ORIGINAL ARTICLE

Carcinoma Breast and Stage of Tumor Relationship between duration of Carcinoma Breast and Stage of Tumor

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ABSTRACT

Aim: To determine relationship between the stage of tumor and duration of disease in patients presenting with carcinoma breast in a tertiary care hospital of Pakistan.
Methods: This cross-sectional study was conducted in the Department of Surgery, Fauji Foundation Hospital Rawalpindi from 1st March 2009 to 28th February 2010. 120 patients were included by convenient sampling.
Results: Out of 120 patients, 50 patients presented within 6 months of onset of their symptoms. Majority of the patients who presented before 6 months were in early stages of their disease. Whereas 34 patients presented more than 12 months of onset of their disease. Out of these 34 patients, 24 patients(70.58%) were in advance stage (stage 3 or 4).
Conclusion: Duration of disease is directly related to the stage of breast carcinoma.
Keywords: Carcinoma breast, invasive ductal carcinoma, carcinoma in situ.

INTRODUCTION

Carcinoma breast (Ca Breast) is the most commonly diagnosed cancer among female population[1]. The world burden of breast cancer is one million women newly diagnosed each year[2]. This rise in number suggests increased detection due to improved awareness of breast diseases among female population[3]. It is also the commonest malignancy affecting females in Pakistan as in the rest of the world[4]. Approximately one in every 9 Pakistani women is likely to suffer from breast cancer which is one of the highest incidence rates in Asia[5].
Early marriages, genetic predisposition, hormonal imbalance, use of oral hormonal contraceptives, prolonged hormonal replacement therapy, environmental hazards and null parity are considered to play an important role in causation of carcinoma breast[6].However breast cancer occurs in Pakistani women with no recognized major risk factor[7].

The patients with breast carcinoma commonly present with lump, peau'd orange, nipple retraction, nipple discharge, pain, fungation and ulceration of skin[8], with painless lump being the most common presentation[4,9]. Patients may also present with metastatic disease to axilla[1], lungs, liver, bones or brain. Despite advances in diagnostics modalities, most of the patients are diagnosed at advanced stages of breast cancer due to delayed presentation[4,10] associated with poor socioeconomic conditions, ignorance and shyness[11]. Psychosocial factors may also influence the presentation. In a study involving 148 patients of breast cancer, 73% developed morbid depression and because of psychosocial factors 39% patients presented after six months of onset of their disease[12]. In a case control study of patients with cancer the prevalence of depression and anxiety was found to be quite high, therefore these patients should receive timely attention[13]. Depression remains undetected in most of the cases. However, hospital anxiety and depression scale (HADS) can easily detect depression in this patient population[14].

These patients require multiple treatment modalities, i.e. surgery plus radiotherapy or surgery plus chemotherapy and surgery plus radiotherapy plus chemotherapy. Undoubtedly this state of affairs leads to unwarranted pressure not only on hospital resources but also on the patients themselves.

PATIENTS AND METHODS

This cross-sectional study was conducted in the Department of Surgery, Fauji Foundation Hospital Rawalpindi from 1st March 2009 to 28th February 2010. Written permission was taken from the ethical committee of hospital as well as from the patients. 120 patients were included by consecutive sampling. Only female patients with histological proof of carcinoma breast were included in the study. Male

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patients, patients with recurrent disease and those who refused to give consent were excluded from the study. All the pertinent details regarding patients profile including name, age, marital status, age at menarche, menstrual history, age at first pregnancy, parity, lactation history, use of oral contraceptives and family history of breast cancer was meticulously recorded in proforma after obtaining informed written consent from the patient. Confidentiality of the data obtained was maintained. The data collected was analyzed by using SPSS version 15. The mean±S.D. were calculated for numerical variables.

RESULTS

The patients included in the study reported from all over the Punjab and some parts of Khyber Pakhtoon Khawa and Azad Kashmir. The majority of the patients were from Rawalpindi division i.e. 86 patients constituting 71.6% of the total. The age ranged from 39 to 84 years. Mean age was 53.22±10.23. No patient below the age of 39 years was diagnosed with cancer of the breast during the period of study. The majority of patients were between the age of 41 and 60 (92 patients) which is about 76% of the total. The largest single age group was between 41 and 50 years including 54 patients constituting 45% of the total (Table 1).

Table 1: Age of patients

Age group in years	n	%age
< 30	0	0
30-40	4	3.3
41-50	54	45
51-60	38	31.6
61-70	10	8.3
>70	14	11.66

When we analyze the data, we came to know an interesting fact that there is no significant difference between the average sizes of tumor whether the patients present before 6 months or 6-12 months of duration of symptoms. In our study, the size of breast carcinoma was not significantly related to duration of symptoms of carcinoma breast (Table 2).

Table 2: Relationship between duration and size of tumor:

Duration	n	Mean size	St. Devi-ation	St. error	95% confidence interval for Mean
Up to 6 months	54	5.22cm	3.60	.69	3.80
6-12 months	32	5.19cm	2.71	.68	3.74
>than 12 months	34	7cm	2.81	.68	5.56
Total	120	5.72cm	3.22	.42	4.88

P value= .153

On the other hand, presence of distant metastasis in patients included in this study was significantly dependent on duration of symptoms (Table 3).

Table 3: Relationship between duration and distant metastasis

Duration in months	n	Jaundice	Bone pain	Headache
<6 months	54	0	0	0
6-12	32	1	0	0
>12	34	4	0	0
Total	120	5	0	0

P value = .021

Out of 120 patients, 50 patients (41.66%) presented within 6 months of onset of their symptoms. 36 patients (30%) presented between 6-12 months and 34 (28.33%) after 12 months.Majority of the patients who presented before 6 months were in early stages of their disease.60% patients (30 patients) were in stage 11 and only 2 in stage 1V. Whereas 34 patients presented more than 12 months of onset of their disease. Out of these 34 patients, (70.58%) 24 patients were in advance stage (stage 3 or 4). Only 10 patients were of stage 2.

Table 4: Relationship between duration and clinical stage of carcinoma breast

Duration	Up to 6 months	6-12	>12 months	Total
Clinical stage 11 A	6	10	4	20
11 B	24	8	6	38
111 A	0	2	0	2
111 B	18	10	16	44
1V	2	6	8	16

P value= .021

DISCUSSION

In our study, majority of patients were between the age of 41 and 60 (92 patients) which is about 76% of the total. The largest single age group was between 41 and 50 years including 45% of the total. The second largest group was between 51 to 60 years having 31.6%. These findings correspond with the studies by Baloch TA[15], Chaudhary I A[16], Hassan J[17], Siddiqui M S[18], Siddiqui K[19]. However some studies[20,21] reported the highest incidence in the age group of 31-40 year group[6]. Almost the same mean age has been reported in an international study by Kuroda H, Sakamoto G[22].

Average size of tumor in our study was 5.19 cm. In contrary to this, a study was conducted in Kuwait showing that they are capable to detect the median tumor size of 2cm[23]. However the age group was same as in our study. May be it is due to the better health care system in other countries by virtue of

which, they are able to detect the disease at a very early stage.

In the above mentioned results, 50 patients (41.66%) presented before 6 months. Out of these 50 patients, 60% were in stage II. Only 2 out 50 were in stage IV whereas 34 patients presented after 12 months. Out of these 34 patients, 24 patients (70.58%) presented with advance disease. A study was conducted between 1950 and 1980. According to which, increasing preoperative symptom duration, there was an increase in the incidence of Stage IV tumors, p=0.003, and a reduction in Stage I tumors, p=0.006. These results indicate that patients in whom diagnosis is made early of carcinoma of the breast have less advanced tumors and better survival prospects[24].

Harden C et al conducted a study at Oregon Health Science University; Portland, USA on delay in treatment and its results. Forty patients had delays from 3 to 36 months. There were no significant correlations between delay and natural log of primary tumor diameter (r=-.16, P=.33), number of positive lymph nodes (r=.22, P=.90), tumor grade (R=-.16, P=.36), or pathologic stage (R=-.09, P=.59). A higher stage correlated with decreased survival (P=.03), but delay did not. Clinician diagnostic delays of up to 36 months did not correlate with worsening prognostic factors or with survival rates. Our study also shows that there is no significant change in the size of tumor whether the patient present at 6 six months of onset of onset of symptoms or one year. But on the other hand, we also proved that delay in diagnosis and treatment can significantly change the outcome by changing the stage of disease[25].

It is interesting to note that time period between onset of symptoms and start of treatment are not the only unfavorable factors. Other unfavorable risk factors such as positive axillary lymph nodes, high nuclear grade, young age and large tumor showed poorer local control and disease-free survival than patients without any risk factors, and so more aggressive treatment is required for these patients[26].

Similarly, functional relationship of tumor size with mortality is concordant with current knowledge of tumor growth. However, it is qualitatively and quantitatively independent of nodal status is in contradiction with the prevailing concept of sequential disease progression from primary tumor to regional nodes. This argues against the perception that nodal metastases are caused by the primary tumor size only[27].

CONCLUSION

There are multiple factors like size of tumor, grade of tumor, vascular invasion, nodal involvement etc on which the final outcome of patient depends. But delay in diagnosing can significantly affect the outcome of disease by changing the stage of disease. Probably this is the single factor which is preventable by improving the health care system of our country.

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