

Clinico-pathological study of 200 cases of Breast lesions in a tertiary care centre of Rohtas, Bihar, India

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Abstract

Background: Breast cancer is the second most common cancer in Indian women. The incidence of Breast cancer in India is increasing slowly and has bad prognosis if detected in late stages. But, its incidence can be decreased if its detection is made at earliest stages, i.e. in the preinvasive stage. This present study was undertaken to assess clinico-pathological aspect of breast lesions in a tertiary care centre of Rohtas, Bihar. **Material and Methods:** A retrospective study was conducted in the department of Pathology, NMCH, Jamuhar, Sasaram. The data was collected from medical records department. The study period was of two years from January, 2017 to December, 2018 after approval from institutional ethics committee. **Results:** A total of 200 cases of breast lesions were analyzed. The ratio of benign to malignant lesions was 3.9:1. The overall mean age of patients with breast lesion was 34.5 years. Among 20.5% malignant cases, the age group affected most was 41-50 years. Only 6% of breast lesions were of inflammatory nature. This result is less as compared to past studies and all the lesions histologically were of chronic non-specific mastitis. The most common type of malignancy observed was invasive carcinoma of no special type (NST). **Conclusion:** The pattern of breast lesions provides valuable information regarding clinic-pathological profile of patients. The clinical diagnosis of breast lesions should be correlated with histopathological features for correct and adequate management of the case.

Keywords: Breast, Histopathology, invasive carcinoma of no special type (NST), Malignancy

Introduction

Breast pathologies are fairly common and most dreaded in females. Breast cancer is the second most common cancer in Indian women [1]. National Cancer Registry Programme suggests that 25% of the total cancer cases among Indian women constitute breast cancer. The incidence of breast cancer in India is about 85 per 100,000 women per year and nearly 50,000 women develop breast cancer in India annually [2].

Breast cancer has bad prognosis if detected in late stages. But, its morbidity and mortality can be reduced if it is detected at earliest stages, i.e. in the preinvasive stage [3]. Currently in India, the incidence of breast cancer is low but it is rising slowly among urban as well as rural females [4]. If breast cancer is left untreated, the mean survival is about 3 years after clinical presentation and 5 year survival rate is less than 20% [5]. There is paucity of data published with respect to pathological profiles of breast cancer patients in this region of Rohtas, Bihar. This present study was

undertaken to assess clinico-pathological aspect of breast lesions in a tertiary care centre of Bihar with a view to see trends in various types of breast lump with special emphasis on malignant lesions.

Material and Methods

Setting and type of study: The present study was conducted in the department of Pathology, NMCH, Jamuhar, Sasaram. It was a retrospective study. The study period was of two years from January, 2017 to December, 2018.

Sampling method: The data was collected from medical records department. The tissue specimens were sent for histological examination by biopsy, local excision of the lump or specimen from the mastectomies.

A total of 200 cases of breast lesions were received in histopathology department. The tissues were routinely processed for histopathological examination and were stained by Hemotoxylin and Eosin (H & E).

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Inclusion criteria: The patients attending surgery department for breast lesions were our study subjects.

Exclusion criteria: Women who have been already treated for malignancy earlier were excluded from the study.

Ethical considerations and permissions: The study was started after due approval from institutional ethical committee.

Reporting format: The breast lesions encountered in the present study were classified in following categories: Inflammatory, non-inflammatory & non-neoplastic and malignant [6].

Data analysis: The data was entered in MS excel and descriptive statistics were applied.

Results

There were 200 cases of breast lesions diagnosed in two year period. Out of all cases, most common lesions were benign (38.0%; 76/200), followed by non-inflammatory & non-neoplastic (35.5%;71/200) and inflammatory (6.0%). Malignancy was seen in 20.5% of the cases according to histopathology reports. [Table 1]

Table-1: Distribution of breast lesions (n=200).

Lesions	Frequency	Percent
Inflammatory	12	6.0%
Non-inflammatory & Non-neoplastic	71	35.5%
Benign	76	38.0%
Malignant	41	20.5%
Total	200	100%

Table-2: Age distribution of breast lesions.

Age group	Non-malignant (%)	Malignant lesions (%)	Total (% of Total)
≤20 years	29 (100)	0 (0)	29 (14.5)
21-30	60 (95.2)	3 (4.8)	63 (31.5)
31-40 years	35 (71.4)	14 (28.6)	49 (24.5)
41-50 years	18 (48.6)	19 (51.4)	37 (18.5)
51-60 years	17 (80.9)	4 (19.1)	21 (10.5)
>60 years	-	1 (100)	1 (0.5)
Total	159 (79.5)	41(20.5)	200 (100)

The overall mean age of patients with breast lesion was 34.5 years, with a wide range of 13-67 years. Maximum number of patients, 63 cases (31.5%) was between 21-30 years. [Table 2]

Out of 159 non-malignant lesions, maximum age-group affected was 21-30 years (37.73%; 60/159) while among 41 malignant cases, the age group affected most was 41-50 years (46.34%; 19/41). In the present study, out of 200 cases, 5.5% (11/200) were males while 94.5% (189/200) were females [Figure 1].

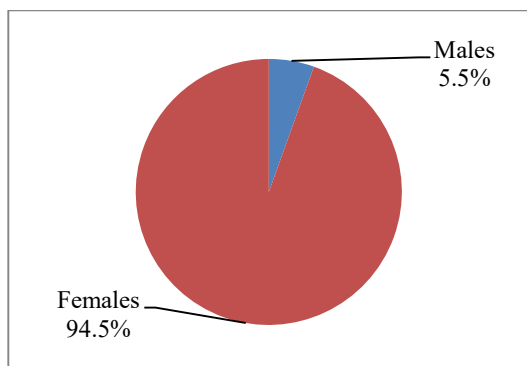


Figure 1: Sex distribution of Breast lesion

Table-3: Distribution of non-malignant breast lesions.

Lesions	Frequency	Percent
Inflammatory	12	7.55%
Fibroadenoma	91	57.23%
Fibrocystic disease	15	9.44%
Fibroadenosis	26	16.35%
Benign Phylloides	2	1.26%
Gynecomastia	11	6.92%
Duct Pappiloma	2	1.26%
Total	159	100%

Out of 159 cases of non-malignant lesions the commonest was of fibroadenoma (57.23%), followed by fibroadenosis (16.35%) and fibrocystic disease (9.44%). [Table 3] Overall the most common lesion was fibroadenoma (45.5%; 91/200) and it occurs mostly in second and third decade of life with mean age of 27 years. Gynecomastia was seen in 5.5% (11/200) patients.

Table-4: Distribution of malignant breast lesions.

Lesions	Frequency	Percent
Invasive carcinoma of no special type	30	73.17%
Medullary carcinoma	6	16.63%
Invasive papillary carcinoma	2	4.88%
Metastatic carcinoma	2	4.88%
Apocrine carcinoma	1	2.44%
Total	41	100%

According to histopathology report, 20.5% (41/200) cases were of malignant type. The most common type (73.17%; 30/41)of malignancy observed was invasive carcinoma of no special type (NST) followed by medullary carcinoma i.e. 16.63% (6/41). Invasive papillary and metastatic carcinoma as present in 4.88% of cases each. [Table 4]

Discussion

Breast cancer account for one third of female cancers and nearly one fourth of all malignancies. Malignancy causes emotional distress and financial burden to the patient and their relatives. It is difficult to detect the disease in early stages and majority of patients seek medical advice when the disease has reached advanced stages [7]. The most common breast lesions in the present study were non-malignant (79.5%) Malignancy was seen in 20.5% of the cases according to histopathology reports. Our findings are similar to those by Olu-eddo *et al* [8].

In this study, the ratio of benign to malignant lesions was 3.9:1. Kumar M *et al* observed that in Indian rural population the benign breast diseases are five to ten times more common than malignant diseases while Aisha Memonet *al* referred that in West Bengal the ration is as high as 10:1 [9,10]. Kumar M *et al* also observed that incidence of benign breast diseases varies in different geographical areas and are common in

developing countries but due to lack of education women disregard the breast lump and do not take expert advice. Literacy, social taboo, un awareness, lack of self breast examination knowledge may result in delayed diagnosis and management of these lesions. Such delay in diagnosis of malignant lesions is associated with poor prognosis [9]. The overall mean age of patients with breast lesion was 34.5 years with maximum number of patients (31.5%) in the age group of 21-30 years.

Among non-malignant lesions patients, maximum age-group affected was 21-30 years while among malignant cases, the age group affected most was 41-50 years.

This is in agreement with the observation by Hankey BF *et al*. The mean age is lower than the age reported in western countries where the median age at diagnosis is in the sixth decade of life. This shows that there is a difference in mean age of patients of breast lesions in developed and developing countries [11,12].

Age distribution for malignant breast lesions in this study revealed that maximum numbers of cases were seen between 41 to 50 years of age.

Christiana *et al* found the peak-age frequency of occurrence in India is at least a decade earlier than that described in the western literature. These results point toward racial differences in the molecular profiles of breast carcinoma [13,14].

In the present study 5.5% were males while 94.5% were females. Similar results were seen by Divyasree N *et al*. Although breast cancer can develop in both genders, women are at greatly increased risk and breast cancer in men is uncommon [7].

In this study, 21.5% lesions were malignant. Shanthi V *et al* found 28% malignant pathology while Pradhan *et al* in Nepal found upto 15.5% cases were malignant [15,16]. Fibroadenoma was most common lesion with 45.5% cases. Among non-malignant fibroadenoma (57.2%) was followed by fibroadenosis and fibrocystic disease. Most of the available literature on benign breast diseases observed that frequency of fibroadenoma ranged from 46.6% to 55.6%. It occurs mostly in second and third decade of life, consistent with finding from other studies [17-19].

In this study, 6% of breast lesions were of inflammatory nature. This result is less as compared to past studies and all the lesions histologically were of chronic non-specific mastitis [20-22].

According to histopathology report, 20.5% cases were of malignant type. The most common type of malignancy observed was invasive carcinoma of no special type (NST).

The terminology for the most common type of breast cancer has changed from invasive ductal carcinoma, not otherwise specified (NOS) (2003) to invasive carcinoma of no special type (NST) (2012).

This group of breast cancers comprises all tumors without the specific differentiating features that characterize the other categories of breast cancers [6].

Usually designated as scirrhous, ductal cell carcinoma showed varying degree of fibrosis and infiltration with cords or group of polyhedral or spindle cells with hyperchromatic nuclei. An incidence of more than 75% of scirrhous carcinoma had been reported in the recent study by Muqtadir *et al* and Mudholkar *et al* who reported 78.79% and 88% of involvement as scirrhous carcinoma [23,24].

Conclusion

The most common breast lesions are benign lesions and the commonest benign lesion is fibroadenoma. Invasive carcinoma of no special type (NST) is most common malignancy and found to be more common in 41-50 years of age group.

Breast lesions present itself in the late stages of malignancy due to lack of awareness. Awareness should be generated among women to reduce the morbidity and mortality with breast lesions.

The pattern of breast lesions provides valuable information concerning clinicopathological profile of breast lesions. The clinical diagnosis of a breast lump must be correlated with histopathological diagnosis for correct and adequate treatment of patient.

Contributions of Author

NK Srivastava– Designing the study, collected data, organised data and prepared the manuscript.

What this study adds to the existing knowledge?

There are very few data available regarding breast studies in the rural setup of Rohtas, Bihar.

This study contributes to the data regarding clinicopathology of 200 cases of breast lesions in a tertiary care centre of Bihar. Similar studies would help to plan and implement breast screening programs.

Findings: Nil; **Conflict of Interest:** None initiated

Permission from IRB: Yes

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