

**MALE BREAST CANCER: SINGLE INSTITUTIONAL EXPERIENCE AT GUJARAT CANCER & RESEARCH INSTITUTE**

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2016**Key words:**

MBC (Male breast cancer), ER (Estrogen receptor), PR (Progesterone receptor).

ABSTRACT**Aim-** A single institute experience of clinicopathological features, treatment and outcome of male breast carcinoma at GCRI**Material and Methods-** Retrospective analysis using clinical and pathological data from 25 operable male breast cancer patients at GCRI, Ahmedabad.**Results-** Mean age of presentation was 64 years, mostly with lump. Clinically T1, T2, T3 and T4 were 16%, 27%, 21%, 36%. Lymph node involvement were seen in 40% of the cases. Histology was invasive ductal carcinoma. IHC results showed ER, PR, Her2-neu Positive in 80%, 74% and 22% patients. 80% of the patients underwent MRM while 20% underwent Toilet mastectomy. Adjuvant Radiotherapy was given in 60% of cases.**Conclusion-** Male breast cancer is a rare entity similar to female breast cancer in many ways except advance age and stage of presentation, more ER, PR positivity and more required adjuvant radiotherapy, according to our study.**Limitation-** Small sample size. A prospective multicentric study with large sample size is needed for better understanding of male breast cancer.

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INTRODUCTIONMale breast cancer comprises approximately 1% of all breast cancer cases.¹ Because of its rarity, understanding of its etiology, presentation, treatment options and outcome is not as clear as female breast cancer. Most of the information is based on SEER database. In the present study we tried to elaborate the clinical presentation, treatment and outcome of male breast cancer.**MATERIAL AND METHODS**

Data obtained for the study retrospectively collected from department of surgical oncology, GCRI in 25 cases. After relevant history and clinical examination, all patients underwent trucut biopsy from the mass and other radiological investigations to rule out metastasis. Confirmed and operable cases were included in the study and underwent modified radical mastectomy. Adjuvant therapy were given on the basis of histopathological report finding.

RESULTS

Maximum number of patients belonged to 61-70 year of age group with mean age of 64 years. Based on clinical and pathological features 16%, 20%, 28% and 36% patients were T1, T2, T3 and T4 respectively.

Table 1 showing age distribution

Age group (years)	No. of patients	Percentage(%)
31-40	1	4
41-50	3	12
51-60	4	16
61-70	12	48
>70	5	20

Based on clinical and pathological features 16%, 20%, 28% and 36% patients were T1, T2, T3 and T4 respectively.

Table 2 showing distribution according to tumor size

Size	Number of patients	Percentage(%)
T1	4	16
T2	5	20
T3	7	28
T4	9	36

Histopathological report was invasive ductal carcinoma in all the patients. All patient underwent modified radical mastectomy. IHC results showed ER, PR, Her2-neu Positive in 80%, 76% and 20% patients.

Table 3 showing histopathological features

Features	Number of patients	Percentage(%)
IDC	25	100
ER+	20	80
PR+	19	76
Her2-neu+	5	20
Node +	16	64

On histopathological report pN+ were in 16 patients. Out of these 13 patients were belong to pT3 and pT4.

Table 4 showing relation between pT and pN

	pN0(%)	pN1-3(%)	pN>3(%)
pT1	3(12)	1(4)	0
pT2	3(12)	2(8)	0
pT3-pT4	0	6(24)	7(28)

15 patients received adjuvant radiotherapy and 20 patient received hormonal therapy. 22 patient received adjuvant chemotherapy. 3 patients received only hormone therapy. On 1 year regular follow-up 3 patients encountered with bony metastasis, 2 patients with liver metastasis and 1 patient with

local recurrence. Rest of the patients are still on regular follow-up and doing well.

Table 5 showing mode of treatment

Treatment	Number of patients	Percentage
MRM	25	100
Adjuvant chemotherapy	22	88
Hormonal therapy	20	80
Only Hormonal therapy	3	12
Adjuvant radiotherapy	15	60

DISCUSSION

The definite etiology of MBC is unknown. Factors such as family history and genetic and hormonal alterations are known to influence its occurrence. Conditions that alter the estrogen-testosterone ratio in males predispose to breast cancer. Among these conditions the strongest association is with Klinefelter's syndrome.² Males with this condition have a fifty times increased risk and accounts for 3% of all MBC. Conditions, which are associated with increased estrogen levels, like cirrhosis and exogenous administration of estrogen (either in transsexuals or as therapy for prostate cancer) have been implicated as causative factors. Also, androgen deficiency due to testicular disease like mumps, undescended testes, or testicular injury, has been linked to the occurrence of breast cancer in men.³

The entire spectrum of histological variants of breast cancer has been noted in men. Infiltrating ductal carcinoma is the most predominant subtype with an incidence ranging from 64–93% followed by papillary variant type seen in 2.6–5%.⁴ Molecular markers in MBC include ER (estrogen receptor), PR (progesterone receptor), AR (androgen receptor), p53 gene, Her2neu (Human Epidermal Growth factor-2) expression, gelatinases, p27 gene, MIB-1 (Ki67) index, and Bcl-2 (B-cell lymphoma-2) gene. A high ER positivity as compared to female breast cancer has been noticed consistently in studies on MBC. Approximately 64–85% of cancers in men are ER positive and more than 70% are PR positive.⁵ Such high levels of positivity may be due to low estrogen levels leaving receptors available for binding and is probably responsible for good hormonal control.

The typical clinical presentation of breast cancer in men is a mass which is hard non tender.⁶ Skin ulceration may be present. Nipple involvement manifesting as retraction, nipple discharge, fixation or eczema is seen in 40–50% patients. This early presentation of late stage disease is attributed to the small bulk of breast tissue and the central location of these tumours. Less common presentations are breast tenderness, itching or symptoms of distant metastasis.⁷ Axillary lymph node involvement is very common and clinically suspicious adenopathy has been seen in 40–55% patients. This is explained on the basis of lack of awareness and delayed diagnosis as compared to females. The paucity of breast tissue in males makes it difficult to perform and interpret imaging techniques like ultrasound (US) and mammography as compared to females.⁸ Fine needle aspiration cytology (FNAC) is a reliable investigation modality in MBC and helps to differentiate benign from malignant lesions.⁹ A number of variables have been reported to affect prognosis like tumour stage and axillary nodal status. ER and PR positivity is believed to be prognostically favourable in MBC similar to breast cancer in females.¹⁰

Although radical mastectomy was the treatment of choice in earlier years, less invasive procedures like modified radical mastectomy (MRM) or simple mastectomy are now the standard procedure.¹¹ No improvement in survival or local recurrence has been found for male patients who underwent more radical procedures. Due to the high positivity of ER in MBC (75–80%), most cases have an excellent response to hormonal manipulation. Although various methods like orchidectomy, hypophysectomy and adrenalectomy have been described, tamoxifen has shown to have equivalent results as in females. MBC can spread to the liver, lungs, brain and bones. Hormonal therapy has been proven to help in metastatic disease.¹²

CONCLUSION

Male breast cancer is a rare entity similar to female breast cancer in many ways except advance age and stage of presentation, more ER, PR positivity and more required adjuvant radiotherapy, according to our study.

Limitation- Small sample size. A prospective multicentric study with large sample size is needed for better understanding of male breast cancer.

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