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Original Article

Reproductive Factors and Risk of Breast Cancer among Patients Attending the Tertiary Care Hospital in North Bihar

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Abstract

Background: Breast cancer is the most common diagnosed malignancy in women.

Materials and Methods: A total of 57 patients who attended the Surgery Department in Darbhanga Medical College, Bihar, with various forms of malignant breast diseases during the period of November 2009 to November 2011, were studied. The early diagnoses by doing a triple assessment such as a clinical examination, fine needle aspiration cytology, or a core needle biopsy and imaging methods like ultrasonography or mammography. The clinical diagnoses were compared with the cytological or histological findings wherever possible and their accuracies were evaluated.

Results: Out of the 57 patients who were studied, 2 (3.5%) cases were male, a maximum number of malignant cases were encountered in the 5th decade (57%). Most of the patient (78%) presented within 1 year of development of breast lesion. Most of the patients are multiparous more than 6 children (42%). More than 50% of the tumors belonged to TNM stage T2 with palpable axillary lymph node.

Conclusion: Breast cancer occurs a decade earlier in Indian Women as compared with the women of developed countries and is a leading cause of mortality in developing countries like India so raising awareness about the screening procedure and the treatment of breast cancer can help reducing mortality. The clinical diagnosis of a breast lump, as confirmed by cytology and histology, was accurate in most of the cases.

Key words: Breast cancer, Pathology, Risk factors, Triple assessment

INTRODUCTION

Cancer is a major public health problem worldwide causing about 13% of all deaths[1] and has become leading causes of death in India[2] also, with a prevalence of 2-2.5 million cases at any time.[3] In India, cancer causes 7-9 lakh new cases with 3 lakh deaths annually.[4]

Breast cancer is the most common diagnosed malignancy in women worldwide (22%) and in India (18.5%) it ranks second to cervical cancer.

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With increasing westernization of life by marrying and bearing children later in life there is an increase in the incidence of breast cancer cases in India. The peak occurrence of breast cancer in developed countries is above the age of 50, whereas, in India, it is above the age of 40.[5] In India, the age-standardized incidence rate of breast cancer varies between 9 and 32/100,000 women. With an increase in number of reported cases from various registries of national cancer registry project,[6] India has become a country with a largest number of breast cancer deaths worldwide.[7,8] In general, the major cause of death in breast cancer is formation of metastases.[9]

A number of various host-related reproductive and lifestyle factors such as literacy, age at menarche and menopause, age at first delivery, abortion, breastfeeding, family history of breast cancer.[10-19] Are very important in affecting the incidence of breast cancer.

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This study attempts to study factors associated with breast cancer in patients attending a tertiary hospital in North Bihar.

MATERIALS AND METHODS

This study was carried on 57 cases at a tertiary center in north Bihar during the period of November 2009 to November 2011. A total of 57 diagnosed cases, of breast cancer were included in this study. The patients were required to give written informed consents before their enrolment in the study. Ethical clearance was obtained from Institute's Ethical Committee.

Inclusion Criteria

Only histologically confirmed cases are included in the study.

Exclusion Criteria

Women with benign disease are excluded from the study.

Detailed histories of patients recorded that includes age, marital status, parity, age at menarche, age at first pregnancy, and age at menopause. The family history of breast diseases, contraception history recorded. Detailed examination of lump and axilla was done with attention to any clinical signs of malignancy. Ultrasonography or mammograms done when required. Fine-needle aspiration cytology (FNAC) performed in patients with lumps to confirm the diagnosis. Core biopsy/incisional or excision biopsy done in patients with inconclusive FNAC report. Data entered on per forma.

RESULTS

A total of 57 patients, who attended in the Surgery Department for breast diseases, were studied in the Department of General Surgery.

A maximum number of malignant cases were encountered in the age group of 41-50 years (5 decade), while both in 4th and 6th decades number of malignant cases were equal (Table 1).

In this series, only two cases was of male breast out of 57 cases (Table 2).

Maximum number of patients reported with the history ½ year to 1 year, followed by <6 months, 1 year to 1½ years to 2 years in that order (Table 3).

A maximum number of patients having malignant tumor were having more than 3 up to 6 children, followed by up to 3 children and an equal number of patients were having no children and more than 6 children (Table 4).

Maximum number of mother having breast cancer had breastfed their babies less than a year, followed by more than a year up to 2 years (Table 5).

Maximum number of breast lesions were found to be of the size of 5-10 cm, followed by 2.5-5 cm and <2.5 cm, in that order (Table 6).

In case of malignant breast tumors, all the palpable lymph glands were hard, mobile and non-tender (Table 7).

Table 1: Distribution of malignant breast tumors according to age

Age in years	Number of cases (%)
20-30	Nil
31-40	12 (21.05)
41-50	33 (57.00)
51-60	12 (21.05)
61 and above	-
Total	57 (100.00)

Table 2: Distribution of malignant breast lump according to sex

Sex	Number of cases (%)
Male	2 (3.5)
Female	55 (96.5)
Total	57 (100)

Table 3: Distribution according to duration of illness

Lesion	<6 months	6 months to 1 year	1 year to 1½ years	1½ years to 2 years	Total
Malignant tumor	21 (36.84)	24 (42.11)	9 (15.79)	3 (5.26)	57

The parenthesis show the percentage of the respective breast lesion

Table 4: Distribution of malignant tumor according to parity

Lesion	Number of children	Up to 3 children	>3 up to 6 children	>6 children	Total
Malignant tumor	6	21	24	6	57

Table 5: Duration of breast feeding in carcinoma of breast

	Number of cases (%)
<1 year	27 (52.94)
1-2 years	24 (47.06)
Total	51 (100.00)

Table 6: Size of lump in various breast lesions

Lesions	Number of cases (cm)			Total
	Up to 2.5	>2.5-5	>5-10	
Malignant tumor	-	27	30	57

Table 7: Lymph node involvement

Lesions	Axillary lymph node					Supraclavicular	Others
	Pectoral	Central	Apical	Brachial	Subscapular		
Malignant tumors	13	13	16	5	2	1	-

DISCUSSION

In this study, a maximum number of malignant cases were encountered in the age group of 41-50 years (5 decades), while both in 4th and 6th decades number of cases were equal similar findings were noted in the study conducted by Meshram *et al.* and, who reported an average age of 48.4 years for cases.[12]

Most of the cases of breast cancer are females only 2 (3.5%) are males. This is in accordance with various studies.[21]

This study showed that most of the patients present within a year of symptoms. This is because of westernization of life in India by marrying and bearing children later in life. A similar finding reported by Gajalakshmi, *et al.*[15]

In this study, most of the patients are multiparous more than six children (42%). The most acceptable explanation for a higher incidence of breast cancer in multipara is the fact that women of this part of country marry early and become the mother early, and only very few cases are sterile. An increase in number of births and a decrease in age at first birth were both associated with a lower risk of breast cancer, but the effect of number of births was no longer significant after adjustment for age at first birth.[20]

In this study, 51 patients (89.47%) had done breastfeeding, whereas 6 patients (10.53%) had no issue, so no question of breastfeeding in them. Among the lactating mothers 52.94% of the patient had done breastfeeding their babies for less than a year, whereas, 47.06 mothers had done breastfeeding their babies for more than a year up to 2 years. It is suggested that breastfeeding had a direct protective factor for the development of breast cancer, but this is contrary to the observation of present study where lactation has not proved to be a protective factor. However, this result is in conformity with the result of MacMahon *et al.*,[16] who in a big study observed no overall important association between breastfeeding and occurrence of the breast carcinoma.

In our study, more than 50% of the tumors belonged to TNM stage T2 with palpable axillary lymph node which agrees with the study conducted by Ahmad *et al.*,[22] in Pakistan who also observed similar findings.

CONCLUSION

The study results are in accordance by the results of previous investigations on risk factors for breast cancer. Breast cancer occurs earlier in Indian women as compared with the women of developed countries and breastfeeding and parity is not of protective importance in women of rural India. As there is no consensus on morphological risk factors so by raising awareness and screening procedure with early treatment, breast cancer mortality can be reduced.

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