

## Stage of carcinoma breast at the time of diagnosis: An experience at Khyber Teaching Hospital, Peshawar

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### Abstract

**Objective:** To determine stage of carcinoma breast at the time of diagnosis and disseminate awareness among the community of their causes of delay presentation.

**Study Design:** Descriptive Cross Sectional study.

**Setting and Duration:** Department of General Surgery, Khyber Teaching Hospital, Peshawar from January 01, 2015 to July 31st, 2017.

**Materials and Methods:** Patients with diagnosed breast cancer, presenting to surgical out patient department/wards, who fulfilled inclusion criteria were included in the study via non-probability consecutive sampling technique. Stage of the disease was determined on clinical, radiological and histo-pathological basis. Patients delay and reasons for late presentation were calculated. Questions about breast self-examination, clinical breast examination and screening mammograms were asked. Written informed consent was taken and study protocol was approved from hospital ethical committee. Data was entered into preformed questionnaire and analyzed using SPSS version 20.

**Results:** The study comprised a total of 95 patients. The mean age was  $45.28 \pm 13.15$  SD years with a range of 28 to 80 years. 80 % of the patients were married, 10% widowed, 10% unmarried. 85% were illiterate and 78% were from poor background. 7(7.4%) patients presented in stage-I, 23(24.2%) patients had stage-II, 34(35.8%) and 31(32.6%) patients presented in stage-III and IV respectively. No patient presented in In-Situ stage i.e. stage-0. None of the patients was done screening mammogram and similarly none of the patient had been to physician for clinical breast examination before the disease. Breast self-examination was practiced by 3 (3.2%) patients only. Delay in presentation ranged from 1 to 96 months.

**Conclusion:** Most of our patients with carcinoma breast are diagnosed at advanced stage i.e. stage III & IV. We are lacking proper health awareness programs should be initiated at national level to create awareness and education in masses about the disease and purpose built breast clinics should be established at districts level to enable screening and triple assessment.

**Keywords:** Carcinoma breast, Mancehster staging of the breast carcinoma, breast self-examination, Mamogram, carcinoma In-situ

### Introduction:

Carcinoma breast is the second most common malignancy after lung cancer and the most common cause of cancer related death in women world-wide. In 2004 approximately 15,00,000h new cases were diagnosed world wide.<sup>1</sup> It accounts for 22% of all female cancers world-wide and in the developing countries it counts for ap-

proximately 42% cases.<sup>2</sup> Carcinoma breast has also been found to be the commonest cancer of females in Pakistan according to the Karachi tumor registry and Armed Forces Institute of Pathology (AFIP) tumor registry.<sup>3,4</sup> This cancer counted to be 26% of all malignancies according to one decade data from AFIP tumor registry.<sup>3</sup> The Shaukat Khanum Memorial Cancer

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Hospital data over the ten years also reported carcinoma breast to be 42% of the total treated malignancies at this hospital.<sup>5</sup>

Early diagnosis of breast cancer leads to early treatment and therefore improving women's health and survival. In the United States, the 5 year relative survival rates for women with breast cancer have improved from approximately 75% in 1975-77 to 90% in 2003-09.<sup>6</sup> This improvement in survival can mainly be explained by an effect both of earlier diagnosis as a result of breast cancer screening and awareness and of better treatment options.<sup>7,8</sup> Advanced stage of carcinoma breast at presentation has remained a dilemma in our country. About 40 to 60% of patients with breast cancer in Pakistan have been reported to be diagnosed when disease has already been advanced to Stage III or IV by Malik et al and Khokher et al.<sup>9,10</sup>

In our country, there are many NGOs, hospitals and clinics, which have been running programs to increase awareness among population in individual capacity about the disease, but at the present, there is no organized screening and awareness program at the government level. As a result most of the patients with breast carcinoma presents when it is too late. This study aims to project the advanced stage of the disease at the time of diagnosis in our population and to emphasize the need of government based nation-wide awareness and screening programs. It also disseminate awareness among the community of their causes of delay presentation.

#### **Material and Methods:**

This descriptive cross sectional hospital based study was carried out at Surgical Department of Khyber Teaching Hospital from January 2015 to July 2017. A total of 95 patients with diagnosed breast cancer were included in the study. Sampling technique adopted was non-probability consecutive sampling. All females with primary carcinoma breast, coming from the province of Khyber Pukhantunkhwa, presenting to Surgical wards /out patient department Khyber Teaching Hospital in any stage on clinical, pathological or radiological methods were included in this

study. Patients who underwent surgery for carcinoma breast were followed for histopathology staging. Patients not willing to be included in the study and those lost to follow-up during the process of diagnosis and staging were excluded from the study. Patients from neighboring country Afghanistan were also excluded in order to reflect true picture in KPK, so were the recurrent cases. The proportion of patients from rural and urban areas was kept the same so as to reflect the overall patient population and remove any bias in selection of patients. A detailed interview regarding symptoms, signs and factors associated with late presentation was taken, thorough examination was performed, and previous medical documents were reviewed. A written informed consent was taken and patients were assured that their information would be kept confidential and they had a right to withdraw from the study without submitting any reason. The protocol was approved from the hospital ethical committee. The data was entered into a questionnaire developed after thorough literature review.

Subject's data was collected for age, marital and socio-economic status, level of education, duration of symptoms, any visit to doctor for the disease, practice of breast self examination (BSE), clinical breast examination (CBE), screening mammogram, discussion of this illness with family members, and tumor stage.

Stage of the disease was defined on the basis of classification for clinical staging of breast cancer out-lined in the American joint committee on cancer staging manual. Socio-economic status was assessed according to economic survey of Pakistan 2012-2013 as annual household income <500 US \$=low Income group, >500 US\$ = satisfactory income group.<sup>6</sup> Patients were said to be educated when they had been to school up to primary level or above. A patient was said to have "delay" when three months had passed between first perception of the disease and first consultation with a health care provider.

Mean and standard deviation was calculated for age and proportions were calculated for categor-

Table-1: Patient Stratification according to clinical stage

Stage	Frequency	Percentage %
Stage 0	00	00 %
Stage I	07	7.4%
Stage II	23	24.2%
Stage III	34	35.8%
Stage IV	31	32.6%
TOTAL	95	100%

Table-2: Causes of patient delay

Cause	Frequency (n)	Percentage %
False symptom interpretation	23	24.2%
Lack of awareness	17	17.9%
Fear of treatment/surgery	13	13.6%
Consulted wrong doctor	12	12.6%
Poor socio-economic status	10	10.5%
Lack of access to health care	10	10.5%
Personal/ family problems	7	7.3%
Religious/social/cultural reasons	3	3.2%
TOTAL	95	100%

ical variables. Subject's data was analyzed by using SPSS Version 20.

### Results:

A total of 95 patients were included in this study. Age ranging from 28-80 years with mean  $45.28 \pm 13.15$  SD. Age stratification showed that 13 patients were between 20-30 years, 18 were 31-40 years, 20 were 41-50 years while 23 were >50 years. 80 percent (76) of the patients were married, 10% of the patients were unmarried while 10% of the patients were widowed. 85% of patients were illiterate and only 15% of patients were educated. The participants from Rural and Urban areas were 37 % and 32% respectively. Regarding stage, the patients presented in various stage are shown in Table-1.

Most of the patients i.e. 92 (96.8%) patients noted lumps in respective breast as incidental finding while only 3 (3.2%) patients practiced routine breast self-examination and noticed a lump. None of the patients were going to family physician for clinical breast examination. Similarly none of the patients have performed mammogram for screening purpose though 5(5.3%) patients had positive family history.

Patients delay in presentation ranged from 1-96

months (mean= $13.29 \pm 15.9$ ). About 75% (71) of patients presented with a delay of > 3 months, 8.4% (8) of patients could not recall duration of symptoms while only 16.8% (16) patients presented within 3 months to their doctor. Duration between diagnosis and treatment initiation was  $14 \pm 18.4$  days.

The frequencies of different factors influencing patient delay are given in Table-2.

### Discussion:

Stage at diagnosis, at the time of treatment is considered to be the single most important factor related to favorable outcomes and longer survival in breast cancer.<sup>11</sup> Early diagnoses, therefore, means early treatment, good quality of life and longer survival. Literature, however, indicates that Pakistani women present at advanced stage as compared to developed countries. In the present study most of the patient presented with advanced disease (Stage-III and IV) i.e. 68.4%. This is consistent with what is reported in a study of breast cancer cases presenting at two cancer hospitals in Lahore by Gilani et al ; 63% and 71%, presented at advanced stages (TNM Stage III and IV).<sup>12</sup> A similar picture has been reported in various other studies from Pakistan,<sup>9,10,13</sup> and other developing countries.<sup>14,15</sup> Anyhow, the stage wise distribution of breast cancer patients is far better in the developed Asian countries. Only 10% patients in Hong Kong and 27% in Malaysia had advanced disease at presentation as reported by Agarwal et al.<sup>16</sup> The picture is however in sharp contrast to the developed countries with established screening programs. Leong et al. study reports about 9% of breast cancer patients were diagnosed at pre-invasive stage and among the invasive cancers, 56%, 37%, 5% and 2% were diagnosed at stage-I, II, III and IV respectively in Stockholm, Sweden during the year 2006.<sup>17</sup> In a state specific breast cancer data analysis of United States, including 811,652 patients, stages III and IV collectively accounted for only 10% of patients while 57 to 61% patients presented at Stage-I.<sup>18</sup> In our study stage-I disease counted for 7.4% only. This striking difference in the stage distribution of breast cancer patients in the developing and developed

countries has been mainly attributed to the lack of screening facilities, delays in seeking medical help, poor socio-economic status and poor health care systems.

Ductal carcinoma in situ (DCIS) is a pre-invasive variant of breast cancer and has excellent prognosis. The patients diagnosed with DCIS are assigned stage-0 according to TNM classification. About 80% to 85% DCIS is detected by mammography and the rest are detected as a lump. More-over upto 34% of mammographically diagnosed cases are DCIS.<sup>19</sup> In our study, none of the patients had mammography for screening purposes and none of the patients had DCIS. Similarly Mammon N et al did not have a single patient in their study diagnosed as DCIS.<sup>20</sup> Another study from a large private hospital in Karachi also reports <1% frequency of DCIS.<sup>21</sup> This is in sharp contrast to the scenario in the developed countries like United States, where about 20% to 25% of all newly diagnosed cases are DCIS.<sup>22</sup> The major reason of this striking discrepancy is the absence of population based mammographic screening program in Pakistan and the limited availability of mammography machines in the local hospitals.

Screening aims to improve survival by decreasing the risk of metastases through early detection of breast cancer. Yearly mammography and clinical breast exam is the single most important step that clinicians can take to reduce suffering and death from breast cancer.<sup>23</sup> Some studies make the role and usefulness of BSE in detecting breast cancer at early stage controversial. The American Cancer Society (ACS) no longer recommends monthly BSE as it increases anxiety, proportion of breast biopsies, biopsies for benign lesions and does not improve overall survival.<sup>24</sup> However a meta-analysis of studies investigating the possible benefits of BSE has shown that regular practice increases the probability of detecting breast cancer at an early stage.<sup>25</sup> In our study not a single patient had been done screening mammogram and likewise none of the patients were going to physician for clinical breast examination though five patients had positive family history. Breast self examination

was practiced by 5 patients only. So in developing countries like Pakistan, where there are no proper screening programs, practice of BSE will help change the currant scenario.

We, in our study, also tried to find out the various patient related factors leading delayed presentation. We found that most patients 24.2% (23) presented late due to false symptom interpretation; these patients were aware about breast cancer as a disease but they did not know the symptoms of the disease, they did notice a lump but since it was painless they did not bother it. Seventeen (17.9%) patients even did not have awareness regarding breast cancer disease and had never heard about this disease before. While in 13.6% (13) of patients the fear of treatment/surgery was the major reason for delaying consultation and 12.6% (12) patients kept consulting a wrong doctor/homeopathic doctor/quack etc. before being referred to a surgeon. Poor socio-economic status was the reason in 10.5% (10) of patients for their late presentation while lack of access to a health care facility and family and personal problems counted for 10.5% (10) and 7.3 % (7) of the patients respectively. Reluctance to consult a male doctor as reason for delayed presentation was reported by only three (3.2%) of the women as opposed to common belief in our society.

#### **Conclusion:**

We are lacking a proper and organized breast cancer-screening program in our country. As a result, most of our patients with carcinoma breast are diagnosed at advanced stage when it is too late for curative treatment. The "false symptoms interpretation" as the most common reason for late presentation and almost non-existence of practice of BSE and CBE in the present study indicate lacking of awareness and education regarding this lethal disease in our population.

**Recommendations:** It is recommended that breast health awareness programs be launched at national level to create awareness and education in masses about the disease and purpose built breast clinics be established at district level

to enable screening and triple assessment. Lady health workers and lady health visitors should be trained for teaching BSE to women in community.

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**Role and contribution of authors:**

Dr Mujeeb ur Rehman, main idea, collection of data and references.

Dr Munir Ahmad, helped in introduction writing, Critical review & finalizing.

Dr Zia uddin Afridi, helped in result analysis and in discussion writing.

Dr Muhammad Imran Khan, helped in data collection and references.

Dr Muhammad Zarin, Supervision and making final changes for approval of the version to be published.

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