

Clinico-Morphological Pattern of Breast Cancer at In patient Department of Dhaka Medical College Hospital – Study of 60 Cases

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Abstract

Background: Breast cancer incidence is increasing in Bangladesh with changing lifestyles, demographic and socioeconomic profiles. But there is no structured data on clinico-morphological pattern of breast cancer in Bangladesh. Understanding the clinical & morphological pattern of breast cancer of this country will help in early detection & prompt treatment of the cancer. **Objective:** To find out the clinical features of breast cancer & their morphological pattern at a tertiary level hospital. **Methods:** This is a cross sectional study. Data were collected prospectively from 60 new female patients with diagnosed breast carcinoma admitted to Dhaka Medical College Hospital at different surgical wards over a period of six months starting from 1st August 2010 to 28th February 2011 with the help of pre-designed semi-structured data collection form for clinical & histopathological data. Male patients, severely ill patients and patients unwilling to take part in the study were excluded. Informed written consent was taken from each case. After analysis & compilation the results were presented in tables, graphs and charts. **Results:** The mean age of breast cancer patients was 37.13 years. The average duration of symptoms of breast cancer patients before first presentation at tertiary level health facilities was 8.9 months. Most of the patients presented to tertiary level health facilities from 6 to 12 months after appearance of first symptom. Painless lump was the commonest presenting complaint with 43 cases, followed by nipple retraction in 24 cases, peu-de-orange in 21 cases, painful lump in 17 cases, ulceration in 12 cases and nipple discharge in 5 cases. 67% had tumor in the left breast whereas 28% had tumor in the right breast. Only 5% cases presented with bilateral involvement. The most frequent location of primary tumor was upper outer quadrant which is 32 cases followed by central in 9 cases, lower outer in 8 cases, lower inner in 6 cases, upper inner in 3 cases and overlapping lesions in 2 cases. Majority of the patient (69%) presented with a tumor size of more than 5 cm whereas only 3.3% patients presented with tumor size of less than or equal to 2 cm. Axillary lymph nodes were involved in most of the cases (86.66%). Infiltrating ductal carcinoma, NOS (which is an abbreviation for nothing otherwise specified) was the commonest (98.33%) histopathological variant. Most of the patients of this series, i.e. 35 patients had poorly differentiated tumor. 4 patients had well differentiated tumor and 21 patients had moderately differentiated tumor. **Conclusion:** In my study breast cancer is found to be common among relatively younger age group, majority below 40 years. The patients of breast cancer are coming to a tertiary level hospital very late, mostly with clinical features of advanced disease. For better understanding a series of multi centre studies are needed. [J Shaheed Suhrawardy Med Coll 2015;5(2): 49-53]

Keywords: Breast cancer, clinico-morphological pattern, Dhaka Medical College Hospital

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Introduction

Breast cancer is the most frequently diagnosed cancer in women worldwide with an estimated 1.4 million new cases in 2008. Also it is the leading cause of cancer death in women worldwide¹. Though over 50% of breast cancer incidence occurs in developed world, especially Europe & North America, it's incidence is increasing in areas like Africa & Asia, which have had low rates previously^{2,3,4}. In

Bangladesh, it is the most common cancer among women & has overtaken cervix cancer, which was the commonest cancer a decade ago⁵. The increasing incidence of breast cancer in countries like Bangladesh are may be due to changing lifestyles, demographic and socioeconomic profiles. Moreover the data regarding the disease are inadequate. The continuing rise in breast cancer incidence has created an urgent need to develop strategies for early

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detection and treatment. Modes of presentation of breast cancer in our population may not be the same as of the western population due to different hormonal, genetic and environmental factors. Breast cancer screening program is not available in our country due to financial constraints. So early detection of lump and seeking early treatment may be the key to better management in country like ours. The study was done mainly to know the common modes of presentation & the morphological pattern of breast cancer at in patient department of a tertiary level hospital of Bangladesh i.e. Dhaka Medical College Hospital.

Patients and methods:

This descriptive type cross sectional study was carried out in different surgical wards of Dhaka medical college Hospital over a period of six months starting from 1st August 2010 to 28th February 2011. A total of 60 female patients with diagnosed breast carcinoma admitted to Dhaka Medical College Hospital during the study period were enrolled in the study as case in this study. Data were collected by purposive sampling, all inclusive who gave informed written consent after admission into the hospital with the help of a Pre-designed semi-structured data collection form for clinical & histopathological data. Male patients, severely ill patients and patients unwilling to take part in the study were excluded from the study. All consecutive samples were included. A written Informed consent was taken from each case. A detailed history was taken and clinical examination was done meticulously to elicit different breast signs and the axillary lymph node. The diagnosis of carcinoma breast along with histomorphological type and tumor grading was later confirmed by histopathology. At the end of the study the data were compiled and analyzed. Then the results were presented in tables, graphs and charts.

Results:

The mean age was 37.13 years. The youngest patient in this series was 22 years old and the eldest was 57 years. More than half of the patients were in their thirties (61.66%). 41-50 years age group was the second most common.

Table I: Age distribution of breast cancer (n=60)

Age group(in years)	Number of patients	Percentage
21-30	9	15
31-40	37	61.66
41-50	10	16.66
51-60	4	6.66

The average duration of symptoms of breast cancer patients before first presentation at tertiary level health facilities was 8.96 months. Most of the patients presented to tertiary level health facilities 6 to 12 months after appearance of first symptom. The number of cases in this group is 41 (68.33%). 13 cases (21.66%) came to the tertiary level hospital within 6 months of their symptoms. 6 cases (10%) came very late, i.e. after more than 12 months.

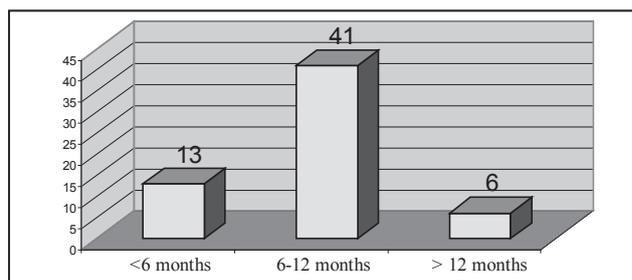


Figure I: duration of symptoms before first presentation at tertiary health care facilities

Painless lump was the commonest presenting complaint with 43 (71.66%) cases, followed by nipple retraction in 24 (40%) cases, peu-de-orange in 21 (35%) cases, painful lump in 17 (28.33%) cases, ulceration in 12 (20%) cases and nipple discharge in 5 (8.33%) cases.

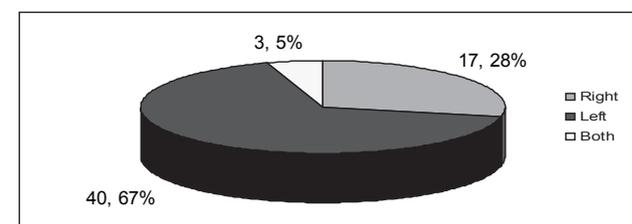


Figure II: Distribution of breast cancer according to the involvement of breast (n=60)

The most frequent location of breast lump was upper outer quadrant. It was found in 32 cases (54%) followed by central in 9 cases (15%), lower outer in 8 cases (13%), lower inner in 6 cases (10%), upper inner in 3 cases (5%) and overlapping lesions in 2 cases (3%).

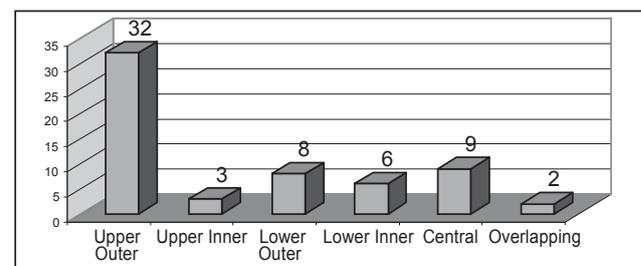


Figure III: Location of Breast lump by quadrant of breast (n=60)

Majority of the patient i.e. 41 cases (69%) presented with a tumor size of more than 5 cm. 17 patients presented with tumor size of more than 2 cm to 5 cm. only 2 patients presented with tumor size of less than or equal to 2 cm.

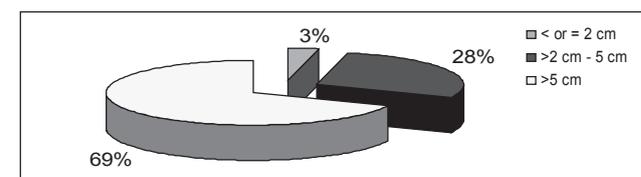


Figure IV: Size of the tumor (n=60)

Axillary lymph nodes were palpable in 52 cases (86.66%). 8 patients did not have any palpable Axillary lymph nodes.

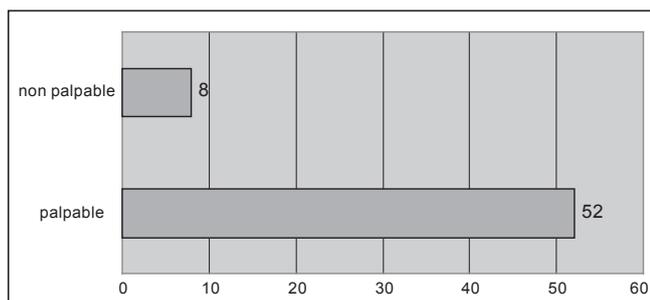


Figure V: Palpable axillary lymph nodes (n=60)

Among the 52 patients having palpable Axillary lymph nodes, 25 cases (48%) presented with 1 group involved. 12 cases (23%) had 2 groups involved and 15 cases (29%) had more than 2 groups of Axillary lymph nodes involved.

The average number of involved nodes per patient is 2.88.

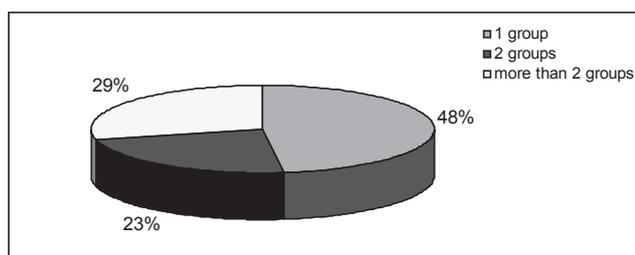


FIGURE VI: Number of Groups of Axillary nodes involved in breast cancer patients (n=60)

In 59 cases (98.33%), histopathology showed Infiltrating ductal carcinoma, NOS (which is an abbreviation for nothing otherwise specified). Only in 1 case (1.66%) histopathology showed infiltrating lobular carcinoma.

Table II: Distribution of cases according to histo-morphological types (n=60)

Histo-morphologica l type	Number of patients	Percentage
Infiltrating ductal carcinoma, NOS	59	98.33
Infiltrating lobular carcinoma	1	1.66

Most of the patients of this series, i.e. 35 patients (58.33%) had poorly differentiated tumor. Four patients (6.66%) had well differentiated tumor and 21 patients (35%) had moderately differentiated tumor.

Table II: Distribution of cases according to histo-morphological types (n=60)

Grade	Number of patients	Percentage
Grade I Well differentiated	4	6.66
Grade II Moderately differentiated	21	35
Grade III Poorly differentiated	35	58.33

Discussion

Every year in Bangladesh approximately 35,000 women develop breast cancer many of whom never seek treatment⁶. Prompt diagnosis and treatment provides the best chance of long term survival but for many reason Bangladeshi women do not seek treatment early and often presented at an advanced stage of the disease⁶.

Age of the cancer patient is an important factor both for occurrence and management of the case. The incidence of the breast cancer increases as the age increases⁷. Previously in USA and other western countries the age distribution at diagnosis was bimodal with a dominant peak frequency near the age 50 years and a smaller peak near the age 70 years. But during 2000 to 2003 the bimodal age distribution returned to predominantly younger age at onset but still a peak frequency near age 50 years⁷. Goel A, Bhan C et al (2003) in a five year clinico-pathological study between 1997 to 2002 in India found breast cancer most common in 30-40 years age group⁸. Saxena S et al (2005) also in India found the average age was 47.9 years⁹.

In this study breast cancer was found to be most common in age group 31-40 years (61.66%) followed by age group 41-50 years (16.66%) with the average age of 37.13 years. & the findings are consistent with the Indian studies.

Yoo K-Y, Kang D et al in Korea and Mousavi SM and Montazeri A in Iran found breast cancer to be most prevalent in 40-49 years age group^{10,11}. The reason for early age of occurrence amongst Bangladeshi females needs to be further studied. A similar viewpoint has been put forward by a study conducted by Borovanova in the Czech population. In their study also, they found a shift of cancer more towards younger women¹².

The average duration of symptoms of breast cancer patients before first presentation at tertiary level health facilities was 8.9 months. Most of the patients presented to tertiary level health facilities after 6 to 12 months of appearance of first symptom. There are many reasons behind these late presentations. The female patients are neglected. Lack of education, poor socio-economic condition, poor access to tertiary center, ignorance, social prejudice, religious bindings, dependency on indigenous medicine, fear of surgery – all cause early detection of breast cancer almost impossible in our country. Similar trend was seen in another study in Pakistan where it was shown that the frequency of advanced malignancy was alarmingly high in younger patients¹³.

In the present study 71.66% cases presented with painless lump, 28.33% with painful lump, 20% with ulceration, 8.33% with nipple discharge and 40% with nipple retraction. Personal series performed by Haagensen¹⁴ shows that 75% to 80% of women suffering from carcinoma breast presents with a lump in the breast. Nair et al¹⁵ have shown that lump in the breast was the presenting symptom in 88%, ulceration 8% and nipple retraction in 8% cases. Another study was carried out by Vinod Raina et al¹⁶ in India, where 96% of the patient in premenopausal women presented with breast lump, 15.8% with pain and 4.4% came with nipple discharge.

In the current series, left breast was affected in 67% cases, 28% in the right breast and the rest had bilateral involvement. Classically there is a left sided

predominance¹⁷. The side affection possibly does not have much effect so far the treatment and prognosis are concerned.

In this study the most frequent site involved was upper outer quadrant (in 54% cases). In 15% cases it was central, 13% in Lower outer quadrant, 10% in lower inner, 5% in upper inner quadrant and overlapping lesions were in 3% cases. A study carried out in Kerala, India¹⁵ has shown 31% of the growth in upper-outer quadrant, 8% in lower-outer quadrant, 11% in the upper-inner and 29% affected the whole breast. In a personal series of Haagensen¹⁴ upper outer quadrant tumour was 38.5%, upper inner quadrant tumor was 15.3%, lower outer quadrant tumor was 8.8%, lower inner quadrant tumor was 6.6% and sub-areolar tumor was 29%.

The majority of the patient in the current series (69%) presented with a tumor more than 5 cm in diameter which denotes a higher stage. 28% presented with a tumor 2-5 cm and only 3% with a tumor size below 2 cm. A study carried out in USA by G. Marie Swanson et al¹⁸ showed that 65.5% of the younger women presented with a lump more than 2 cm in diameter. Another study carried out by Raina V et al¹⁶ showed 74.1% patients presented with tumor size more than 2 cm but less than 5 cm and 12.3% with tumor size more than 5 cm. This shows that our patients present quiet late & with a higher stage of disease to a tertiary center.

In the present series, among the 60 patients, 52 patients had clinically palpable lymph nodes (86.66%). Among them 48% had one group of lymph node involved, 23% had two groups and 29% had more than two groups involved. The rest (13.33%) had no lymph node palpable clinically. A study done by Zaghoul AS et al¹⁹ showed similar sorts of results.

Histology as a prognostic factor has been well documented. Patients with histology of Infiltrating duct carcinoma (IDC)(NOS) have a poor survival compared to other types⁴. In the present study among the different histomorphological types, Infiltrating duct Carcinoma (NOS) was found to be the most common type (98.33%). Infiltrating lobular carcinoma was found in 1.66% cases. In this series no other variety was found. Saxena et al showed in their series that infiltrating duct carcinoma (NOS) was found to be the most common type i.e. in 86.9% cases⁹. In study carried out by Raina V et al, 92.8% were infiltrating duct carcinoma, 2.9% were infiltrating lobular carcinoma and 1.4% were medullary variety¹⁶.

58.33% of the patients of this series had well differentiated tumor (grade III). 35% had moderately differentiated tumor (grade II) and only 6.66% had poorly differentiated tumor (grade I). Perkins CI et al had shown that 41% of his patients were grade I, 48.8% were grade II and 3.8% were grade III²⁰.

Conclusion

From this study and the studies in other regional countries, it is clearly evident that breast cancer is becoming common among relatively younger age group. In the current study majority of the patients were below 40 years. So the present western screening recommendation of mammography at the age of 40 years, which are being

followed, should be changed in our country & should be started earlier as disease is more prevalent in younger age group. Moreover, patients of breast cancer are coming to a tertiary level hospital very late, mostly with clinical features of advanced disease. Social awareness is very important in this aspect. So that the males, who in most cases take the decision of the family matters, take their wives, sisters and mothers to healthcare facilities having treatment of breast cancer as soon as the disease has been suspected.

This small study may not represent the total breast cancer scenario in Bangladesh. To validate the result of this study a series of multi centre studies are needed to identify the exact clinico-morphological features of breast cancer and to formulate a screening & management guideline in our context.

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Table- 1: Prevalence of PROM among all Obstetrics patients (n=1879)