

Male breast cancer: A retrospective review of clinical profile from a tertiary cancer care center of India

Dharma Ram, Suhas K. Rajappa, Veda P. Selvakumar¹, Himanshu Shukla, Ashish Goel², Rajeev Kumar¹, Kapil Kumar²

Abstract

Aim: Present study was done with an aim to analyse the clinicopathological and survival characteristics of male breast cancer patients. **Methods:** We did a retrospective review of our database and analysed total 27 patients who presented to breast oncology unit of Rajiv Gandhi cancer centre and research institute from January 2010 to April 2016. **Results:** Most common stage at presentation in our study was in stage II. The median follow up was 32.75 months. The actuarial 5-year survival was 92.30% and DFS was 76.30%. Only hormone receptor status was found as a significant prognostic variable among the prognostic factors studied for disease free survival. **Conclusions:** Carcinoma breast in male is a relatively rare disease and management principles are translated from our understanding of breast cancer in women. A relatively early stage at presentation is a contrasting finding of our series which may be responsible for a significantly better actuarial 5 year survival rates.

Key words: Hormone receptor, India, Male breast cancer, triple negative breast cancer

Introduction

Breast cancer is the leading malignancy all around the globe among women, but it is uncommon in men. Breast cancer accounts for <1% of all cancer in male with estimated lifetime risk of getting breast cancer is about 1 in 1000 in men.^[1,2] Incidence of male breast cancer has increased by 26% over the past 25 years.^[3] Literature pertaining to male breast cancer is sparse, particularly in our country.^[4-11] The present study was done with an aim to analyze the clinicopathological and survival characteristics of male breast cancer patients.

Methods

We analyzed clinico-pathological, management and follow up details retrospectively from 2010 to 2016. Continuous variables were presented as mean \pm standard deviation and median. Kaplan–Meier survival analysis was used to find out overall survival (OS) and disease-free survival (DFS), and log-rank test was used to calculate *P* value. The analysis was done using the Statistical Package for Social Sciences 21.0 (SPSS Version 21.0).

Results

Total 27 patients were identified. The majority of the patients were from Delhi (13/27). No risk factor identified except family history in two cases. Clinicopathological details are depicted in Table 1. Most common location was central quadrant (16/27), followed by upper outer quadrant (4/27). Most common stage at presentation was Stage II.

All patients underwent modified radical mastectomy upfront. Infiltrating ductal carcinoma found in 85.2% cases followed by infiltrating lobular carcinoma and infiltrating mucinous carcinoma in two patients each. 77.8% were hormone receptor (HR) positive while 18.5% were triple negative.

Prolonged drain output seen in three patients while one developed wound dehiscence. Two patients developed arm edema, and both of them had received adjuvant radiotherapy.

Table 1: Clinical and pathological profile of male breast cancer patients

| Factor | Distribution |
|---------------------------|---------------------|
| Demographic profile | |
| Age (year) | 62.6 (46-77) |
| Comorbidities | 12/27 (44.3%) |
| Family History | 2/27 (7.04%) |
| Clinical profile | |
| Laterality | Right 16/27 (58.8%) |
| Location | CQ in 16/27 (58.8%) |
| Duration of symptoms | 4.5 months (1-12) |
| Chief complains | Lump 24/27 (88.8%) |
| Mean size of lump | 3.09 cm (1-7 cm) |
| Clinical node+ | 9/27 (33.3%) |
| Histopathological profile | |
| Pathology | IDC 23/27 (85.2%) |
| HR+ | 21/27 (77.8%) |
| TNBC | 5/27 (18.5%) |
| TPBC | 1/27 (3.7%) |
| Her2/Neu+ | 2/27 (7.4%) |
| Pathological staging | |
| T1 | 6 (22.2%) |
| T2 | 15 (55.6%) |
| T3 | 4 (14.8%) |
| T4 | 2 (7.4%) |
| N0 | 18 (66.7%) |
| N1 | 7 (25.9%) |
| N2 | 1 (3.7%) |
| N3 | 1 (3.7%) |
| Stage I | 5 (18.5%) |
| Stage II | 18 (66.7%) |
| Stage III | 4 (14.8%) |
| Stage IV | 0 (0%) |
| Adjuvant Management | |
| Adjuvant chemo | 19/27 (70.4%) |
| Adjuvant Radio | 6/27 (22.2%) |
| Adjuvant HT | 21/27 (77.8%) |
| Recurrence pattern | |
| Local recurrence | 3/27 (11.1%) |
| Mean duration | |
| Distant recurrence | 2/27 (7.4%) |
| Mean duration | |

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Ram D, Rajappa SK, Selvakumar VP, Shukla H, Goel A, Kumar R, *et al.* Male breast cancer: A retrospective review of clinical profile from a tertiary cancer care center of India. *South Asian J Cancer* 2017;6:141-3.

Access this article online

Quick Response Code:



Website: www.sajc.org

DOI: 10.4103/sajc.sajc_2_17

Departments of Surgical Oncology and ¹Breast Oncology, Rajiv Gandhi Cancer Institute and Research Centre, ²Departments of BLK Super Speciality Hospital, New Delhi, India

Correspondence to: Dr. Dharma Ram, E-mail: drdharmapoonia@gmail.com

Table 2: Survival outcomes of male breast cancer patients

| | Number of patients | Disease free survival | P (DFS) | Overall survival | P (OS) |
|------------------|--------------------|-----------------------|-----------|------------------|--------|
| pN0 | 18 | 85.70% | S (<0.05) | 100% | NS |
| pN+ | 9 | 58.3% | | 85.7% | |
| Early stage | 23 | 100% | NS | 100% | NS |
| Locally advanced | 4 | 69.39% | | 90% | |
| HR+ve | 21 | 80.00% | S (<0.05) | 100 | NS |
| TNBC | 5 | 66.67% | | 90.00% | |
| All patients | 27 | 76.30% | - | 92.30% | - |

Table 3: Review of Indian series on male breast cancer. *P stage also shown to significant prognostic variable for overall survival †median OS for stage 1, 2, 3 and 4: 36.2, 32.9, 14.2 and 5.46 months respectively

| Study | Duration | Female to male ratio | Patients | Laterality | Family history | Study place | Age | Delay in presentation | Commonest stage | HR+ | Prognostic variables for DFS | Survival |
|---------------------------------------|-----------|----------------------|----------|-------------|----------------|-------------|------|-----------------------|-----------------|-------|------------------------------|-------------------------------|
| Shukla et al. ^[6] 1996 | 1987-1993 | - | 41 | Left (58.5) | 2% | Delhi | 54.2 | 15.1 mon | 41% stage 3 | 43% | pN stage. Age <50 yr | 91.4% 4 Y OS |
| Mitra et al. ^[7] 2007 | 1994-2003 | - | 79 | - | - | Kolkata | 67 | - | 90% stage 3/4 | 83% | pN stage | 47-58% 5 Y DFS |
| Chikaraddi et al. ^[8] 2012 | 2001-2010 | 0.4% | 26 | Right (61%) | - | Bangalore | 57 | - | 50% stage 3 | 81% | - | - |
| Shah et al. ^[9] 2009 | 1987-2007 | 4.1% | 32 | - | 3% | Kashmir | 55 | 3 mon | 56.2% stage 3 | 62.5% | - | - |
| Rai et al. ^[10] 2005 | 1996-2000 | 0.5% | 30 | - | - | Chandigarh | 56 | - | 43.3% stage 3 | - | pN stage | 40% 5 Y DFS |
| Mukherjee et al. ^[11] 2014 | 2003-2009 | - | 33 | Right (63%) | 6% | Kolkata | 60 | - | 57.6 stage 3 | 54.5% | p Stage. Also OS* | † |
| Sundriyal et al. ^[12] 2015 | 2005-2014 | 1.03% | 18 | Right (55%) | - | Delhi | 60 | - | 61% stage 4 | 94% | - | - |
| Gogia et al. ^[13] 2015 | 1996-2012 | - | 76 | - | 9.2% | Delhi | 59 | - | 59% stage 3 | 78% | pN stage | 80%. OS 3 year |
| Present study 2016 | 2010-2016 | 0.8% | 27 | Right (59%) | 7% | Delhi | 62.6 | 4 mon | 66.7% stage 2 | 78% | HR status | 92.3% OS 5 yr. 76.3% DFS 5 yr |

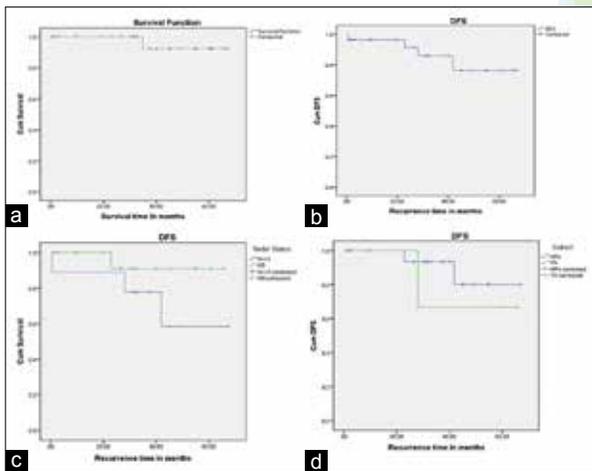


Figure 1: Showing actuarial survival at 5 years: Overall Survival (Panel: A), Disease free survival (Panel: B), Disease free survival (DFS) in relation to nodal (Panel: C) and hormonal status (Panel: D).

Nineteen patients received adjuvant chemotherapy while six received adjuvant radiotherapy. Two patients received both form of adjuvant treatment. All patients with HR positivity received adjuvant tamoxifen.

Median duration of follow-up was 32.75 months (6–66 months). Three patients developed local recurrence (1 chest wall and 2 ipsilateral axillae). Two patients developed distant metastasis (lung and bone). At the past follow-up, one patient with metastasis died of the disease. Actuarial OS at 5 years

was 92.30% with median DFS was 76.30%. Triple-negative breast cancer (TNBC) and HR-negative status associated with poor DFS; however, there was no significant difference in OS [Figure 1 and Table 2].

Discussion

Breast cancer is the most common malignancy among Indian women but its uncommon in men.^[1,2] We have summarized the data on available Indian series on male breast cancer [Table 3].^[4-11] Clinical and demographic finding are in concordance with the reported Indian series. Most studies show that male breast cancer presents in an advanced stage while most of our patients were in early stage. 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.

Several Western series have reported 5 years OS 80%–90% in Stage I, 50%–80% in Stage II, 30%–50% in Stage III, and <10% in Stage IV disease.^[12,13] 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. These results may be not true picture as our study has small sample size and relatively less number of patients in advanced stage disease.

Conclusion

Carcinoma breast in male management principles are translated from our understanding of breast cancer in women. The prognosis is dependent on stage of the disease and HR status. Most of the analysis in our study was in concordance with the available data except the stage at presentation. In our study, the predominant stage at presentation was Stage II. This may be due to raising awareness among the population in the metro cities, which is a welcome trend.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Anon. Available at: Fact Sheets by Cancer; 2017. Available from: http://www.globocan.iarc.fr/Pages/fact_sheets_cancer.aspx. [Last accessed on 2017 Apr 20].
2. Anon. Available at: What are the Key Statistics about Breast Cancer in Men? 2017. Available from: <http://www.cancer.org/cancer/breastcancerinmen/detailedguide/breast-cancer-in-men-key-statistics>. [Last accessed on 2017 Apr 20].
3. Fentiman IS, Fourquet A, Hortobagyi GN. Male breast cancer. *Lancet* 2006;367:595-604.
4. Shukla NK, Seenu V, Goel AK, Raina V, Rath GK, Singh R, *et al.* Male breast cancer: A retrospective study from a regional cancer center in Northern India. *J Surg Oncol* 1996;61:143-8.
5. Mitra D, Manna A, Sikdar SK, Sur PK. Clinicopathological study and its prognostic implication in male breast carcinoma. *J Indian Med Assoc* 2007;105:681-3, 686.
6. Chikaraddi SB, Krishnappa R, Deshmane V. Male breast cancer in Indian patients: Is it the same? *Indian J Cancer* 2012;49:272-6.
7. Shah P, Robbani I, Shah O. Clinicopathological study of male breast carcinoma: 24 years of experience. *Ann Saudi Med* 2009;29:288-93.
8. Rai B, Ghoshal S, Sharma SC. Breast cancer in males: A PGIMER experience. *J Cancer Res Ther* 2005;1:31-3.
9. Mukherjee A, Saha A, Chattopadhyay S, Sur P. Clinical trends and outcomes of male breast cancer: Experience of a tertiary oncology centre in India. *Int J Cancer Ther Oncol* 2014;2:20-35.
10. Sundriyal D, Kotwal S, Dawar R, Parthasarathy KM. Male breast cancer in India: Series from a cancer research centre. *Indian J Surg Oncol* 2015;6:384-6.
11. Gogia A, Raina V, Deo SV, Shukla NK, Mohanti BK. Male breast cancer: A single institute experience. *Indian J Cancer* 2015;52:526-9.
12. de Perrot M, Deléaval J, Robert J, Spiliopoulos A. Thirty-year experience of surgery for breast carcinoma in men. *Eur J Surg* 2000;166:929-31.
13. Tawil AN, Boulos FI, Chakhachiro ZI, Otroock ZK, Kandaharian L, El Saghir NS, *et al.* Clinicopathologic and immunohistochemical characteristics of male breast cancer: A single center experience. *Breast J* 2012;18:65-8.