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Clinico-pathological profile of male breast cancer treated in a regional cancer centre of North West India

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Abstract

Introduction: Male breast cancer is rare malignant neoplasm and accounts for less than 1% of all breast cancer. The present study is aimed at finding the incidence, the age profile and the histological types with receptor status of male breast cancer cases treated in a Regional Cancer Centre in north west India.

Material and methods: We reviewed the records of all male breast cancer(MBC) patients registered in our centre from January 2014 to December 2017. Clinicopathological profile like age, histopathological pattern, TNM staging and receptor status were analysed.

Results: Total 60 MBC patients were registered in our centre between January 2014 to December 2017. The mean age of presentation was 59.08 years and median age of presentation was 46.5 years. Out of 60 cases 34 (57%) were found to be in advanced stage i.e. stage III followed by 22 (38%) cases in stage II. Most common presentation was ulcer in breast followed by swelling in axilla. Other than common invasive duct carcinoma few uncommon variants like mucinous and metaplastic were also found. In 86% patients receptor status was ER +ve, PR +ve and HER-2 neu –ve followed by ER +ve, PR +ve and HER-2 neu+ve (4%).

Conclusion: Male breast cancer is found to be at mean age of 59.08 but median age of 46.5 years . The incidence in younger age group is considerable. The histological nature of disease is mostly invasive duct carcinoma and

most commonly seen hormone status is ER +ve PR +ve and HER- 2 neu –ve at our centre.

Introduction

Breast cancer in men is relatively uncommon, accounting for <1% of all breast cancers and <1.5% of all malignancy in men[1]. The incidence of male breast cancer (MBC) is comparatively much higher in North America and Europe as compared with other Asian countries[2]. In India, although this condition has been a rare entity, accounting for only 0.7% of all male cancers but it seems to be substantially increasing[3].

The epidemiologic literature on female breast cancer are extensive, but little is known about the etiology of MBC. Some predisposing factors such as inherited mutations in BRCA gene, Klinefelter syndrome, estrogen or testosterone use, orchitis/epididymitis, obesity, benign breast conditions (breast trauma, breast cyst, and nipple discharge), and drinking alcohol are suggested, but it has not been established properly. Whether gynecomastia is a risk factor for MBC is unclear, but some authors have reported its association with breast cancer in men[4].

Although outcomes of breast cancer are improved by screening, early and presumptive diagnosis and with proper management but male patients often presented in advance stage resulting in higher morbidity and mortality. It's probably due to lack of awareness, unestablished early screening method and paucity of research on this topic.

The present study is aimed at finding the incidence, the age profile and the histological types with receptor status of male breast cancer cases treated in a Regional Cancer Centre in north west India.

Material and methods

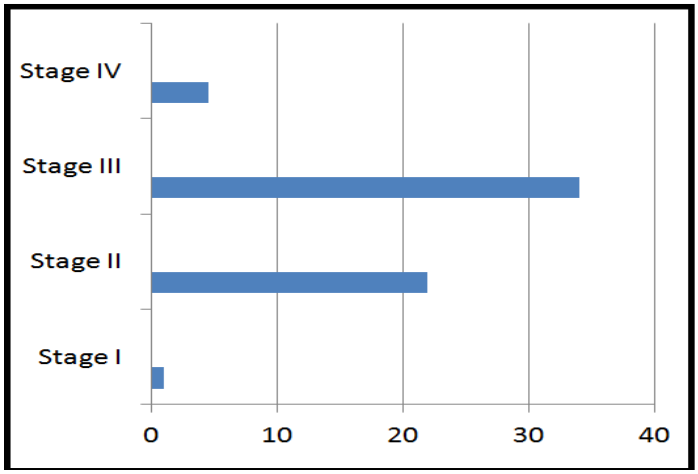
A retrospective study was conducted at Acharya Tulsi Regional Cancer Treatment and Research Institute to analyse records of patients registered since January 2014 to December 2017. We reviewed the records of all male breast cancer(MBC) patients registered at our centre in stated time. Clinicopathological profile like age, histopathological pattern, TNM staging and receptor status were analysed.

Results

Total 60 MBC patients were registered in our centre between January 2014 to December 2017. The mean and median age of presentation was 59.08 years and 46.5 years respectively whereas overall range was 30 to 79 years.

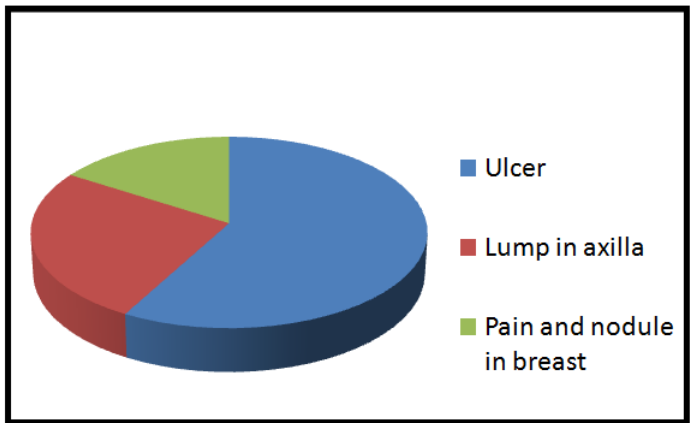
Stage wise distribution is shown in figure 1. Out of 60 cases 34 (57%) were found to be in advanced stage i.e. stage III followed by 22 (38%) cases in stage II, 3 (5%) in stage IV and 1 (1.6%) in stage I.

Figure 1: Stage wise distribution



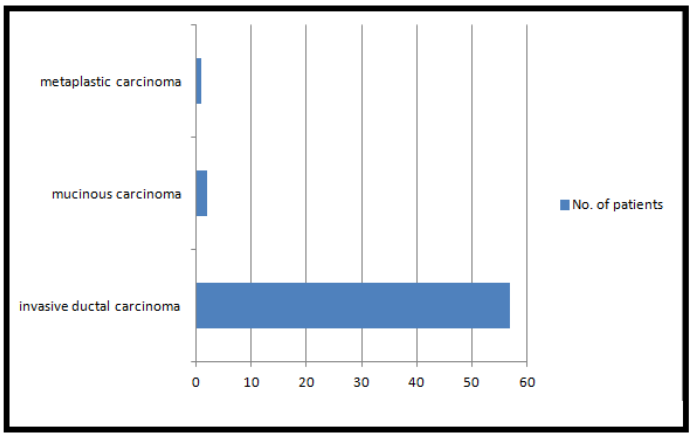
The pattern of presentation depicted in figure 2. Most common presentation was ulcer in breast(58%) followed by swelling in axilla(26%), pain and nodule in breast(16%).

Figure 2:Pattern of presentation:



Among histopathological pattern invasive ductal carcinoma is most common i.e. 95% followed by mucinous carcinoma(3.3%)and metaplastic carcinoma(1.6%). Histopathological variation shown in figure 3.

Figure 3:Histopathogical pattern:



Among studied patients 86% were of ER +ve, PR +ve and HER-2 neu –ve hormone status whereas 4% were of ER +ve, PR +ve and HER-2 neu +ve.

Discussion

The British physician John of Arderne is reported to be the first to discover MBC in the 14th century[5]. The incidence of MBC has increased, approximately about 26% over the past 25 years[6,7]. Due this there has been an increasing interest in this disease worldwide[8].

The prevalence of MBC increases with age. Age frequency distribution for males is unimodal with a peak incidence in the late sixth and early seventh decade. By comparison, females have bimodal age frequency distribution with early onset incidence at 50 and late at 70 years. The average age of diagnosis in males is 60 years, which is 10 years older than that noticed in female patients with the disease[9]. In our study series, the mean age of MBC was 59.08 with age ranged between 30 and 79 years which is similar to the other Indian study, but the mean age of presentation in the western population is reported as 71 years[2]. The youngest case of carcinoma of the male breast has been reported in a 6-year-old male child by Hartman and Magrish[10].

The staging system used for MBC is same as for female breast cancer, but MBC exhibits more frequent lymph node involvement, more frequent lymphovascular invasion and advanced stages than in females[11,12,13]. It probably due to paucity of breast tissue in males.[30] In this study, 1 (1.6%) had Stage I, 22 (38%) had Stage II, 34 (57%) had Stage III and 3 (5%) had Stage IV which is nearly similar with the previous study conducted by Chikaraddi et al.[2]. Men with lymph node involvement have a 50% higher risk of death than those without lymph node involvement[6].

This could be due to lack of a screening program (unlike for women), smaller breast tissue, unawareness of patients, and lack of expectation among treating physicians; furthermore, the stigma of cancer in general, and breast cancer (a disease of woman) in particular, make men seek medical advice later[5].

A painless lump beneath the areola, usually discovered by the patient himself is the most common presenting symptoms in the male breast carcinoma[15]. The typical clinical presentation of breast cancer in 75-95% of men with hard eccentric non-tender mass[16]. In our study, most common presenting symptom was ulceration.

Infiltrating ductal carcinoma is the most frequent invasive carcinoma in men, accounting for 70 - 95% of MBC and lobular carcinoma is rare (around 1% of all cases) due to

lack of terminal lobules in the male breast[4]. However, literature has shown that exposure to estrogen can cause terminal lobules to develop carcinoma in the male breast[17]. In our study infiltrating ductal carcinoma type was the most common histopathological type and ER +ve, PR +ve and HER-2 neu –ve was most common hormonal status. The same histological type was also found to common by others such as Fentiman et al.[7] in 2006, and Chikaraddi et al.[2] in 2012.

Conclusion

The incidence of MBC is increasing, so awareness and screening can detect the lesion early and prevent late detection of disease in advance stage as tumor stage is most important for survival. Male breast cancer is found to be at mean age of 59.08 but median age of 46.5 years. So, incidence in younger age group is considerable. The main limitation of our study being a retrospective nature with a small number of cases and short time period. Hence, multi-institutional prospective study regarding awareness, screening, epidemiology, and further management is needed for better understand of this rare disease in our region.

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