Original Article

Late presentation of breast cancer: A Dilemma

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Abstract

Objective: To asses factors responsible for late presentation of breast cancer in Nawabshah.

Methods: This descriptive study was conducted at a private and a public sector hospital of Nawabshah, Pakistan, from Jan 2004 to Dec 2008.

Results: Sixty females were admitted and selected as study subjects during the study period with mean age of 43.5±10.38 years and range (28-80 years). Patients with poor economic status were 49(81.6%) and remaining 11 (18.3%) were from middle class. Sixteen (26.6%) patients were literate, with 3 of them being educated to secondary level. In our study 58 (96.6%) patients with breast carcinoma noted lumps in respective breasts as incidental findings in breast self-examination. Only in 2 (3.3%) patients family physicians noted a lump and referred them to a proper health care facility.

Fifty-eight (96.6%) patients belonged to rural areas. In 95% patients, first visit regarding the breast symptoms was made after 6 months of initiation of symptoms. Three (5%) patients in this study presented in stage I, 15(25%) in stage II, 23 (38.3%) in stage III and 19 (31.6%) in stage IV.

Conclusion: Most cases of breast cancer presented in advanced stage probably due to poor economic status, illiteracy and negligence by patients or their family members and general practioners.

Keywords: Breast cancer, Late presentation, Economic status, Illiteracy, Negligence (JPMA 61:662; 2011).

Introduction

Breast cancer is the most common malignant tumour and commonest cause of cancer deaths in females of Pakistan. It is the most frequent cause of death in middle aged women in western countries and is affecting one in nine women and second leading cause of cancer related deaths in United States.[1]

Long-term survival of women with breast cancer is dependant upon the stage of the disease at the time of presentation.[2,3] Attempts to control breast cancer deaths have, therefore relied on promoting early cancer detection and treatment.[4]

The incidence of breast cancer in Pakistan is one of the highest reported from Asia, accounting for one third of all female cancers.[5,6] As in other developing countries, majority of patients with breast cancer present with advanced disease.[7]

Different studies have been conducted to know the causes of late presentation of breast cancer. Many of the authors have pointed out the poor socioeconomic status being the major determinant of late presentation.[3,8]

Even though most of the studies point to economic access barrier as the major source of diagnosis delay, some have generated evidence of non- economic access barriers to women participation in breast health care programmes.[9] It is well known that social class disparities result in inequalities in effectiveness of health care treatments and health care facilities, even in developed countries.[10]

In addition other factors such as race, level of education, cultural trends, lower insurance states, and screening practices appear to affect disease stage on presentation and thus promptly affect survival.[10-12]

No information is available from developing countries where socioeconomic factors may have a major impact on disease stage, treatment strategies and survival in breast cancer patients.

According to the physicians' insurers association of America (PIAA), the most expensive and common medico legal claim against physicians related to errors in diagnosis in malignant diseases is delay in the diagnosis of breast cancer.[13]

Three elements are vital to an effective breast-screening programme: a comprehensive breast history, a thorough breast examination, and a clear record of findings and follow-up. Screening for breast cancer is done with one primary goal in mind: to find and detect cancer in early stage. However under the best circumstances, even when all medical recommendations are followed, incurable breast cancer can be found.[13]

One Norwegian study demonstrated surprisingly significantly higher distribution of advanced breast cancer in one of the four hospitals included in their study.[14] This may be due to the fact that many patients sought help when disease

is already advanced, many patients waited for more than eight weeks before they could avail medical services.[14]

It is also sought that not only these factors determine the reasons for late diagnosis of breast cancer, there are others that really make a difference between developing and developed countries. These are orientation of patients to the disease, co-operation from other family members especially from male partners, practices of local doctors with regard to early diagnosis and proper referrals, availability of female doctors, facilities for early detection of breast cancer like mammography as a tool for screening purpose, and availabilities of proper treatment facilities.

This study was conducted to assess the factors responsible for late presentation of breast cancer, at tertiary care public sector and at private sector hospitals of a developing country.

Patients and Methods

This descriptive study was conducted jointly at one public sector and one private hospital of Nawabshah, Pakistan, from Jan 2004 to Dec 2008. All the patients presenting with a lesion suspected of Breast carcinoma during this period were enrolled in the study. Other patients who presented with symptoms of Breast pathology and on clinical examination and investigations there was no Malignant Pathology of Breast were excluded. Sampling strategy was convenient sampling and the period of 5 years during which all the patients of breast cancer presented in the two hospitals were studied. Patients who were lost to follow-up during the process of diagnosis and staging were excluded from the study. A detailed history was taken and thorough examination was performed. Clinical staging of tumour was done. All relevant investigations to diagnose and stage the disease like fine needle aspiration cytology, or trucut biopsy, ultrasound of both breasts, chest X-ray, ultrasound abdomen, Liver function tests, and if required CA - 125 (tumour marker) were performed. Mammography and bone scan was not performed in this study, as facilities of both these tests were not available. Appropriate treatment was decided and applied. Follow-up visits were advised at 1, 6 and 12 months. However most of our patients did not attend follow-up clinics.

Subject's data was collected for age, sex, socioeconomic status, level of education, duration of symptoms, any visit to doctor for this ailment, discussion of this illness with family members, tumour stage, or any previous investigation performed. This is a tertiary care public sector hospital and a private sector hospital based data which may represent all sections of society. Data was collected on a predesigned proforma by researchers.

Socio-economic status (SES) was defined by key demographic and economic characteristics (reported in Government of Pakistan Economic survey of pakistan2001-2002, Islamabad, Ministry of Finance, June (2002). The most important variable describing and classifying SES was annual household income (US Dollar: less than 500 is Low Income Group, Between 500 -1000 US Dollar is counted as Middle, and more than 1000 US Dollar as High Income group.[15]

The literacy status was defined as, educated and uneducated and further categorized into primary, secondary and higher than secondary education.

The definition for stage at diagnosis was based on the classification for clinical staging of breast cancer outlined in the American joint committee on cancer staging manual.

Data was collected through a questionnaire developed after thorough literature review on the subject of breast cancer and local and international studies were reviewed for final adaptation. Direct one to one interviews with the patients were performed to collect the data. Permission was taken from the patients regarding the study prior to the questionnaire administration through a written informed consent made in different local and National Languages and their queries were addressed. They were assured that the information obtained from them will be kept confidential and they had a right to withdraw from the study without submitting any reason. Permission for the study was taken from the department of the surgery of the Nawabshah Medical College and also from Medical Superintendent of National Hospital, Nawabshah. No ethical review committee was available in both these hospitals.

Mean and standard deviation was calculated for age and proportions were calculated for categorical variables such as size of Lump, socioeconomic status, level of Education and Stage of Tumour. Subjects Data was analyzed by using SPSS Version 11. There is no need to apply Statistical tests.

Results

Sixty female patients with breast cancer were admitted during this period with mean age of 43.5±10.38 years and range of 28-80 years. Majority of them i.e.

Table-1: Stage of tumour according to area of residence among patients with breast cancer (n=60).

Stage of tumour	Patients in rural areas n (%)	Patients in urban areas n (%)	Total
Stage I	2(3.3%)	1(1.6%)	3(5%)
Stage II	14(23.3%)	1(1.6%)	15(25%)
Stage III	23(38.3%)	Nil	23(38.3%)
Stage IV	19(31.6%)	Nil	19(31.6%)
Total	58(96.6%)	2(3.3%)	60(100%)

Table-2: Stage of tumour according to the economic status among patients with breast cancer (n=60).

Stage of tumour	Poor status	Middle status	High status	Total
Stage I	Nil	03(5%)	Nil	03(5%)
Stage II	07(11.6%)	8(13.33%)	Nil	15(25%)
Stage III	23(38.3%)	Nil	Nil	23(38.3%)
Stage IV	19(31.6%)	Nil	Nil	19(31.6%)
Total	49(81.6%)	11(18.3%)	Nil	60(100%)

40(66.6%) patients belonged to the 4th and 5th decade of life. Fifty-seven (95%) were married, multiparous, and fed their babies. Forty-nine patients (81.6%) belonged to low socio-economic status and 16(26.6%) were literate, with only 3(5%) having high school education. Fifty-eight (96.6%) patients belonged to rural areas where proper facilities to diagnose and treat these cases were not available. Almost half, 29(48.3%) did not disclose the disease to their family members. In our study, 58 (96.6%) patients with breast carcinoma noted lumps in respective breasts as incidental findings in breast self-examination. Only in 2 (3.3%) patients family physicians noted the lump and referred them to a proper health care facility.

Almost all the patients 57(95%) took medical advice from their family physicians after 6 months of initiation of their symptoms. They were initially treated at these clinics for many times before being referred to concerned doctors. On an average these patients visited various doctors 4-6 times at an interval of 10-14 days. No relevant investigation was performed in 51(80%) patients to reach a final diagnoses before being referred to the concerned specialist. The time lapse between discovery of breast abnormality and diagnosis of breast cancer could not be calculated in 37(61.6%) cases, while duration between diagnosis and treatment initiation was 14 ± 18.4 days.

Tumour size range was 1-10cm. Three (5%) patients were found with tumour <2 cm in diameter while 15(25%) and 42(70%) patients had size of 2-5cm and > 5cm, respectively. Matted lymph nodes were present in 23(38.3%) patients while fixed nodes had the frequency of 12(27.3%). Enlarged mobile, ipsilateral lymph nodes were found in 6 (10%) patients.

Staging of tumour was done. Three (5%) patients had tumour in stage 1 and remaining 57 (95%) patients had advanced carcinoma of the breast i.e. stage II and above (Table-1).

Among 2 (3.3%) patients of urban community who were educated to high school level and of middle economic status, one presented in stage I and other in stage II. Remaining 58(96.6%) patients belonged to rural areas. Out of 14(23.33%) educated women from rural areas, 1(1.6%) was educated to high school level. Both women from urban areas who presented in stage I

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D.O.A:
Reg No:

Section-A

1. Demographic Data:
Full Name: _____
Age:_____ Sex:_____ Occupation of Patient: _____
Married:_____ Occupation of Husband/Father: _____
Age of Menarche:_____ Age of Marriage: _____
Menopause:_____ No: of children: _____
Breast Feeding:_____ Family History of this Disease: _____

2. Clinical Features:
Symptoms: _____
_____
_____
_____
Signs:_____
_____
_____
_____

3. Investigations:
Blood C.P/ESR: Hb%:_____ TLC:_____ N:_____ ESR: _____
Sugar:_____Urea: _____ FNAC: _____
TruCut Biopsy: _____
Ultrasound of both Breasts: _____
_____
Ultrasound of Abdomen: _____
_____
L.F.T:_____
Chest X-Ray: _____

4. Diagnosis: _____

5. Treatment: _____
_____
_____
_____

SECTION-B

Questions asked from Patients after confirmation of Diagnosis:
1. Duration of illness : _____
2. Disclosure of illness to Family members: _____
3. Any visit to local Doctor Regarding this illness: _____
4. If Yes than number of Visits: _____
5. Area of Residence: _____
6. Facilities in area like Roads, Electricity, Gas, Clean Water or School: _____
7. Living Standard (Socioeconomic Status): _____
8. Monthly income of Patient from all sources: _____
9. Any Prior Investigation related to problem before reaching this Hospital: _____
10. Level of Education: _____
11. Comments: _____
_____
_____

Table-3: Stage of tumour according to the literacy among patients with breast cancer (n=60).

Stage of tumour	No education n (%)	Primary education n (%)	Secondary and higher education n (%)	Total
Stage I	Nil	Nil	3(5%)	3(5%)
Stage II	2 (3.3%)	13(21.6%)	Nil	15(25%)
Stage III	23(38.3%)	Nil	Nil	23(38.3%)
Stage IV	19(31.6%)	Nil	Nil	19(31.6%)
Total	44 (73.3%)	13(21.6%)	3(5%)	60(100%)

were of middle economic status and educated, with one having education to high school level. Forty-Nine (81.6%) patients belonged to poor economic status and 9 (15%) were of middle economic status (Table-2 and 3). Only 2 (3.3%) patients of rural areas presented in stage I, while 14 (23.3%) patients had stage II. Twenty three (38.33%) and 19 (31.6%) patients presented in stage III and IV respectively. No patient presented in In-Situ stage.

Discussion

In our study mean age of patients at the time of diagnosis was 43.5 years (28 - 80 years). Forty (66.6%) patients in this study were in 4th and 5th decade of life. Both the patients of urban population were >50 years of age and were educated. In a study by Bibb and Saundra C[9] at military hospital, mean age was 48 years in African-American women and 59 years in white women indicating higher incidence of breast cancer in African-American women. In study by S Aziz and collaeges[6] from Lahore younger age (43 years) was noted in lower strata and 50 years in affluent group.

In a study by Farley and Flannery[3] referring to late stage diagnosis of breast cancer in women of lower socio-economic status; it is mentioned that lower socio-economic status women are more likely to present with late stage disease and have poorer stage-adjusted 5-years survival rate compared to higher socio-economic status women. In this study advanced carcinoma of breast was found more commonly in patients belonging to remote areas where proper facilities of health care and health education are not available. These patients also belong to very low socio-economic status. Most of these patients are illiterate. In the military hospital study Bibb and Saundra C[9], noted significantly higher proportion of later stage disease in African-American women. They found 41% cases of early stage disease i.e. in stage 0 and 1 in African - American women compared to 58.5% in white women. S Aziz et al[6] found delay in diagnosis was more pronounced in patients from low socio-economic strata. They noted ignorance, poverty, illiteracy, lack of resources, disease stigma, use of alternate medicine and poor access to health care facilities were factors as key areas for delay in the diagnosis in our set up.

In developing countries, advanced disease is also more common with majority of patients presenting with large, T4 lesions. In the study by S Aziz et al[6] advanced disease was found in 29.5% women of the affluent classes compared to 60% or higher in the lower socio-economic strata. Forty-four (73.3%) patients in this study belonged to poor socio-economic status and all these patients presented with advanced disease. The study by Farley and Flannery[3] showed that socio-economic status differences could lead to a 25% increase in deaths from lower socio-economic classes compared to higher socio-economic status women. These deaths could be more than twice as likely preventable by early tumour detection. In elaborating this mortality they have assumed that within each socio-economic status group, long term stage-specific cancer survival rate would remain unchanged after an early detection programme. This assumption is related to the effect of lead-time on cancer survival and mortality. A theoretical problem exists in assessing the benefit of screening programmes if women who have cancers detected early don't have the expected improvements in long term survival. However overtime, as cancers have been detected earlier, long-term survival for early stage disease has actually increased (10 years rates are presently 99% for Carcinoma in Situ, 83% for Carcinoma localized to breast). Furthermore other studies have demonstrated that screening has beneficial long- term effect on mortality independent of its effects on diagnostic lead- time.[15,16]

In the study by Bibb and Saundra C,[9] it is mentioned that increased likelihood of African- American women being diagnosed at a later stage seems to be related to the fact that a higher percentage of these women with breast cancers have been discovered by incidental breast self examination. This mode of discovery is associated with late stage diagnosis. A higher percentage of white women having breast cancers had been discovered by mammograms, which was a mode for early diagnosis.

Few limitations of our study are small sample size, descriptive study and limitations of advanced investigations.

Conclusion

Our study reveals that the late presentation of breast carcinoma is associated with poor socio-economic status, lack of access to proper health care facility and poor literacy rate.

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