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Original Research Article

Risk factors and clinical presentations of breast cancer patients: a hospital based study

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ABSTRACT

Background: Breast cancer is most common cause of cancer related mortality and second most common cause of cancer in females in India. Hence study aims to evaluate the clinical profile and risk factors of the breast cancer.
Methods: This is cross sectional study done at Victoria hospital and Bowring and Lady Curzon Hospital between January 2012 to October 2012 among 50 females patients more than 18 years of age, presented with breast cancer irrespective of tumour stage, size and location and for whom preliminary diagnosis of carcinoma breast was confirmed on fine needle aspiration cytology. Preformed, pretested semi-structured questionnaire was used to collect the data regarding the risk factors and clinical presentations of the patients.
Results: Maximum participants 18 (36%) were in the age group of 41-50 years, 32 (64%) patients belonged to lower class with mean age at menarche of 13.3 years. About 26 (52%) patients were in premenopausal state. In present study, 48 (96%) of the total patients were multiparous and 47 (94%) women practiced breast feeding for more than 4 months. None of the patients in this study had a family history of breast cancer. Most breast cancer patients presented with history of lump followed by pain 14 (28%) and nipple retraction 9(18%). Most of the patients 29(58%) had upper outer quadrant involvement followed by upper inner quadrant in 7 (14%).In about 26 (52%)patients, tumour size was more than 5 cm and 32 (64 %) patients had axillary lymph nodes.
Conclusions: Breast cancer was predominantly a disease of middle aged, lump in breast is commonest mode of presentation with upper outer quadrant involvement and 26 (52%) patients were in stage II of TNM classification.

Keywords: Breast cancer, Clinical presentations, Risk factors, Staging

INTRODUCTION

More than one million new patients suffer from breast cancer annually in the world. In developed countries, breast cancer is the most common malignancy diagnosed among women and in developing regions, it ranks second to cervical cancer in developing region.[1,2] Incidence of breast cancer is steadily increasing in India. Trends in breast and cervix cancer in six population based cancer registries were evaluated over the last two decades which showed a decreasing trend for cancer cervix and increasing trends for cancers of the breast throughout the entire period of observation in most of the registries.[3] To add to this, some Asian countries including india are experiencing a different age pattern of disease (usually younger) at diagnosis compared with the patients in western developed countries.[4] Along with this socio-economic and lifestyle changes, changes in the menstrual pattern and improved life expectancy are responsible for the rise in developing countries. Being affected by a

disease like breast cancer, a woman acquires a social stigma and suffers a lot of psychological trauma as an added insult to injury. A large number of women carry a breast lump for a long time and do not seek medical advice till the disease is advanced. There is a lack of organized breast screening programmes in most of the developing countries where only the affluent society has an access to them which may be offered by a limited number of private hospitals. This study was an attempt to study risk factors and patterns of presentation of breast cancer.

METHODS

A cross sectional study was done on 50 female patients of Victoria Hospital and Bowring and Lady Curzon Hospital from January 2012 to October 2012, who were diagnosed to have carcinoma of breast by FNAC. Study included patients more than 18 years of age. Unwilling and patients with benign breast diseases were excluded from the study. After obtaining informed consent, detailed clinical history was elicited from all patients at the time of admission. A predesigned, pretested questionnaire was used to collect data regarding the risk factors and clinical presentation of patients. Data was analysed by using spss17.

RESULTS

In the present study, Fig1 depicts that 18(36%) of the patients were between 41-50 year age group. There were no cases reported below 30 years in our study. Table 1 showed that about 32 (64%) of the patients belonged to lower class, 12 (24%) patients belonged to middle class and only 6 (12%) patients were from higher socio-economic status. Age at menarche ranged from 10 - 17 years, majority of patients had menarche between 12-14 years; mean age at menarche was 13.3 years.

Patients in premenopausal state was slightly higher than those in postmenopausal state. In this study only 2(4%) of patients were nulliparous, 48 (96%) females were multiparous. About 47 (94%) females who had suffered from the disease practiced breast feeding for more than 4 months. None of the patients had a family history of breast cancer. Table 2 shows that most 50 (100%) of the breast cancer patients present with history of lump in which 26 (58%) of patients had upper outer quadrant involvement followed by upper inner quadrant in 7 (14%).

The other symptoms were pain in 14 (28%) patients, nipple retraction in 9 (18%), nipple discharge in 2 (4%) patients. Delay from initial notice of symptoms to hospital presentation ranged from 1 week to 2 years. About 11 (22%) of our cases had a history less than 2 months, while most of the patients i.e 21 (42%) came after a delay of 2-6 months. About 5 (30%) of the patients who had 1 year history and 2 years history was seen in only 3 (6%) of our cases. About 29 (58%) of the patients had involvement of right breast and 21 (42%) of patients had involvement of left breast. About 10 (20%) patient had fixity to skin and only 1 (2%) had fixity to pectoralis major muscle.

In the present study only 1 (2%) of patient presented with size < 2cms and 23 (46%) of cases had tumor 2-5cm and 26 (52%) of cases were more than 5cm with 18 (36%) of patients had clinically normal axilla and 32 (64 %) of patients had axillary lymph nodes. More than half i.e 26 (52%) cases belong to stage II and 23 (46%) belonged to stage III disease. The fig 2 explains that central group involvement was maximum that is 25 (50%) followed by involvement of pectoral or anterior group of lymph nodes that is 21 (42%). Involvement of supraclavicular and internal mammary were clinically not detected in the study group.

Table 1: Risk factors for breast cancer.

Variable	Clinical presentation	No .	Percentage
Socio economic status	Low	32	64
	Middle	12	24
	High	6	I2
Age at menarche	10-12	3	6
	12-14	26	52
	14-16	18	36
	16-18	3	6
Menstrual status	Pre-menopausal	26	52
	Post-menopausal	24	48
Breast feeding	Breast fed	47	94
	Not fed	3	6
Parity	Nulliparous	2	4
	Multiparous	48	96
Family history	Positive	0	0
	Negative	50	100

Table 2: Clinical presentation of study participants.

Variable	Clinical presentation	Number	Percentage
Symptoms of patients	Lump	50	100
	Pain	14	28
	Ulcer	1	2
	Nipple discharge	2	4
	Nipple retraction	9	18
Duration of the symptoms	<2 months	11	22
	2-6 months	21	42
	6months-1 year	15	30
	1-2 years	03	6
Side	Left	21	42
	Right	29	58
Site of tumour	Upper and outer	29	58
	Lower and outer	6	12
	Upper and inner	7	14
	Lower and inner	3	6
	Central	5	10
Fixity	Skin	10	20
	Pectoral muscle	1	2
Tumor size	<2cm	1	2
	2-5cm	23	46
	>5cm	26	52
Lymph node involvment	Absent	18	36
	Present	32	64
TNM Staging	I (T1N0M0)	1	2
	II (T0N1M0,T1N1M0,T2N0M0,T2N1M0, T3N0M0)	26	52
	III (T0N2M0, T1N2M0, T2N2M0, T3N1M0, T3N2M0, T4N0M0, T4N1M0, T4N2M0, T4N3M0)	23	46
	IV (Any T, Any N, M1)	0	0

DISCUSSION

Age is one of the best documented risk factors for breast cancer. The incidence of breast cancer is extremely low before age 30 years, after which it increases until age of 80, reaching a plateau as per the data derived from the SEER cancer statistics review.[5] In the present study the youngest patient was 32 years old and the oldest patient was 72 years old. There were no cases reported below 30 years in our study, later the percentage of cases increased with age highest between 40-50 years reaching a plateau and then decreased. Similar findings were seen in Sen and Das Gupta series.[6] Contradictory to western countries where breast cancer is a disease of the affluent classes, in our study 32 (64%) of patients belonged to lower class as compared to 6 (12%) patients were from higher socio-economic status. This may be due to less affordable patients coming to a government hospital and richer class going for a private hospital. Early age of menarche before 12 years has been consistently associated with an increased risk of breast cancer. There is a 10% reduced breast cancer risk for every 2 year delay in menarche.[7] In the present series age at menarche ranged from 10 - 17 years, majority of patients had menarche between 12-14 years; mean age at menarche was 13.3 years. Study done by Bhattacharya S showed age at menarche ranging from 11-16 years and mean age being 13.47years.[8] This supports the fact that early menarche is associated with longer exposure of breast tissue to estrogen stimulation and hence increases the risk of breast cancer. The duration of exposure to ovarian hormones seems to be closely related to breast cancer risk: a 1-year delay in the onset of menarche is associated with a 5% reduction in risk for developing breast cancer in later life, and each 1-year delay in the onset of menopause is associated with a 3% increase in risk.[7,9] In the present study, patients in pre menopausal state was slightly higher than those in post menopausal state. Findings are similar to study done by Bhattacharya S.[8] Longer lactational period decreases the total number of menstrual cycles and hence protective.[10]

In our study 47 (94%) breast fed for more than 4 months. We could not establish any relationship between protective effects of lactation in our study. In the present study, 2 (4%) of patients were nulliparous, 48 (96%) of patients were multiparous. A meta-analysis from 8 studies in 1990 shows that the more children a women has the greater the protection from breast cancer, and

women with 5 or more children have 50% reduced risk when compared to nulliparous women.[8] We could not establish any protective benefit of parity. Family history of breast cancer in first and second degree relatives is associated with an increased risk of disease. The relative risk being 1.7 to 2.5 among those with first degree relatives and 1.5 among those with an affected second degree relative.[10]

None of the patients in the present had a family history of breast cancer. Most breast cancer patients present with history of lump. In our study almost all patients came with history of lump. The other symptoms were pain and nipple retraction. About 29 (58%) of patients had involvement of right breast and 21 (42%) of patients had involvement of left breast. No association has been established so far as to which side is more commonly affected. The upper outer quadrant was the most common site of involvement in our study which shows similar findings like study done by Hunter DJ.[9]

The reason for this is that quadrant of breast tissue has the maximum amount of parenchyma. In India due to lack of awareness, illiteracy and negligence patients present later during course of disease when compared to western population. Delay from initial notice of symptoms to hospital presentation ranged from 1 week to 2 years. Our study results were comparable to study done by Sen and Das Gupta.[6]

This may be due to late presentation of cases in Indian population due to lack of awareness, negligence and unavailability of good screening programmes.[11] About 10 (20%) of patient had fixity to skin on examination and 2% of patients had fixity to pectoralis major muscle. Our findings were comparable to study results by Sen and Das Gupta that had 24% of cases with fixity to skin.[6]

In this study only 2% of patients presented with size < 2cms and 46% of cases had tumor 2-5cm and 52% of cases were more than 5 cm. Compared to study done by Michael Schaepveld present study had more number of cases with tumor size >5cm.[12] Decreased awareness of breast cancer, poverty, ignorance, negligence and non-availability of good screening programmes may be the cause for late presentations among Indian population.

In our study 18(36%) of patients had clinically normal axilla, 32(64%) of patients had axillary lymph nodes. PP Lin et al study showed 15% patients with axillary nodes and 85% with normal axilla.[13] The higher involvement in our study may be due to later detection when compared to western population.

About 25 (50%) patients in our study group had central group of lymph nodes, 21 (42%) central and only 3 (6%) had posterior and lateral nodes. This suggested that central group and pectoral group of nodes were most common to be involved.

CONCLUSION

This study of 50 breast cancer patients concludes that highest incidence was found in 4th-5th decade of life. Lump in the breast is the most common presenting complaint. Upper outer quadrant is the most common site. Most cases had tumor size >5 cm, and belong to Stage II and III at presentation, which reflect the negligence, innocence and lack of awareness and good screening procedures.

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