

Original Article

Incidence and Patient Profile of Carcinoma Breast Patients Presenting in Surgical OPD in a Tertiary Care Hospital

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Abstract:

Breast cancer is one of the common cancers in women that causes financial health burden and or death in Bangladesh. Economically we are slowly rising from low to middle income country, which is changing our women's lifestyle. Risk factors of breast cancer include lifestyle factors like- age at first childbirth, parity, using oral contraceptives, BMI; which are also changing in our women. This study will look at our current incidence and patient profile of breast cancer patient. This is a retrospective study done in BIRDEM General Hospital. One hundred patient presenting with breast lump during the period of September 2018 -May 2019 were selected by purposive sampling. In <30 years age group 2 (13.6%) patient had cancer, 41% at <40 years, 53% in 51-60 , 83% in 61-70 age group. Thirty four out of 100 breast lump patient were diagnosed with cancer. Eleven had early cancer, 20 had locally advanced cancer, 3 presented with metastasis. In our study risk factor assessment did not show significant increase risk of in patients who are having cancer compared to those having benign breast disease with similar risk factors. The big number of advance and metastatic breast cancers in our study indicates self-breast examination and breast cancer screening program is still inadequate. Further research is required to find out breast cancer biology and pathogenesis rather than blindly accusing urbanized life style.

Key words: Parity, Contraceptive, Metastasis, Pathogenesis.

Introduction:

Worldwide breast cancer is the most frequent cancer in women and represents the second leading cause of cancer death among women (after lung cancer)^{1,2}. In the United States, 27% of all new female cancers are breast cancers. In Asian population the incidence was less. The age-standardized rates of breast cancer in India are significantly lower, almost one quarter to one-third of those in North America and Europe respectively³. The postulated reasons for the lower incidence of this

disease are believed to be lower socioeconomic status, delayed menarche (14 years vs. 12.6 years in white women), relatively early age at birth of first child, high parity and nearly universal prolonged breast-feeding⁴.

In Bangladeshi population the patient profile is different. The country is rapidly evolving economically; raising from poor under-developed, to middle income countries, the epidemiological parameters affecting the incidence of breast cancer (Age of menarche, age of first child, parity, nutritional factors, breast feeding trends) are also changing. This obviously is the reason why it continues to be the focus of intense basic and clinical research. Hence, this retrospective study was carried out to see the incidence and patient profile, clinical features of breast cancer in patients presenting with breast lump in breast clinic.

Materials and Methods:

This is a retrospective study done in BIRDEM General Hospital Breast Clinic. 100 patients presenting with breast lump during the period of September 2018 to May 2019 were selected by purposive sampling. Patients presenting with symptoms other than breast

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lump, like-mastalgia, nipple discharge, abscess etc were not included. Data was collected regarding age at presentation, associated features, age of menarche and menopause (in appropriate cases), Parity, pills, BMI, cytological/histological Diagnosis, staging of malignant tumors.

Results:

Table I: Age distribution of the study patients with breast lump (n=100)

Age (in year)	Total patients	Benign		Malignant		P value
		n	%	n	%	
30	22	20	86.4	2	13.6	0.001 ^s
31-40	31	27	87.1	4	12.9	
41-50	17	10	58.8	7	41.2	
51-60	15	7	46.7	8	53.3	
61-70	12	2	16.7	10	83.3	
>70	3	0	0.0	3	100.0	

In our study group all patients were female. Out of 100 patients presenting with breast lump 22 patient were ≤30 years of age. Youngest patient was 14 years girl with fibroadenoma of breast. In this group 2 (13.6%) patients were found to have malignant lump (Table I). After 40 years the incidence of malignant breast lump is gradually increased from 41% at <40years, 53% in 51-60 age group, 83% in 61-70 age group. We had 2 patients above 70 years both were malignant.

Table II: Associated symptoms of breast lump patients. (n=100)

Clinical features	Number of patients	Percentage
Pain of the breast	46	46.0%
Nipple retraction	24	24.0%
Nipple discharge	13	13.0%
Ulceration of the skin	16	16.0%
Palpable lymph node		
Axillary lymph node	32	32.0%
Supraclavicular lymph node	1	1.0%
Fixation of lump to pectoral's muscle / chest wall	2	2.0%
Cough	1	1.0%

Table II shows that almost half (46.0%) patients had pain in the breast along with lump. Though painful breast lump is not a classic feature of carcinoma breast, but 11 out of 34 malignant patients had pain at

presentation, these were all in advanced malignancy cases. The rest 35 painful breast lumps were benign. Other associated features include-nipple retraction 24, nipple discharge 13, 16 ulceration of the skin, 32 palpable axillary lymph node, 2 patient had lump fixed with pectoral muscle, 1 patient had cough.

Table III: Distribution of the study patients according to FNAC/ Tru Cut biopsy.

Diagnosis	Benign	Malignant	Suspicious
Clinical	60	30	10
FNAC	65	31	4
Tru cut biopsy	1	3	–

FNAC was done in all breast lumps to make a diagnosis (table III), in 65 cases FNAC was benign, in 31 cases malignant & in 4 cases FNAC was-suspicious cytology. Tru cut biopsy was done in these 4 cases. One confirmed benign, and 3 confirmed malignant. So total 66 benign and 34 malignant cases in our study group.

Table IV: Distribution of the cancer patients according to involvement of side and quadrant of breast (n=34)

Quadrant of breast involved	Right breast (Total-15)	Left breast (Total-19)
Upper and outer quadrant	3	2
Lower and outer quadrant	0	2
Upper and inner quadrant	4	3
Lower and inner quadrant	2	1
Central	6	9
2 or more quadrant	0	2

Out of 34 malignant cases 15 were in right breast and 19 in left. Generally upper and outer quadrant is commonest site of malignancy but in our study 15 patients i.e. 44% had a tumor involving nipple areola complex (Table IV).

Association of known risk factors with malignancy is shown in table V. In our study group 82 out of 100 patients had H/O breast feeding, 53 of them (64%) had benign tumor and 29 had malignant tumor (35%). P value was not significant (0.870). Multiparity is also known to be protective. In our study 90 out of 100 women had one or more child. Fifty seven of them (63.3%) had

Table V: Association between risk factors with tumour types (n=100)

Risk factors	Total Patient	Benign n %	Malignant n %	P Value
Breast Feeding	82	53 64.6	29 35.4	0.870
Parity	90	57 63.3	33 36.7	0.248
Pill	54	37 68.5	17 31.5	0.424
Early menarche	42	33 78	9 21	
Late Menopause	12	4 33.3	8 66.6	
PMHS	2	1 50	1 50	
BMI>30	76	46 60.5	30 39.4	
Family History	9	4 44.4	5 55.5	
Radiation	0	0 0	0 0	-

PMHS- Post menopausal hormone supplement.
P value reached from chi square test

benign tumor and 33(36.7%) had malignant tumor. p Value (0.248) was not significant. Oral contraceptive pills (OCP) or Post Menopausal Hormone Supplements (PMHS) are exogenous source of hormones and are known risk factors. In our study group 54 out of 100 patients had H/O taking OCP, out of them 37 developed benign and 17 developed malignant tumor. Forty two women had H/O menarche before 11 years out of them 9 developed malignant tumor (21%) and 33 had benign tumor (78%). In our study 42 out of 100 patients had natural or surgical menopause and 12 of them had late menopause after 55 years. Eight of them developed malignant and 4 benign tumor. In our study group 76% patients were obese (BMI>30), 46 of them developed benign and 30 malignant tumor. Nine patients had a positive family history of breast cancer, 4 developed benign and 5 malignant tumor. No patient had H/O radiation in our study group. (Table-V)

Table VI: Distribution of the cancer patients according to involvement of side and quadrant of breast (n=34)

TNM stage	Number of patients	Percentage
T ₁ N ₀ M ₀	3	8.6%
T ₂ N ₁ M ₀	9	28.6%
T ₃ N ₁ M ₀	11	31.4%
T ₄ N ₂ M ₀	8	22.9%
T ₄ N ₁ M ₁	3	8.6%

TNM staging of our patients at presentation, as shown in table VI T₁N₀M₀ 3 patients and T₂N₁M₀ 9 patients, i.e. 12 out of 34 patients had early breast cancer. T₃N₁M₀ in 11 patients and T₄N₂M₀ in 8 patients i.e. locally advanced tumor in 19 cases. (Table-VI)

Features of metastasis were present at presentation in 3 patients later confirmed by further investigation. (Table-VII)

Table VII: Distribution of the cancer patients according to distant metastasis (n=34)

Distant metastasis	Number of patients	Percentage
No	31	91.2%
Yes	3	8.8%
Supraclavicular	1	2.9%
pulmonary	1	2.9%
Bone metastasis	1	2.9%

Table VIII: Distribution of the study patients according to histological finding (n=100)

Histological finding	Number of patients	Percentage
Benign		
Fibroadenoma	33	33%
Fibroadenosis	23	23%
Chronic mastitis	10	10%
Malignant		
Invasive duct cell carcinoma	30	30%
Duct cell carcinoma insitu	3	3%
Invasive lobular carcinoma	1	1%

After mastectomy (in malignant cases) or lumpectomy (for benign cases) formal histopathology was done in all cases. In benign group 33 fibroadenoma, 23 fibroadenosis, and 10 chronic mastitis were diagnosed. Among 34 malignant cases, 30 were invasive duct cell carcinoma, 3 duct cell carcinoma in situ, and 1 patient had invasive lobular carcinoma. (Table-VIII)

Discussion:

It is important to identify the demographic variation of the risk factors of breast cancer and also its changes with the change in socioeconomic trends. In our study we closely assessed the profile of patients presenting with breast lump in a tertiary care hospital which is placed in an urban area. A malignant lump was found in about one third of the patients (34%), which is a very high incidence. It means 1 out of 3 patients with breast lump was a malignant one.

We also assessed the well-known risk factors; 29 out of 34 malignant patients has a positive history of breast feeding, but duration of breast feeding in months also is important. The relative risk (RR) of breast cancer reduces 4.3% for each 12 month of breast feeding⁵. High Parity is also protective, a 7% decrease in RR for each child birth⁶. In our study 90% women had child, but very few had more than 2. The age of women at first child birth was also >25, this is also relatable to urbanization, higher education and more women working out. A half of our malignant group has a history of taking oral contraceptive pills only one patient has h/o current use of OCP, which has a 24%, increased RR⁷.

Early menarche and late menopause are also 2 well recognized risk factors of breast cancer. Menarche below the age of 11 and menopause after the age of 55 causes exposure of women to premenopausal hormones for longer duration and increases the RR to 1.62⁸. The age of menarche is again related to nutritional status. Previously the age of menarche was more in Asian population than Europeans 14 years vs. 12.6 years in white women. Due to rapid urbanization and westernization of food habit early menarche is not uncommon in our study group (42%). On the contrary Post menopausal hormone supplement does not yet seem to be very popular, only 2 patients had H/O taking PMHS, one in benign one in malignant group.

A positive family history of breast or ovarian cancer increases the RR of breast cancer of approximately two folds⁹. The number of relatives affected and the age at which they are affected (younger-more risk) also increases the risk. In our study group 9 patients had maternal relatives who had history of breast cancer, 5 of them had benign breast disease and 4 had malignant breast disease.

None of our patients had H/O exposure to Radiation, which is also a known risk factor of Breast cancer. Association of age with histological finding was found to be significant in our study group (P value = .001). Maximum number of patients (10) with breast cancer are in the age group of 61-70, whereas only 2 patients in age group of <30 had cancer.

Regarding staging of breast cancer in spite of our study population being in urban area, a big number of patient 19(11+8) out of 34 i.e. 55% had stage III disease at presentation. The plausible cause for this is the diversity of educational, economic status of our study population and thus the awareness among them were also varied. This fact is also reflected in Table-II showing almost half of our patients had painful lump at presentation (46%). These patients were not aware of self-breast examination, so did not notice a lump until

they became painful. 19 out of 34 patients (55%) had locally advanced tumors at presentation requiring neoadjuvent chemotherapy.

Conclusion:

In advanced western nations, diagnosis of breast cancer has undergone a dramatic evolution since the mid-1980s. Subsequent to the widespread availability of mammographic screening programs, a shift toward the diagnosis of clinically occult and non-palpable lesions is noted. In our country, women with breast cancer almost always detect their disease by themselves, by finding a lump in the breast, and thus it is important to educate the mass population about self-breast examination. That is why we selected our study population by these criteria. National Breast cancer screening program is still not in function in our country; so complete workup of all isolated complaint of pain in the breast or nipple discharge should also be addressed, as not even a single patient had such isolated complaints. So screening should be done in all patients presenting in breast clinics with any complain.

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