

ORIGINAL ARTICLE

DEMOGRAPHIC PATTERN OF MALE BREAST CANCER: AN INSTITUTIONAL BASED STUDY

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Background: Male breast cancer incidence rises with age with peak in the 6th & 7th decade. It is one of the rare diseases and accounts for less than 1% of all malignancies worldwide. It is usually diagnosed in the late stage with poor prognosis. **Objective:** The purpose of this study was to know the demographic pattern and tumour characteristic of breast cancer in men reported at Institute of Radiotherapy and Nuclear Medicine (IRNUM), Peshawar. **Methods:** Retrospective data was collected from the (IRNUM), Peshawar for a period of three years (2006–2008). The evaluation was done from the histopathological reports of mastectomy and biopsy specimens. All male patients in the age group 26–86 year with breast cancer were included in the study. The age of the patients and tumour characteristics recorded were size, grade, type, skin involvement and stage. **Results:** Total number of male patients with breast cancer were 31 (2.1%) out of the total patients with breast malignancy during the study period with the mean age of 58.3 years. Tumour size ranged from 2 to 12 Cm. with average of 3.6 Cm. Invasive ductal carcinoma was found in 87%, papillary carcinoma in 6.5%, each of malignant fibrous histiocytoma and sarcoma in 3.2% cases. Maximum number of patients was of grade II (41%). Patients in whom stage of the disease was known were 22 cases with 45.5% had stage III disease and 32% had stage IV disease. Skin involvement was found positive in 8 (25.8%). **Conclusion:** Due to poor health care system breast cancer is diagnosed in a late stage of the disease and prognosis is poor.

Keywords: Male, breast malignancy, Stage, grade, type

INTRODUCTION

Prevalence of male breast cancer increases with age. In males the peak incidence is seen mostly in the late sixth and early seventh decade¹, and study in Pakistan shows the peak incidence between 6th and 7th decade with the average age of 58.3 years.^{2,3} By comparison, females have early onset at 50 and late at 70 years^{1,7}, but studies in Pakistan show the peak incidence in the 5th decade.⁴ The average age of diagnosis in males is 60 years^{1,2} approximately the same in other studies³, which is ten years older than that noticed in female patients with the disease.¹ It is also 100 fold more common in females.⁸ Data from the members of United Kingdom Association Cancer Registries (UKACR) from 1981–2004 and European Age Standardised Ratio (EASR) showed the rising incidence of Male breast cancer from 1991–2000.^{5,6}

Male breast cancer is one of the rare disease and accounts for less than 1% of all the malignancies worldwide.^{1,5,8,9} The malignant breast tumours in males were about 3% of all breast malignancies in both sexes in Pakistan.³ It usually affects elderly, mostly diagnosed in the late stage with the poor prognosis. Mostly patient presents with the breast lump, nipple discharge, ulceration and nipple retraction. The presenting complaints are mostly the same as in the females.² The predominant lesion was infiltrating ductal carcinoma according to most of the studies, 2nd common is papillary carcinoma and sarcomas were rare,^{1–3} and majority were of high grade^{1,3}. The disease is rare so

very little literature is available, mostly consists of retrospective studies, and there is no randomised prospective data of the disease.⁸ Oestrogen, androgen and progesterone expression is higher in men with breast malignancy and also Her-2/neu receptor.⁸

The purpose of this study was to know the demographic pattern and tumour characteristic of breast cancer in men reported at IRNUM.

MATERIAL AND METHODS

Retrospective data was collected from the Institute of Radiotherapy and Nuclear Medicine (IRNUM) for a period of three years from 2006–2008 of male patients with breast cancer who reported at IRNUM. The evaluation was done from the histopathological reports of mastectomy and biopsy specimens. The grading in the reports was according to Nottingham Modified Bloom Richardson's Scoring System. Staging was done according to TNM classification system, T for tumour, N for node, M for metastasis, available in the record. All male patients in the age group 26–86 year with breast cancer were included in the study.

RESULTS

Total number of patients with malignant tumours entertained at IRNUM during the study period was 16,161. Out of these, 7,391 were female and 8,770 were male. Total number of patients diagnosed with breast cancer was 1,489. Male breast cancer patients were 31 (2.1%) of total breast malignancy and 0.19% of the total malignant patients during the study period. The age

range was between 26–86 yrs with the mean age of 58.3 years. Patients younger than 40 yrs of age were 5 (16%). Most of the patients presented with breast lump only 4 patients had ulcerated skin. Tumour size ranged from 2 to 12 Cm. with average of 3.6 Cm. Seven patients had tumour size 4 Cm, while patients with tumour size 6 Cm., 8 Cm., and 12 Cm. were 2 each, and less than 4 Cm. were 5. Bilateral breast involvement was seen in 1 (2.1%) patient. Invasive ductal carcinoma was found in 27 (87%) patients, while papillary carcinoma in 2 (6.5%), and 1 (3.2%) each of malignant fibrous histocytoma and sarcoma. Maximum number of patients was of grade 2 (41%). From the available record in whom stage of the disease was known 45.5% had stage III of the disease and 32% had stage IV disease. Skin involvement was found positive in 8 (25.8%).

DISCUSSION

In our study the average age at diagnosis was 58.3 years and the peak incidence was in the 7th decade followed by 8th decade. Same were the results found in study conducted at Aga Khan University² and in others^{1,3}. It is ten years older than that noticed in female patients with the disease in Pakistan.¹ Patients younger than 40 yrs of age were 5 (16%). The increasing incidence in younger patients is reflected in other studies.⁸ Further studies are required to find the reason. In this study prevalence of male breast cancer is 0.19% of the total malignancies and 2.1% of the total breast malignancy which is comparatively higher than study at Karachi (0.096%).³ Lower figures of male breast cancer may be due to the fact that males have lower breast mass as compared to females. Secondly as compared to fully functional female breast, it is a vestigial organ in the male.³

Most of the patients had larger tumour size at the time of diagnosis. Almost the same is documented in other studies in Pakistan.² Considering the superficial location and low amount of fat in male breast, it should be considered a diagnostic delay. This also draws our attention to the flaw in our health care system to detect such obvious lesions so late. Men are not routinely screened for the disease and do not think about the possibility that they will get it. As a result, breast cancer tends to be more advanced in men than in women when they seek medical opinion 1st time.

Skin invasion was seen in 2.5% of the cases. Almost the same ratio is shown in other studies. Due to low breast fat and close proximity with skin; the involvement of the skin is common in males as compared to females.³ From the available record regarding stage of the disease 45.5% patients had stage

III of the disease while 32% of the patients had stage IV disease. The advance stage in men is reflected in other studies.^{8,9} Higher figures of 57.7% advance stage are shown in Nigerian studies.¹⁰ It may be because of lack of awareness of the disease. Patients usually consult the doctor in the late stages when the tumour is of a quite large size or ulcerated.

Invasive ductal carcinoma was the most predominant type in 27 (87%) patients, while papillary carcinoma in 2 (6.5%) and 1 (3.2%) each of malignant fibrous histocytoma and sarcoma are the rare tumors. Almost the same figures were in other studies.^{1,3,10}

The hormonal status in our patients is not available because of the poor socioeconomic conditions and due to lack of facilities in our region but in most of the studies it was cited that the male breast carcinoma is positive for oestrogen, progesterone and HER-2/neu receptors more than the malignant breast tumours of the female.^{1,8} Over expression of HER-2/neu receptor is related to probability of relapse, increase staging and higher grades of carcinoma.¹

CONCLUSION

Due to low incidence of the disease worldwide efforts are required to develop the randomized, prospective studies to improve the management and survival. In our country due to poor health care system breast cancer is diagnosed in the late stage of the disease and prognosis is poor.

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