DOI: 10.14260/jemds/2014/2537

ORIGINAL ARTICLE

CLINICOPATHOLOGICAL STUDY OF CARCINOMA BREAST PATIENTS IN A TERTIARY CARE HOSPITAL OF NORTH INDIA

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HOW TO CITE THIS ARTICLE:
Ashish Kumar, Jharna Mishra, Roshan Chanchlani, Abhishek Sharma. "Clinicopathological Study of Carcinoma Breast Patients in a Tertiary Care Hospital of North India". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 18, May 05; Page: 4956-4961, DOI: 10.14260/jemds/2014/2537

ABSTRACT: BACKGROUND AND AIMS: The study was done to know the epidemiology, clinicopathological aspects of carcinoma breast patients in our population. **MATERIALS AND METHODS:** The epidemiological and clinicopathological data pertaining to demography and risk factors for carcinoma breast were analyzed in patients attending tertiary care hospital of North India from January 2012 to June 2013. Thorough Clinical and physical examination was done, FNAC was done for diagnosis of cancer Breast. **RESULTS:** In our study mean age of our female breast cancer patients was found to be lower compared to the western world, with an average difference of one decade. Majority of the patients were from urban background. Lump in the breast was a dominant symptom. Familial breast cancer was uncommon. Left sided breast cancer was slightly preponderant. **CONCLUSION:** Most common symptom was lump in breast among postmenopausal women from urban area. Lack of education was responsible for their delayed presentation. Left upper and outer quadrant being the commonest site, Infiltrating duct carcinoma was the most common type. Modified radical mastectomy was found to be a safe operative procedure. Adjuvant chemotherapy and hormonal therapy was found very effective in early stages. Overall survival for stage IV was 60% for 1 year follow up.

KEYWORDS: Breast cancer, epidemiology, FNAC, treatment.

INTRODUCTION: The World Cancer Report issued by the International Agency for Research on Cancer (IARC), tells us that cancer rates are set to increase at an alarming rate globally. Cancer rates could increase by 50% to 15 million new cases in the year 2020.[1] Worldwide breast cancer is the most frequent cancer in women and represents the second leading cause of cancer death among women (after lung cancer).[2, 3] Presently, 75, 000 new cases occur in Indian women every year.[4] This figure must be viewed against the backdrop that the National Cancer Registry and the Hospital-based Tumor Registries hardly sample 3% of the total population. Locally advanced breast cancer (LABC) constitutes more than 50 to 70% of the patients presenting for treatment.[4] The information on the epidemiology of breast cancer in India is very limited, except for a few reports on limited samples. India is rapidly stepping towards industrialization vis-à-vis urbanization resulting in change of lifestyle factors. These factors possibly contributed to a gradual increase in the incidence of breast cancer in the country. The burden of breast cancer will continue to grow not only in terms of the absolute number of cases but also in terms of incidence. Late diagnosis is a major factor for increased mortality as the majority of the patients present in advanced or metastatic stage. This is primarily attributed to lack of access to medical facilities, virtually non-existent breast cancer screening programs, lack of awareness and social-cultural attitudes. Accordingly, five-year survival rates have been poorer, reported as 42% and 48% in two population-based studies.[5, 6] Early breast cancer (EBC)

constitutes about 30% of the breast cancer load in our country.[7] There is no published case series on EBC from India.

MATERIAL AND METHODS: After ethical approval, this hospital based longitudinal study was carried out in 130 cases of lump in breast patients coming for the examination over a one and half year period (January 2012 - June 2013), in surgical and oncosurgery OPD of a tertiary care center in North India. The breast cancer patients already treated by mastectomy outside were excluded. After the informed consent the study subjects were subjected to thorough clinical examination, diagnostic & routine investigation and treatment as required necessary. To diagnose cancer breast FNAC was used and only those subject were included in the study group, when FNAC was suggestive of cancer, when FNAC was suspicious trucut biopsy was applied. There were total 50 cases suggestive of cancer breast in FNAC and consenting to participate, were finally included in the study. Patients were followed up post operatively for 1 month to 24 months. On follow-up mammography was done to exclude local recurrence. If mammography was positive, patient was advised FNAC.

Statistical Analysis: The data collected was entered in to Microsoft office excel 2007. The quantitative variables were summarized as mean and standard deviation while qualitative variables as percentage and proportion. The statistical package used was SPSS 17.

OBSERVATIONS: A majority of the patients (72.8%) were in the age group of 41–60 years. The youngest patient was 28 and the oldest was 85 years old. Out of 50 patients, 49 (98.0%) were females and one (2.0%) was male. The mean age was 44.19 ± 9.80 years for females and 56 years for males. Urban and rural background ratio was 1.8:1.

Table: 1 shows the lump in breast as the dominant clinical presentation among the study subject (74%). Upper and outer quadrant of breast was the most common site of cancer breast among majority study subjects 56%, followed by upper quadrant (13.4%).

The duration of presenting complaints as recorded is shown in **Table 2**. 71.33% (n = 49) had less than three children, while 16.72% (n = 49) were nulliparous. On menstrual status among female study subject 60.76% were postmenopausal and 39.24% were premenopausal. No patient had a positive family history of breast cancer. Fine needle aspiration cytology (FNAC) was done in 130 patients; it was positive for malignancy in 45 (34.61%) and either negative or inconclusive in 5 (3.84%) patients. These patients later on underwent trucut or excision biopsy for confirmation of diagnosis.

Table no. 3 shows maximum (45) cases were diagnosed by FNAC as Infiltrating duct carcinoma (IDC [NOS]) and suspicious (4) cases were sent for Trucut biopsy. Suspicious smears were having some of the character of malignant as well as of benign cells. Of the 04 suspicious cases 02 were malignant on trucut biopsy and later biopsy of Lumpectomy specimen was done and 01 showed atypical ductal hyperplasia and 01 showed DCIS (Comedo type). Unsatisfactory smears were due to scanty aspirate, in which cellular details could not be made. Later biopsy of lumpectomy specimen revealed intense desmoplasia in both the cases. Mammography was not a principle modality for diagnosis and was done only in 43 (33.07%) patients. Different modes of treatment were given to the patients of cancer breast according to staging, prognostic factors and ER-PR status. In early cases of breast cancer 7(14%) neoadjuvant hormonal therapy (NHT)+MRM and adjuvant chemotherapy

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(ACT) / adjuvant hormonal therapy (AHT) was given. Survival was 100% and no case of local recurrence and/or systemic metastasis was reported during the follow up period of 1 year. In 10 (20.0%) operable locally advanced breast cancer (LABC) cases NCT/ NHT+MRM+ACT/AHT was used. Survival was 90%, with local recurrence in 1 case reported in 1 year follow up period. Among 23(46%) inoperable LABC cases NCT/NHT+MRM Toilet mastectomy +ACT/AHT were done. Survival for 1 year was 82% with local recurrence in 4 cases and systemic metastasis in 1 case during 1 year follow up period. In 10(20%) metastatic cases different modes of treatment were given to the study subject. In 1st group (3 cases) hormonal therapy+ palliative surgery+ chemotherapy were used. Survival was 66.66% for 1 year. In 2nd group of patients with metastatic diseases (3 cases) chemotherapy + surgery + hormonal therapy was used. Survival was 66.66% for 1 year during follow up. 3rd group of patients with metastatic cases (4 cases) received hormonal therapy + chemotherapy + surgery + chemotherapy/RT. Survival was 50% in 1 year follow up. Overall survival for stage IV was 60% for 1 year follow up.

DISCUSSION: The aim of this study was to study the epidemiology and clinicopathological aspects of breast cancer at a tertiary care hospital in North India. A majority of the patients (77.9%) were in the fourth to sixth decade of their life, as also reported in studies from India and other Asian countries.[4,8,9] However, reports from the western world show that female breast carcinoma is predominantly seen in the fifth and sixth decade.[10, 11] Our study showed more cases were from urban area, reports from India as well as United States also showed higher incidence in urban population compared to the rural population.[4,12] Lump in the breast was the chief presenting complaint in a majority of the patients (74 %), as reported in various studies.[13, 14]

The incidence of breast carcinoma was more on the left side in the upper outer quadrant corroborating with the previous reports.[15, 16] The possible explanations are that the left breast is bulkier and the upper outer quadrant has a relatively larger volume of breast tissue. Delayed presentation was possibly related to their lack of education. Incidence of breast carcinoma was more in postmenopausal patients and age of menopause was in the range of 41 to 50 years in most of the patients.

A similar finding of early age of menopause in Indian females in comparison to their western counterparts has been observed in the past.[17] For the diagnosis of breast carcinoma, FNAC was done and a positive predictive value of 85.3% was obtained. FNAC is a useful diagnostic tool because it is rapid and cost effective.[18] In conclusion; the mean age of presentation for breast carcinoma is a decade earlier in our patients compared to patients from the west. Hence, mammography as a screening tool is less likely to be as effective, due to the following reasons:

Higher density of breast tissue at younger age decreases the sensitivity of mammography. Most patients in our set up are unable to afford mammography due to their poor socioeconomic background. Thus there is a need for developing other cost-effective screening modalities for breast cancer in addition to propagating breast self-examination in masses, for early detection. Although Breast Conservation Surgery (BCS) is gaining popularity worldwide, MRM still remains the gold standard for the management of breast carcinoma in the present circumstances, in most parts of India. In view of the rising incidence of breast carcinoma and the prevailing controversies in its management, it is recommended that they should preferably be managed by surgical oncologists for improvement in the patient's outcome.

CONCLUSION: Most common symptom was lump in breast among postmenopausal women from urban area. Lack of education was responsible for their delayed presentation. Left upper and outer quadrant being the commonest site, diagnostic accuracy of triple modality i.e. clinical, radiological and pathological assessment was 100%. Infiltrating duct carcinoma was the most common histopathological type of carcinoma followed by Lobular carcinoma and others like colloid and metaplastic carcinoma. Modified radical mastectomy was found to be a safe operative procedure. Adjuvant chemotherapy and hormonal therapy was found very effective in early stages. Overall survival for stage IV was 60% for 1 year follow up.

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Presentation	n	%
Isolated lump in breast	37	74.0
Fungating/ ulcerative growth	8	16.0
Combination	2	4.0
Isolated nipple discharge	2	4.0
Isolated pain in breast	1	2.0
Total	**50**	**100.0**

Table 1: Clinical presentation of Study subject

Duration	n	%
<15 days	1	2.0
15-30 days	2	4.0
1-2 months	6	12.0
2-3 months	5	10.0
3-6 months	11	22.0
6 months - 1 year	18	36.0
> 1 year	7	14.0
Total	**50**	**100.0**

Table 2: Duration of Symptoms

Histological types	Total no. of cases	Percentage
IDC(NOS)	45	90%
Invasive Lobular Carcinoma	2	4%
Colloid Carcinoma	1	2%
Metaplastic Carcinoma	1	2%
DCIS	1	2%

Table 3: Various histological types seen in the study (n=50)

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Date of Submission: 11/04/2014.
Date of Peer Review: 12/04/2014.
Date of Acceptance: 16/04/2014.
Date of Publishing: 05/05/2014.