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Original Research Article

A Clinico – Pathological Study of Breast Lumps in Women : A Retrospective Record Based Study in a Tertiary Care Centre

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ABSTRACT

Background
Breast is a modified sweat gland and its development and function are initiated by a variety of hormonal stimuli. Majority of the breast diseases are benign and are common in younger population but malignant diseases are common in the older age groups. But recent data shows rise in malignant diseases in younger population especially in the developing countries and this variation in incidence may be due to multiple factors. Purpose of the study was to study the clinico-pathological nature of breast lumps and its prevalence among the local geographical area.

Methods
This is a record based retrospective study of the patients presenting to the surgery department with the complaints of the breast diseases. Records of female patients presenting with diseases of breast in the age group of 15 to 85 years were included in the study and records of male patients with complaints of breast diseases were excluded. This study was done to know the age distribution, side and quadrant distribution, different types of breast diseases, pathology and various modes of management.

Results
A total of 246 case records were included in the study. 80% of the conditions were benign and the rest 20 % were malignant. Age group of 35-44yrs (30.08%) followed by 15-24 yrs (28.04%) age group were commonly affected. Among the benign conditions 45.52% of cases were fibro adenoma and among malignant conditions 24.44% of cases were below 40 yrs of age. Upper outer quadrant was affected more with 35.77%. Histopathological correlation showed majority of the cases to be fibro adenoma (33.83%) followed by infiltrative ductal carcinoma (32.33%).

Conclusion
Even though majority of the breast lumps were benign certainly there is increase in the incidence of the malignant conditions especially among the younger population with no typical risk factors and further large local institutional studies are required to study the new trend.

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Keywords: Breast Lumps, fibro adenoma, infiltrative ductal carcinoma, FNAC.

INTRODUCTION

Breast is a modified sweat gland derived from ectoderm during fifth or sixth weak of embryogenesis. It is secondary sexual organ in females and it is rudimentary in males. Breast development and functions are initiated by a variety of hormonal stimuli including oestrogen, progesterone, prolactin, oxytocin and growth hormone. [1]

Benign breast diseases account for 90% of the breast diseases and is common in younger population. In contrast, the malignant diseases are more common after menopause. For women aged 15–49 years, twice as many breast cancer cases are being recorded in developing countries than in developed countries. Global breast cancer incidence is increasing at an annual rate of 3·1%. [2]

The existing data from India show a rising trend in the prevalence and younger age of presentation of breast cancer with incidence rate as high as 25.8 per 100,000 women and a mortality of 12.7 per 100,000 women. This variation in incidence may be due to multiple factors, including geographic variation, racial/ethnic background, genetic variation, lifestyle, environmental factors, socioeconomic status, presence of known risk factors, stage of disease at diagnosis and the availability of appropriate care. [2]

However, the data from different parts of the county are still lacking and the study was conducted to fill this data gap. The data might help in further research and planning healthcare policies for better care of breast cancer patients in India. [2]

OBJECTIVES

Determine the clinico-pathological nature of breast lumps.

MATERIALS AND METHODS

The current Retrospective record based study was done after obtaining the IEC clearance [IEC NO: MIMS /IEC/2024/961] on a total of 246 female patients records, who had presented with diseases of breast to the department of general surgery for a period of One year [April 2023-March 2024].

Sampling Method

All complete records

Inclusion Criteria

Records of female patients presenting with diseases of breast like lump, pain and nipple discharge in the age group of 15 to 85 years were included in the study.

Exclusion Criteria

Records of Male patients with complaints of breast diseases.

Method of Data Collection (study tools)

All the records of the female patients who had presented to the department of general surgery with complaints of breast diseases were selected after applying the inclusion and exclusion criteria. Details of history and clinical examination findings, clinical diagnosis, pre-operative pathological investigation [FNAC] reports and radiological examination [USG] reports and treatment details were recorded as per the proforma. Among the cases who had undergone surgical procedures, histopathological reports from the records were noted to confirm the diagnosis.

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Analysis

Data was collected and entered in the MS excel worksheet and descriptive statistics like mean, median, frequency and proportion of the data were calculated.

RESULTS AND OBSERVATION

Age distribution of patients

The following table shows the age distribution, with 35-45 yrs age group being most commonly affected with total of 74 cases (30.8%) and least number of cases was seen in 75-85 yrs age group with 4 cases.

Age group (yrs)	No. of cases	Percentage (%)
15-24	69	28.04
25-34	51	20.73
35-44	74	30.08
45-54	24	9.75
55-64	17	6.91
65-74	7	2.84
75-85	4	1.62

Table 1 : Age distribution of the patients

Among the malignant conditions, 11 cases of breast carcinoma was seen in the age group less than 40 yrs (24.44%) and 34 cases were in the age group more than 40 yrs (75.5%).

Breast Carcinoma	Less than 40 Yrs	More than 40 Yrs
Number	11	34
Percentage (%)	24.44	75.55

Table 2 : Age distribution of malignant conditions

Side of the breast

Among the benign diseases 54.72% of cases were left sided lesions and was more common than the right side. Among the Malignant disease 57.77% of cases were right sided and 42.22 % of cases were left sided.

Side	Number	Percentage (%)
Right	82	40.79
Left	110	54.72
Bilateral	9	4.47

Table 3 : Side distribution of benign conditions

Side	Number	Percentage (%)
Right	26	57.77
Left	19	42.22

Table 4 : Side distribution of malignant conditions

Location of the lump

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Breast lumps were commonly found in the upper outer quadrant with 88 cases followed by lower outer quadrant with 56 cases.

Location	No of Cases	Percentage (%)
Upper Outer	88	35.77
Upper Inner	48	19.51
Lower Inner	43	17.47
Lower Outer	56	22.76
Central	11	4.47

Table 5: Quadrant distribution of breast lumps

FNAC Findings

Diseases	Number	Percentage (%)
Fibroadenoma	112	45.52
Fibrocystic disease	46	18.69
Atypical ductal hyperplasia	9	3.65
Benign cystic lesion	12	4.08
Acute suppurative lesion	8	3.25
Granulomatous mastitis	9	3.65
Phyllodes	3	1.21
Galactocele	2	0.81
Carcinoma breast	45	18.29

Table 6 : FNAC finding of breast lumps

The above table shows the distribution of the various breast diseases based on the FNAC reports, with the benign diseases being more common. Fibro adenoma was the commonest with total of 112 cases (45.52%) and Carcinoma of the breast was seen among 45 (18.29%) of cases.

Treatment

Treatment	No. of patients	Percentage (%)
Conservative	113	45.93
Incision and Drainage	9	3.65
Excision	77	31.30
MRM	43	17.47
Simple Mastectomy	4	1.62

Table 7 : Treatment modalities of breast diseases

In the study, 113(45.93%) cases were managed conservatively and rest of the cases underwent surgical treatment. 77 patients underwent excision, 43 patients underwent Modified Radical Mastectomy and 4 patients underwent simple mastectomy.

Histopathological Correlation

The following table shows the histopathological nature of the lumps with majority being the benign lumps. 33.83 % lumps were fibro adenoma, 32.33 % were infiltrative ductal carcinoma and 3.75 % of cases were atypical hyperplasia.

Histopathology	No. of patients	Percentage (%)
Fibro adenoma	45	33.83

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Fibrocystic disease	9	6.76
Benign cystic lesion	6	4.51
Intraductal papilloma	4	3
Galactocele	1	0.75
Granulomatous mastitis	6	4.51
Atypical ductal hyperplasia	5	3.75
Phyllodes	3	2.25
Infiltrative ductal carcinoma	43	32.33
Mucinous carcinoma	1	0.75
Papillary neoplasm	1	0.75

Table 8 : HPE findings

DISCUSSION

In our study 80% of the conditions were benign and the rest 20 % were malignant in nature. In the current study it was found that breast diseases were more common in the age group of 35-44yrs (30.08%) followed by 15-24 yrs(28.04%) age group , constituting majority of the benign conditions. In comparison to Pandy V et al study in which among the study of 50 cases majority of the benign cases were seen between 31-40yrs. [3] According to Siddhartha Sankar Bhattacharjee and Thoiba Moirangthem study on breast lumps showed that majority of the age group affected was 15-24 yrs with 31(31.6%) cases. [4]

Among the benign conditions 45.52% of cases were fibroadenoma constituting the majority followed by fibrocystic disease (18.69%). In Venita kapur et al study it was found that 41.7% of all breast diseases were fibroadenoma (58 cases) and Fibrocystic disease comprised of 30 cases (21.5%) among 200 cases of breast diseases. [5] According to Singh et al study the most common type of breast lump in the study was fibroadenoma (53.6%). [6]

In our study among the malignant conditions 75.5% of cases were above 40 yrs of age, but 24.44% of cases were below 40 yrs of age with youngest being affected at 28 yrs and oldest being affected at 82 yrs of age. In comparison to Nuzhat A et al study of breast cancer 25.2% patients were ≤40 years of age, 38.7% were >40-50 years and 36.1% were >50 years. [7] According to Singh et al study, most affected age group was the fifth decade [6]. In Srivastava et al study, mean age for incidence of breast cancer was 39 ± 3.028 years (ranged 31–50 years). [2]

In the present study, benign lumps were common on the left side with 54.72% and the malignant lumps were common on the right side with 57.77%. According to Singh et al study, benign lumps were more common on the left side (50.15%) as compared to the right (46.00%) and malignant lumps was almost equal with 49.25% on the right and 47.16% on the left side. [6] In Rakesh Sharma et al study among 100 cases showed that breast lumps were found to be slightly more common in the right side (51 cases, 51%), than in the left (46 cases, 46%), with a few cases having bilateral presentation (3 cases, 3%). [8] In Chaudhary M et al study lesions were more common on the right side (54%) among benign breast lumps. [1]

In our study upper outer quadrant was affected more with 35.77% followed by lower outer quadrant with 22.76%. According to Siddhartha Sankar Bhattacharjee and Thoiba Moirangthem study on breast lumps, majority of cases were in upper outer quadrant comprising of 60.2% and followed by lower outer quadrant comprising of 23.4%. [4] In Rakesh Sharma et al study majority was constituted by the outer upper quadrant and the nipple areola complex lesions, constituting 25 cases (25%) each. [8] According to Bhavuk Kapoor et al study Upper outer quadrant (60%) was most commonly involved. [9]

In the current study 54.07 % of patients underwent surgical intervention and rest of them were managed conservatively. In the study histopathological correlation showed majority of

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the cases to be fibro adenoma (33.83%), followed by infiltrative ductal carcinoma (32.33%) and least was Mucinous carcinoma and Papillary carcinoma 0.75% each. In Rakesh Sharma et al study 45% of all benign breast diseases were fibroadenomas (31 cases), followed by the carcinoma (30 cases). [8] According to Siddhartha Sankar Bhattacharjee and Thoiba Moirangthem study on breast lumps, majority of the patients had fibroadenoma 34 (48.5%) followed by intraductal carcinoma 23 (32.8%). [4]

Breast carcinoma is on the rise in the younger population, but the reason for increasing incidence of breast cancer in younger women is not well known. Possible causative factors could be genetic predisposition, westernization of lifestyle, environmental factors and hormonal factors.

CONCLUSION

From our study we can conclude that even though majority of the breast lumps were benign, certainly there is increase in the incidence of the malignant conditions especially among the younger population with no obvious typical risk factors. Hence further large local institutional studies are required to study the causative factors and to analyse the rising new trend.

Source of Support: Nil

Conflict of Interest: Nil

Benefits: The findings of this study will help the patients in the future.

Risks: Nil

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