Delineation of Breast Cancer Cases in Patiala District- A Prospective Hospital Based Survery

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ABSTRACT

Introduction: Breast cancer is rated as the 2nd most frequently encountered carcinoma amongst women. The incidence of breast cancer is three times higher in urban areas as compared to rural parts of the country. Study aimed to delineate the most common age group associated with breast cancer and the relation with other factors.

Material and methods: A prospective Hospital based survey was conducted in Rajendra hospital, Patiala between July 2013-june 2014. All female patients were selected for the study and assessed by triple assessment technique. The data regarding age, sex, risk factors, stage at diagnosis were recorded in a pretested Performa and the incidence rates were calculated

Results: A total of 210 patients were screened. Majority of carcinoma breast (approx. 81%) was seen in patients less than 60 years of age. Maximum patients (36.2%) of carcinoma breast were present in 41- 50 years of age group. 23 patients were pre-menopausal, 29 patients were post-menopausal. Family history was present only in 5.2% of the carcinoma patients (3 patients). Majority of patients (53.5%) presented to hospital in late stages of carcinoma (stage 3/ locally advanced cancer and stage 4/ advanced or metastatic cancer).

Conclusion: Most of carcinoma breast patients in India are presenting in younger age groups and with premenopausal status. Due to poor health awareness about breast cancer, with lack of breast cancer screening programs coupled with indifference towards women health and delay in seeking medical care due to financial and social reasons results in a delayed diagnosis.

Keywords: Breast Cancer, incidence, Prospective, Screening.

INTRODUCTION

Breast cancer is a disease that is always linked with fright and dread. It is a disease that affects women's sense of feminity. Western lifestyles and reproductive habits are increasingly adopted by the rural women and they are being exposed to similar environmental factors leading to an increase in incidence of breast cancer in developing countries.[1] The greatest incidence of breast cancer has been in Asian countries.[2] In India, breast cancer incidence is low as compared to developed countries but there are increased number of cases with higher mortality probably because of large population, inadequate screening programme and lack of education.[3] Majority of breast cancer deaths occur in low and middle class income countries due to barrier to access to health services.[4] In India, breast cancer is the 2nd most common site of cancer in women after cervix and uteri. In metropolitian cities like Mumbai and New Delhi, it is the most common type of carcinoma in women.[5]

IARC trends to show a 20-30% incidence of breast cancer in developing countries during past decade.[6] By 2020, breast cancer incidence will overtake cervical cancer as the most common cancer in india and 70% of world's carcinoma cases will be in poor countries with 5th in India.[1] As per two year cancer report, as compared to the rural counterpart, breast cancer is three times higher in urban population of the country. In Bangalore, Chennai, Delhi, Mumbai and Kolkata, the age-adjusted incidence rates are 30.9, 33.0, 31.4, 29.3 and 20.6 per 100, 000 while the rates are much lower in rural areas such as the non-urban Ahmedabad district and Barshi (9.2 and 9.4 per 100, 000).[7] The rates in North-eastern states are generally lower and often intermediate to the urban and rural regions (Imphal West District, Mizoram and Sikkim have breast cancer age-standardized rates of 14.6, 14.1 and 6.8 per 100, 000). Certain districts display even higher rates (eg, Chandigarh 39.5 per 100, 000, North Goa 36.8 per 100, 000). Majority of risk factors have been associated with breast cancer. It peaks from ages 45-50 years in India.[8] some of the cases of breast cancer occur in a familial pattern, the majority of breast cancer cases are sporadic and without any prior family history.[9] early onset menarche and late menopause tend to increase the risk of breast cancer. Use of hormone replacement therapy and birth control pills[10,11] also has a similar effect. With proper screening programme this disease can be detected and is more likely to be cured.

Through this study we aim to delineate the most common age group associated wth breast cancer and the relation of various risk factors such as family history, marital status and menopausal status with breast cancer. We also tend to assess the incidence of various stages of breast cancer amongst women in Patiala district.

MATERIAL AND METHODS

Cancer patients reporting to Rajendra hospital and Government Medical College Patiala, Punjab, India during the period of July, 2013- June 2014 were included in this study. All female patients were selected irrespective of their age group. This study was done according to the standard ethics, maintain the confidentiality of reports. A total of 210 patients were included under the study. Triple assessment technique was used for diagnosis which included clinical assessment, imaging studies and tissue studies. Clinical examination of breast was carried out including the axillae, supraclavicular area. neck and chest wall for any other associated masses. Mammography,

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ultrasonography and MRI were used to confirm the diagnosis of palpable mass. Breast Imaging-Reporting and Data System (BIRADS) is a widely accepted risk assessment and quality assurance tool in mammography, ultrasound or MRI.[12] The palpable lump was further evaluated by various tissue studies which included fine needle aspiration cytology, core needle biopsy and excisional biopsy. The data regarding age, sex, risk factors, stage at diagnosis were recorded in a pretested Performa and the incidence rates were calculated as

$$\text{Incidence} = \frac{\text{new cases of carcinoma breast}}{\text{total cases presenting with palpable lump}} \times 100$$

STATISTICAL ANALYSIS

Microsoft office 2007 was used for statistical analysis. Descriptive statistics like mean and percentages were used to interpret the data.

RESULTS

A total of 210 patients reported to the outpatient department of Rajendra hospital, Patiala during this period with palpable lump out of which 58 were malignant (Table 1).

Statistical data about age group is shown in Table 2, Figure 1. Age is one of the most important non-modifiable risk factor for carcinoma breast. Our study group included patients from 21 years to 80 years of age. Age wise incidence rates are given in the table. Majority of carcinoma breast (approx. 81%) was seen in patients less than 60 years of age. Maximum patients (36.2%) of carcinoma breast were present in 41- 50 years of age group. Significant number of the patients (20.7%) was under the age of 40 years (Early onset disease). Mean age of carcinoma patients in our study was 48.42±12.79 years.

Table 3, Figure 2 indicates the distribution of carcinoma breast according to the menopausal status. 23 patients (39.7%) were pre-menopausal, 29 patients (50%) were post-menopausal and rest (6 patients, 10.3%) were peri-menopausal.

The relationship of marital status with breast cancer is shown in table 4. Only 2 carcinoma patients were unmarried. Thus, 96.6% of the patients with carcinoma breast were married and only 3.4% patients were unmarried.

Family history yet presents another non modifiable risk factor for breast cancer patients. In our study, Family history was present only in 5.2% of the carcinoma patients (3 patients). Table 5, Figure 3 demonstrated the distribution of carcinoma breast according to the family history.

Majority of patients (53.5%) presented to hospital in late stages of carcinoma (stage 3/ locally advanced cancer and stage 4/ advanced or metastatic cancer). Only 46.5% of patients presented in early stages (stage 1 and 2). The incidence of various stages according to latest AJCC classification was as follows (in decreasing order) stage IIb: 32.8%, stage IIIa: 27.6%, stage IIIb: 13.8%, stage IIa: 10.3%, stage IIIc: 6.9%, stage IV: 5.2% and stage I: 3.4%. table 6, Figure 4 shows the required relation.
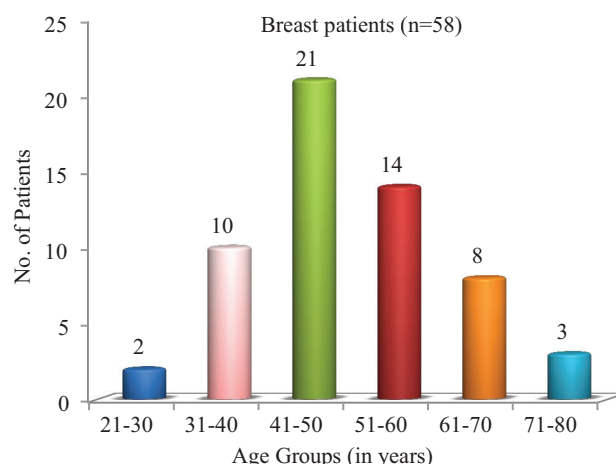
DISCUSSION

Figure-1: Age wise distribution of carcinoma breast patients (n=58)

Figure-2: Distribution of carcinoma breast patients according to menopausal status (n=58)

Diagnosis	No. of Patients	Percentage
Benign	152	72.4%
Malignant	58	27.6%
Total	210	100%

Table-1: Distribution of benign and malignant breast lump (n=210)

Age Group (in years)	No. of Patients	Percentage
21-30	2	3.5%
31-40	10	17.2%
41-50	21	36.2%
51-60	14	24.1%
61-70	8	13.8%
71-80	3	5.2%
Total	58	100%
Mean±SD	48.42±12.79	

Table-2: Age wise distribution of carcinoma breast patients (n=58)

Menopausal Status	No. of Patients	Percentage
Pre-Menopausal	23	39.7%
Peri-Menopausal	6	10.3%
Post-Menopausal	29	50%
Total	58	100%

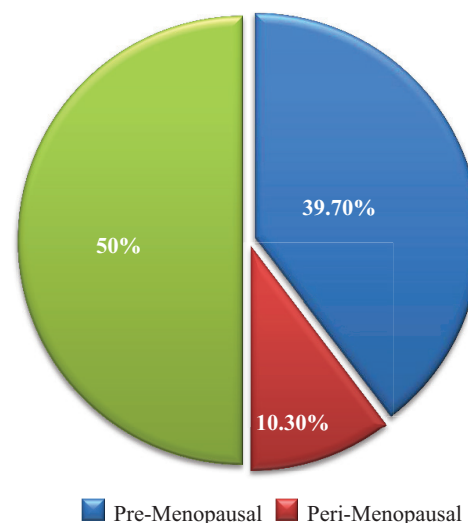**Table-3:** Distribution of carcinoma breast patients according to menopausal status (n=58)

Marital Status	No. of Patients	Percentage
Married	56	96.6%
Unmarried	2	3.4%
Total	58	100%

Table-4: Distribution of carcinoma breast patients according to marital status (n=58)

Family History	No. of Patients	Percentage
Absent	55	94.8%
Present	3	5.2%
Total	58	100%

Table-5: Distribution of carcinoma breast patients according to family history (n=58)

Stage	No. of Patients	Percentage
I	2	3.4%
IIa	6	10.3%
IIb	19	32.8%
IIIa	16	27.6%
IIIb	8	13.8%
IIIc	4	6.9%
IV	3	5.2%
Total	58	100%

Table-6: Stage wise distribution of carcinoma breast patients (n=58)

Figure-3: Distribution of carcinoma breast patients according to family history (n=58)

Figure-4: Stage wise distribution of carcinoma breast patients (n=58)

The most common health problem that plagues our civilization is cancer and the current data ensures the increasing importance of the subject.

Incidence of carcinoma breast in our study came out to be 27.6, against the national incidence of 22.9.[13] Thus it is clear that incidence of carcinoma breast in India is increasing and it is an distressing situation.

As we look at the age wise distribution of malignancy in our study, 81% of population in under the age of 60 years. This is comparable with study done by Chopra[5] (2001), which stated eighty percent of Indian women with breast cancers are below 65 years of age. Agarwal et al[14] (2008) in his study also cited that more than 80% of Indian patients are younger than 60 years of age.

In our study, 40-50 years age group had the maximum incidence of carcinoma breast reaching upto 36.2%. Incidence of carcinoma in younger population is also increasing. 20.7% females were under the age of 40 years (early onset disease). Agarwal et al[14] (2007) in their study stated that patients are about one decade younger in developing countries than their counterparts in developed nations. The proportions of young patients (< 35 years) vary from about 10% in developed to up to 25% in developing Asian countries. Also, a study by Leong et al[16] (2010) states that the peak age is between 40 and 50 years in Asian countries, but is between 60 and 70 years in Western countries. This is also supported by study by Kakarala et al[17] (2010).

If we discuss the menopausal status of the females, nearly 40% females were pre-menopausal and 10% were perimenopausal. Thus the incidence is increasing among premenopausal women. As per study by Agarwal et al[14] (2008), postmenopausal women in their 60s and 70s predominates as carcinoma patients in western countries with the predominance of premenopausal
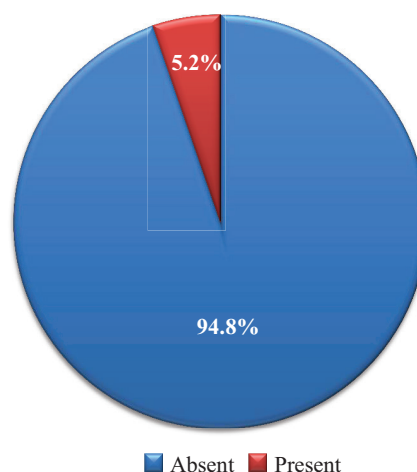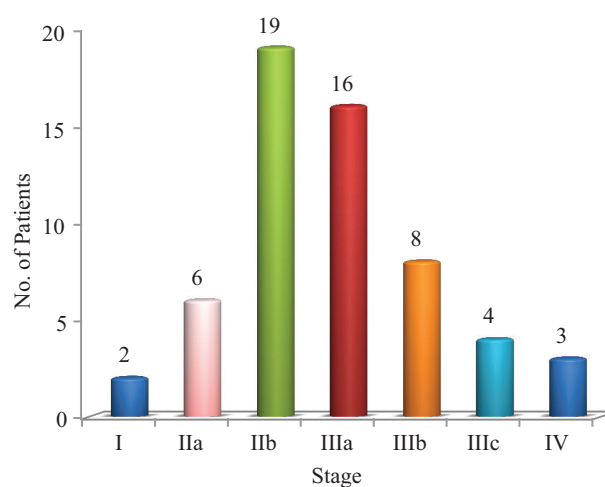
women in India.

Thus majority of diagnosed carcinoma breast patients in our study were of younger age (<50 years) and pre-menopausal status. As evident by Agarwal et al[14] (2008) study, young age has been associated with larger tumour size, higher number of metastatic lymph nodes, poorer tumour grade, low rates of hormone receptor-positive status, earlier and more frequent loco-regional recurrences, and poorer overall survival. Kakarala et al[17] (2010) also mentioned in his study that carcinoma breast in younger patients is associated with higher proportion of high-grade and hormone receptor-negative tumours and more resistant to treatment. Also, Saghir et al[18] (2006) in his study said that the risk factor profile of young patients is worse than their older counterparts. Young patients tend to have larger tumour sizes, more positive lymph nodes, more negative hormone receptors and higher tumour grades than their older counterparts.

Family history was present only in 5.2% of the cases. Agarwal et al[14] (2008) mentioned that in an Indian study on 226 breast cancer patients, 20.7% had a positive family history. On the contrary, low rate of familial pattern of breast cancer has been reported in India by various other studies.

In our study, 96.6% of the patients with carcinoma breast were married. The results are consistent with the study by Wani et al[19] (2012). Though incidence of carcinoma breast is increasing,

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more problematic issue is that majority of cases present to hospital in late stages of the disease. This leads to poor prognosis and increased mortality among the Indian population. In our study, 53.5% (31 out of 58) patients presented in late stages (stage 3 and 4). Stage-wise distribution of carcinoma breast patients as per study by Wani et al[19] (2012) was IIb being the commonest (34.84%) followed by IIIa (28.78%), IIIb (16.66%), IIa (12.12%), IV (4.54%) and I (3.03%).

Reasons behind the late presentation are lack of awareness, poor or no knowledge of breast self examination, financial constraints among the patients and less developed screening facilities in the country. Due to the absence of certain troublesome symptoms like pain, even on detecting a lump patients do not visit a doctor for diagnosis and delay the treatment. Diagnostic facilities at the peripheral/ community health centres close to the woman's home are inadequate acting as a deterrent from seeking specialist advice.[14] Leong et al[16] (2010) conducted a study which said that in the West, although the incidence is increasing, the mortality rate is definitely decreasing because of screening the disease at an early stage. Most of the breast cancer cases are detected clinically in India, none of the is detected by screening. Up to two-thirds of patients present with local invasion, and 6–25% present with metastases. Significant proportions present with T2/T3 tumours, and even more strikingly, up to one-third of all patients have skin and/or chest wall involvement (T4a-c).

By developing a cost effective screening modality and propagating breast cancer self examination in masses for the purpose of early detection, this problem can be fought.

CONCLUSION

Most of carcinoma breast patients in India are presenting in younger age groups and with premenopausal status. Such cases are more resistant to treatment, more aggressive in nature, ER/PR receptor negative and HER/2neu receptor positive and high grade in nature.

Breast cancer has emerged to be second commonest to the cancer of the uterine cervix in Indian women. Like the overall poor health awareness, awareness of breast cancer is also poor, along with a general indifference towards women's health, the lack of breast cancer screening programs, and delay in seeking medical due to financial and social reasons, result in delayed diagnosis. Due to this, Indian breast cancer patients present with advanced disease stage.

REFRENCES

1. Day et al. Urban Rural Difference in Breast Cancer lncidence in Egypt l999-2006. Breast. 2010;19:417-423.
2. Green M, Raina V. Epidemiology, screening and diagnosis of breast cancer in the Asia-Pacific region: Current perspectives and important considerations. Asia Pac J Clin Oncol. 2008;4:5-13.
3. Chauhan A, Subba SH, Menezes RG, Shetty BS, Thakur V, Chabra S, *et al*. Younger women are affected by breast cancer in south india-a hospital-based descriptive study. Asian Pac J Cancer Prev. 2011;12:709-11.
4. Wani SQ, Khan T, Wani SY, koka AH, Arshad S, Rafiq L et al.Clinicoepidemiological analysis of female breast can-cer patients in Kashmir. J Can Res Ther. 2012;8:389-93.
5. Chopra R. The Indian scene. J Clin Oncol 2001;19:106S-11S.
6. Curado MP, Edwards B, Shin HR et al. Cancer inci-dence in five continents.International Agency for Research on Cancer. 2007;9.
7. Raina V, Tyagi BB, Manoharan N. Two year report of the Population Based Cancer Registries, 2004-2005. Incidence and Distribution of Cancer. National Cancer Registry Programme, Indian Council of Medical Research. 2009;63-65.
8. Organization WH. The global burden of disease: 2004 update: Department of Health Statistics and Informatics; 2008. Available at http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_full.pdf
9. Eppenberger C S, Moore DH Jr, Thor AD, Edgerton SM, Kueng W, Eppenberg U et al. Age-associated Bio marker. Profiles of Human Breast Cancer.Int J Biochem Cell Biol. 2000;34;30-8.
10. Singletary SE. Rating the risk factors for breast cancer. Ann Surg. 2003;237:474-82.
11. Pike MC, Henderson BE, Krailo MD, Duke A, Roy S. Breast cancer in young women and use of oral contraceptives: possible modifying effect of formulation and age at use. Lancet. 1983;2:926-30.
12. Luijkx T and Weerakkody Y. Breast imaging-reporting and data system (BIRADS). http://radiopaedia.org
13. Current Worldwide Breast Cancer Incidence Rate. Available at: chartsbin.com/view/yq6.
14. Agarwal G and Ramakant P. Breast Cancer Care in India: The Current Scenario and the Challenges for the Future. Breast care (basel). 2008;3:21-27.
15. Agarwal G, Pradeep PV, Aggarwal V, Yip CH, Cheung PS. Spectrum of breast cancer in Asian women. World J Surg. 2007;31:1031-40.
16. Ali R, Barnes I, Kan SW, Beral V. Cancer incidence in British Indians and British whites in Leicester, 2001-2006. Br J Cancer. 2010;103:143–8
17. Kakarala M, Rozek L, Cote M, Liyanage S, Brenner DE. Breast cancer histology and receptor status characterization in Asian Indian and Pakistani women in the U.S. a SEER analysis. BMC Cancer. 2010;10:191.
18. El Saghir NS. Seoud M, Khalil MK, Charafeddine M, Salem ZK. Geara FB et al. Effects of young age at presentation on survival in breast cancer. BMC Cancer. 2006;6:194.
19. Wani SQ, Khan T, Wani SY, Koka AH, Arshad S, Rafiq L et al. Clinicoepidemiological analysis of female breast cancer patients in Kashmir. South Asian J Cancer. 2014;3:179–81.

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