)

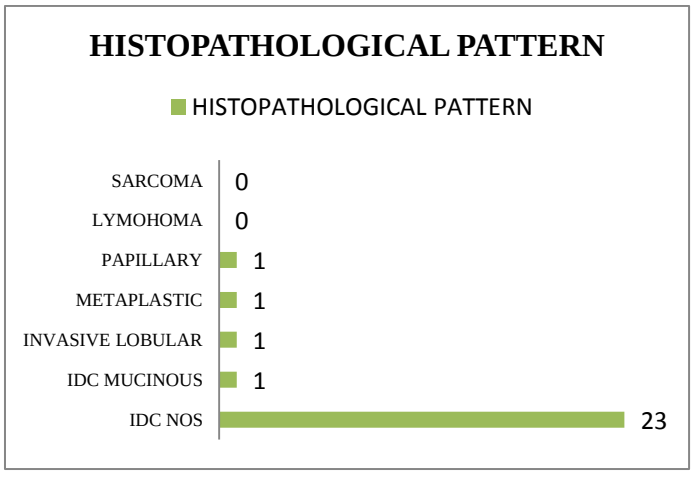

Fig. 2. Distribution of histopathological pattern

The TNM staging and the receptor status analyses are shown in Table No. 1 & 2 respectively.

Table. No 2 Receptor status analyses

Receptors	Number of cases	Percentage
ER +ve, PR+ve, HER-2 neu -ve	12	44.44
ER +ve, PR+ve, HER-2 neu +ve	6	22.22
ER -ve, PR-ve, HER-2 neu +ve	2	7.4
ER -ve, PR-ve, HER-2 neu -ve	5	18.51
ER +ve, PR+ve, HER-2 neu 2+.	2	7.4

Discussion

The incidence of male breast cancer is 1% of all breast cancers. The Indian studies have reported various rates of incidence in different series. Shah P et al[2] from Kashmir reported an incidence of 4.1%. Rai B et al[3] from North India revealed an incidence of 0.5% while Sundriyal D et al[4] from Delhi reported an incidence of 1.03% in their series. Another study from eastern India by Mitra D et al[5] reported an incidence of 2.5% among all breast cancer patients. The present study has observed an incidence of 2.35% (27 out of 1150). The median age in our study group is found to be 61 years. Keith & Heller et al[6] in their series have reported the median age to be 65 years in contrast to 55 years as reported by Shah P et al in their series and 65.4 years by Donegan WL et al[7].

It is observed that a positive family history is also suggestive of increased incidence and risk of male breast cancer like that in female breast cancer. A population based series of 54 male breast cancer cases have reported that at least 17% of male breast cancer cases have first degree relative with breast cancer (Joli R Weiss et al[8].) In the present study 2 out of 27 cases (7.4%) cases had positive family history.

Testicular dysfunction in form of crypto-orchidism, un-descended testes, mumps orchitis and testicular injury is associated with male breast cancer. But in the present series no testicular abnormality was noted in any patient.

72% of cases had a retro-areolar mass at presentation out of which 13% had skin ulceration with induration. The predominant histologic subtypes of invasive carcinoma are infiltrating duct carcinoma in both men and women. This accounts for more than 80% of all tumours as reported in other different series.

In our study 85.18% of all tumours (23 out of 27) had infiltrating duct carcinoma (NOS) type. There are few uncommon noteworthy variants usually seen in female breast cancer cases but rarely observed in male breast cancer cases. In our study one papillary type (3.7%), one mucinous type (3.7%), one metaplastic squamous cell carcinoma (3.7%) and one invasive lobular carcinoma (3.7%) were observed in a total of 27 patients. Invasive lobuar carcinoma is extremely rare in males.

Male Breast Cancer has a high ER/PR positive receptor status. Study by Shah P et al reported 80% estrogen receptor positive and 70% progesterone receptor positive. Sundriyal D et al observed 90% of cases with hormone receptor positive in their series. Rouji Zhou et al[9] in an immune histochemical analysis of breast cancer in a series of 73 patients observed 60.9% of luminal A subtype, 34.8% of luminal B subtype, 1.4 % of HER-2 positive and 20.9 % were basal like. Kanegoor R et al[10] in their study on molecular subtyping of male breast cancer reported luminal A type representing 75% of the cases. Luminal B type in 21%, basal like 4 % and triple negative unclassified 1%. In our study Ki 67 and other molecular subtype was not available. Estrogen and progesterone receptor positive was observed in 80% patients in our study. But to our surprise 18.51% of cases were triple negative breast cancer. This observation is only out of 27 cases. Therefore large sample size is needed for better appreciation.

Conclusion

Male breast cancer is seen at a median age of 61. But the incidence in younger age group is also not minimal. Majority cases present in advanced stage. The histopathological nature of the disease is mostly invasive duct carcinoma. Triple –ve breast cancers in males are also not uncommon. However a large sample size and a longer period of study can confirm and throw more light regarding the incidence and clinicopathological profile of the cases. Public awareness, with involvement of health administration can provide better and appropriate preventive as well as curative support for a quality of life in cases suffering from male breast cancer.

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Abbreviations

ER – Estrogen Receptor

PR – Progesterone Receptor
HER-2 neu – Human epidermal growth factor receptor type 2
IDC – Infiltrating Duct Carcinoma
NOS – Not Otherwise Specified
MBC – Male Breast Cancer

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