Original Research Article

Male Breast Carcinoma – A Comprehensive Analysis between Tumor Characteristics, Hormone Receptor Status and its Impact on Survival

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Abstract

Introduction: *Male breast cancer is a rare cancer. Male breast cancer is most common in older men, though it can occur at any age. Male breast cancer is staged (reflecting the extent of tumor spread) identically to breast cancer in women. Surgery is the most common initial treatment for male breast cancer. Depending on the situation, chemotherapy, radiation therapy, and hormonal therapy are also considered as part of the care plan*

Aim: *To analyse relationship between clinical profile of tumor with hormonal receptor status and their impact on survival in male breast carcinoma patients of North India.*

Methodology: *It is a retrospective analysis of total 32 patients from 2010 to 2016 presented at Bhagwan Mahaveer Cancer Hospital and Research Centre, Jaipur.*

Results: *Median age of presentation was 62 years and Her-2 positive patients belonged to younger age group (< 50 years). Mean duration of symptoms was 3.5 months but Her 2 positive tumors presented relatively earlier with advanced diseases. Most common stage was stage II. Maximum patients belonged to T2N0 group but higher T staging and nodal burden was noted in Her 2 positive and TNBC group. Four patients developed distant metastasis and among those 3 patients died in their 5 year follow up, all were from TNBC and Her 2 positive group. The median follow up was 60 months. The impact of hormone status and Her 2 expression was found statistically significant with T stage and Nodal status. The DFS was found significantly better in HR+/Her2 - patients in comparison to Her 2 positive or TNBC group. Her2 expression & TNBC confers lower 5 year actuarial overall survival but did not reached statistically significant value.*

Conclusion: *Male breast carcinoma is relatively rare entity and management principals are same as female breast carcinoma. Early presentation and favorable hormonal profile supports for a better disease free survival and 5 year overall survival but because of aggressive disease behavior with Her 2 positivity and TNBC, still holds poor outcome.*

Keywords: *Male breast Cancer, Hormone Receptor, Tumor Characteristic.*

Introduction

Male breast cancer (BC) is a rare disease that accounts for less than 1% of all cancers in men and about 1% of all BC. Although its incidence increased by about 26% over the past 25 years, male BC focused basic and clinical research is limited, and most available data come from observational retrospective studies[1.2].

Researchers have focused relatively little attention on male breast cancer compared with female breast cancer. Men are approximately as likely to be diagnosed with breast cancer as to develop chronic myelogenous leukemia. Because robust clinical evidence is lacking, treatment standards for men have generally been extrapolated from the enormous literature and clinical experience in women. The male hormonal milieu may be a unique and powerful determinant of risk, prognosis, and treatment outcome. Moreover, gender differences may affect patient preferences, toxic effects from therapies, and survivorship priorities[3].

Literature pertaining to male breast cancer is sparse, particularly in our country[4,5] The present study was done with an aim to analyze the Tumor characterstic, Hormonal receptor status and survival characteristics of male breast cancer patients

Aims & Objectives

- To analyse relationship between clinical profile of tumor with hormonal receptor status
- To analyse their impact on survival in male breast carcinoma patients of North India.

Materials & Methods

- It is a retrospective analysis of total 32 patients from 2010 to 2016 presented at Bhagwan Mahaveer Cancer Hospital and Research Centre, Jaipur.
- All patients underwent MRM and ALND irrespective to their stage and completed their adjuvant treatment.
- All groups were analysed statistically with chi square and paired t – test.
- P-value < 0.05 was taken as significant.
- Med calc 16.4 version software was used for statistical analysis.
- Patients were categorized in 4 groups for analysis-

  HR + HER 2 +   T stage
  HR + HER 2 -   N stage
  HR - HER 2 +   DFS
  HR - HER 2 -   OS

Results

The total 32 patients were analyzed retrespetively for Compare hormonal receptor factor an survival rate in male breast cancer. Median age of presentation was 62 years and HER-2+ patients belonged to younger age group (< 50 years). Mean duration of symptoms was 3.5 months. Among 32 patients, HER 2+ tumors presented relatively earlier with advanced diseases. Maximum patients belonged to T2N+ group but higher T staging and nodal burden was noted in HER 2+ and N+ group. Four patients developed distant metastasis and among those 3 patients died in their 5 year follow up, all were from TNBC and HER 2+ group. HER2 expression & TNBC significantly confers lower DFS and 5 year actuarial overall survival in comparison to HR+/HER2 – patients. (Table 1) (Fig 1-3)

Table 1 Shows: Risk factor, stages of male breast cancer an DFS and OS among male breast cancer

Tumor character	No. of pts	T1,T2	T3,T4	P =	N+	P =	DFS	P =	OS	P =
HR + HER 2 +	4	1	3	0.005 %	3	0.024 %	75	0.018 %	75	0.032 %
HR + HER 2 -	22	22	0		6		100		100	
HR - HER 2 +	2	0	2		2		50		100	
HR - HER 2 -	4	2	2		3		50		50	
All patients	32	25	7		14		84		90.6	

DFS in HR (+) patient
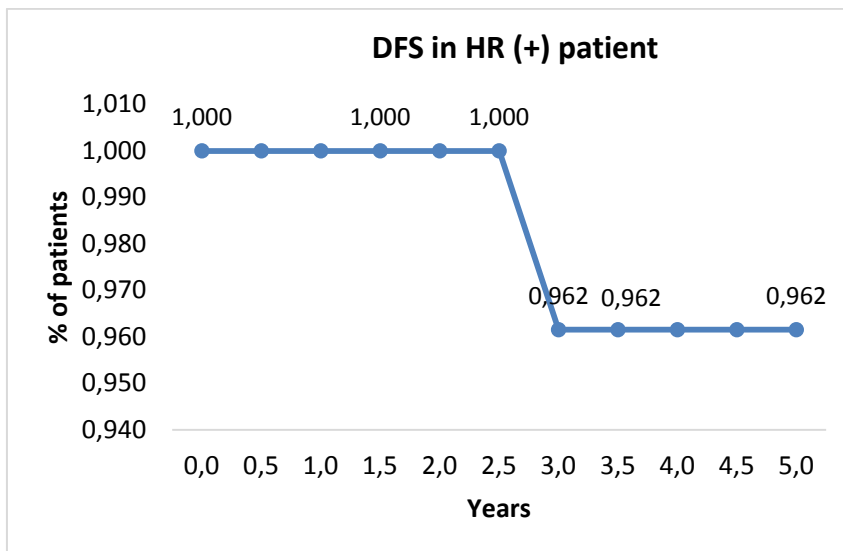
Fig 1 Shows: DFS in HR positive Male breast cancer in 5 years

DFS in HER (+) patient
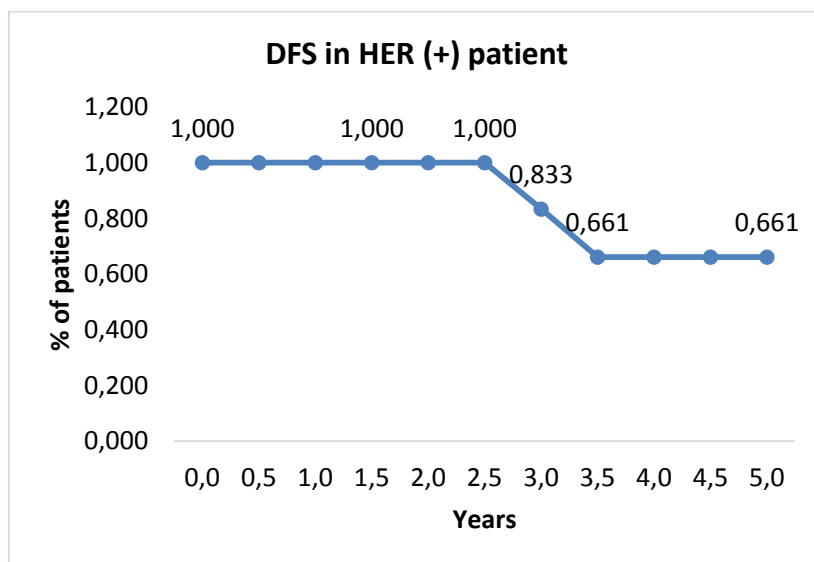
Fig 2 Shows: DFS in HER positive Male breast cancer in 5 years
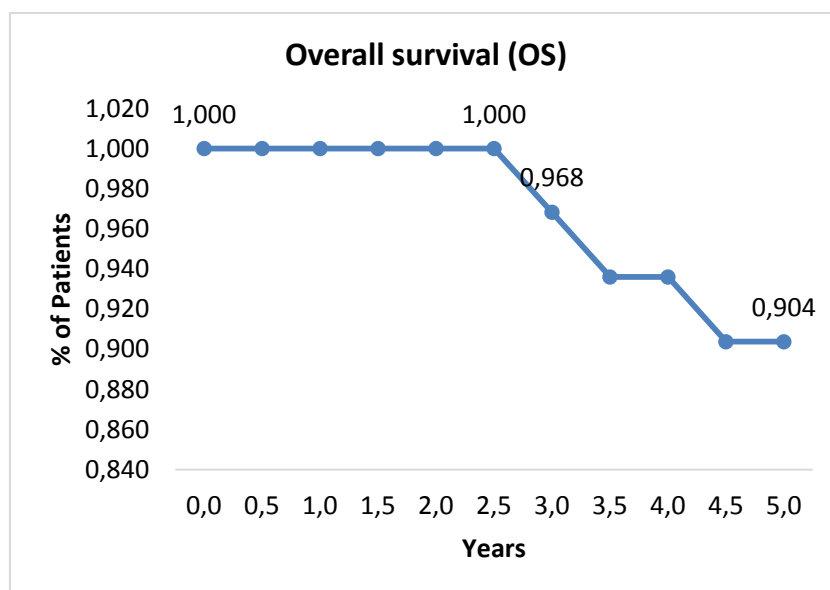
Overall survival (OS)

Fig 3 Shows: OS in Male breast cancer in 5 years

Discussion

Breast cancer is the most common malignancy among Indian women but it's uncommon in men. Most studies show that male breast cancer presents in an advanced stage while most of our patients were in early stage[6]. The reason may be due to the growing cancer awareness in a metro city such as Delhi as >60% of our patients were from Delhi. The present study showed, HER 2+ tumors presented relatively earlier with advanced diseases. Maximum patients belonged to T2N+ group but higher T staging and nodal burden was noted in HER 2+ and N+ group. Four patients developed distant metastasis and among those 3 patients died in their 5 year follow up, all were from TNBC and HER 2+ group. HER2 expression & TNBC significantly confers lower DFS and 5 year actuarial overall survival in comparison to HR+/HER2 – patients. A study conducted by Ram D et al[6] and they stated that, Staging, nodal status, and HR+ have been reported as prognostic variables for OS and DFS. On univariate analysis, OS was poor in advanced stage, N+ and TNBC cases, but did not reach statistical significance. DFS was adversely affected by T stage and nodal status, but the difference did not reach significance, which may be because of small sample size. HR positivity associated with significantly improved DFS. [3]Some other studies in men, some small studies have shown no correlation between HER2 status and survival[3,7] but others have demonstrated that HER2 positivity predicted a shorter disease free or overall survival[38].

These results may be not given every aspect of tumor characterstics, hormone receptor status as our study has small sample size. However, there is much more study should required on Tumor characterstics, hormone receptor status and its impact on survival on large sample size.

Conclusion

Male breast carcinoma is relatively rare entity and management principals are same as female breast carcinoma. Early presentation and favorable hormonal profile supports for a better disease free survival and 5 year overall survival. Because of aggressive disease behavior with HER 2 positivity and TNBC, still holds poor outcome.

Conflict of Interest: None

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