

“A STUDY OF HISTOMORPHOLOGICAL SPECTRUM OF BREAST LESIONS IN A TERTIARY CARE HOSPITAL”

DR. JIGISHA MER¹ & DR. BHUMIKA PADHIYAR²

^{1,2}SENIOR RESIDENTS PATHOLOGY DEPARTMENT

GMERS MEDICAL COLLEGE, JUNAGADH, GUJARAT, INDIA.

CORRESPONDING AUTHOR: DR. JIGISHA MER

MOBILE NUMBER: 7600020576, 9978059281,

EMAIL ID: Jigimer1392@gmail.com

bhumikapadhiyar94@gmail.com

ABSTRACT

INTRODUCTION:

Breast tissue is a modified sweat gland, exhibits a wide spectrum of pathological lesions. The most common clinical feature of breast disease is a palpable lump. Benign breast lesions like fibroadenoma are more prevalent. Breast lump must be examined and evaluated by a surgeon to rule out malignancy. Histopathological examination along with radiological findings and clinical examination is important to diagnose the lesions and to determine the best treatment plan for the patient.

METHODOLOGY:

A retrospective cross-sectional study was conducted at department of Pathology, GMERS medical college and hospital, Junagadh over a period of two years from January 2023 to December 2024. The biopsy sample was taken from clinically suspected breast lesions and sent to histopathology laboratory in 10% formalin. Sample was fixed in 10% neutral buffered formalin and kept overnight. Paraffin wax blocks were made, sections taken, slides were dried and mounted with D.P.X. and seen under the microscope.

RESULT:

A total of 90 cases were studied over a period of two years from January 2023 to December 2024. Majority of the lesions were present in 21-30 years of age group. Benign tumors were the common lesions, in which fibroadenoma was the most common cause.

CONCLUSION:

Histopathology along with clinical examination and radiological findings plays an important role in early diagnosis of breast lesions.

KEY WORDS: Breast lesions, Histopathology, Fibroadenoma

MAIN TEXT:**INTRODUCTION:**

Breast tissue is a modified sweat gland and constantly under the varying influence of sex hormones, and it is one of the frequent sites of neoplasms in the human body. Breast tissue exhibits a wide spectrum of pathological lesions, usually presenting as palpable masses ranging from inflammatory, non-inflammatory, non- neoplastic and neoplastic lesions.^[1] The most common sign and symptom of breast diseases is a palpable mass or lump; although breast diseases can also present as inflammatory lesion, nipple secretion or imaging abnormalities.^[2] Benign breast lesions are more common than malignant, which is seen more commonly in age group of 20 to 40 years as opposed to malignant diseases, for which the incidence increases as the age advances.^[3] In spite of the fact that over 80% of breast lumps are benign, every breast lump must be examined and evaluated by a surgeon to rule out malignancy.^[4] A breast lump can be benign or malignant. So, the establishment of diagnosis preoperatively for correct management is of utmost importance. The investigation of palpable breast lumps in successful breast programmes utilizes a multidisciplinary approach that centres around the 'triple test', analysing clinical and radiologic findings in conjunction with the pathologic features.^{[5][6]} Histopathology plays an important role in the diagnosis of breast lesions. It is the main criteria that assess the adequacy of treatment and is a necessary component in the diagnosis, treatment, and prognosis of breast diseases.^[7]

AIM:

To study different types of breast lesions, their clinical presentation and histopathological features.

OBJECTIVES:

1. To classify the lesions according to their age and gender in breast lesions.
2. To describe their histopathological features.

METHODOLOGY:

1. Study design: Retrospective cross-sectional study
2. Study population: All patients who came at surgery OPD and advised excision biopsy (Lumpectomy) for suspected breast lesions at GMERS medical college and general hospital, Junagadh.
3. Study duration: 2 Years
4. Sample size: A total of 90 cases were studied.
 - Inclusion criteria: All patients who came with a history of breast lump in surgical department at GMERS medical college and general hospital, Junagadh from January 2023 to December 2024.

- Exclusion criteria: Female of prepubertal age group (<10 years).

5. Sampling method: Haematoxylin and eosin-stained slides of breast lesions were retrieved and reviewed. Clinical history and relevant data were acquired from the registers. All the slides were observed and findings were recorded.

- Specimens were sent in 10% formalin, twenty times that of the specimen volume. It was kept overnight in 10% formalin for proper fixation.
- The excision biopsy specimen (Lumpectomy) received were examined grossly for their size, shape, colour and consistency. After passing the tissue dehydration, clearing and impregnation, embedding in paraffin were done.
- Paraffin wax blocks were made and 3-4 micrometer sections were taken, slides were stained with H&E stain and mounted with D.P.X. and histology was studied under the microscope.
- Results of histopathological findings were recorded along with age, sex, clinical features and site of lesions.
- Data was entered in Microsoft Excel and descriptive data was obtained.

RESULT:

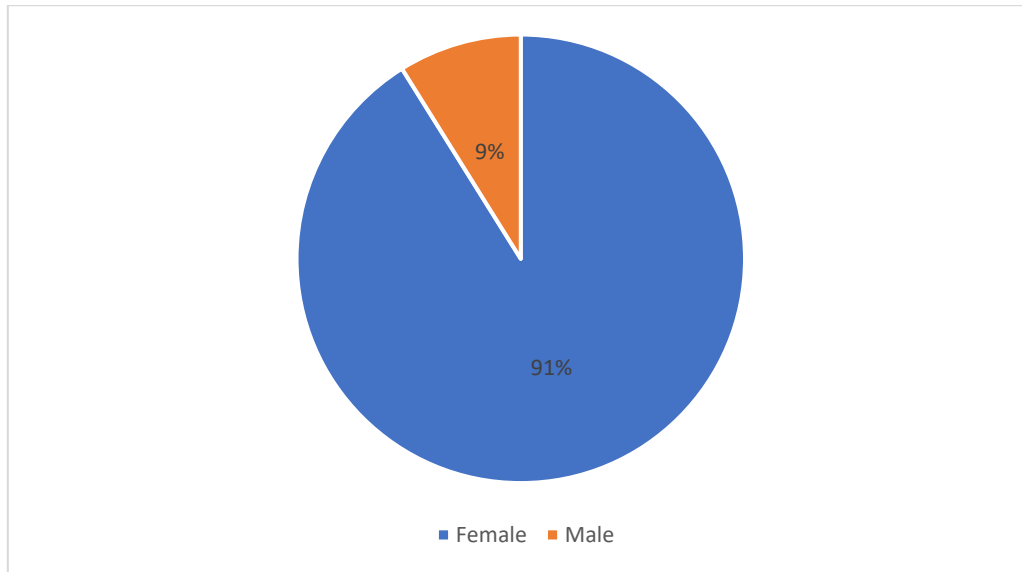
A total of 90 cases were studied from January 2023 to December 2024, out of which 82 (91.11%) were females and 8 (8.88%) were males. In present study, majority of cases were fall under 21-30 years of age group (37.77%). Gynecomastia is the enlargement of male breasts and it was observed in 8 (8.88%) cases. Breast lump (93.33%) was the most common complaint in our study. In 44 (48.88%) cases, breast lesions were found on the right side of breast followed by 42 (46.66%) cases on the left side and only 4 (4.44%) cases had bilateral lesions. Out of 90 cases, 64 cases (71.11%) were of benign origin, in which fibroadenoma (58.88%) was the most common cause.

Table 1: Age wise distribution of breast lesions:

| Age | No. of cases | Percentage (%) |
|-------|--------------|----------------|
| 11-20 | 24 | 26.66 |
| 21-30 | 34 | 37.77 |
| 31-40 | 19 | 21.11 |
| 41-50 | 08 | 8.88 |
| 51-60 | 04 | 4.44 |
| >60 | 01 | 1.11 |

Table 2: Gender wise distribution of breast lesions:

| Gender | No. of cases | Percentage (%) |
|--------|--------------|----------------|
| Female | 82 | 91.11 |
| Male | 08 | 8.88 |

Figure 1: Pie chart for gender wise distribution of breast lesions**Table 3: Distribution of cases according to site of breast lesions:**

| Breast lesions | Left | Right | Bilateral | Total |
|------------------------|------------|------------|-----------|-------------|
| Benign | 33 | 29 | 02 | 64 (71.11%) |
| Malignant | 03 | 06 | 00 | 09 (10%) |
| Non-neoplastic | 02 | 06 | 01 | 09 (10%) |
| Lesions of male breast | 04 | 03 | 01 | 08 (8.88%) |
| Total | 42(46.66%) | 44(48.88%) | 04(4.44%) | 90 |

Figure 2: Distribution of breast lesions according to site

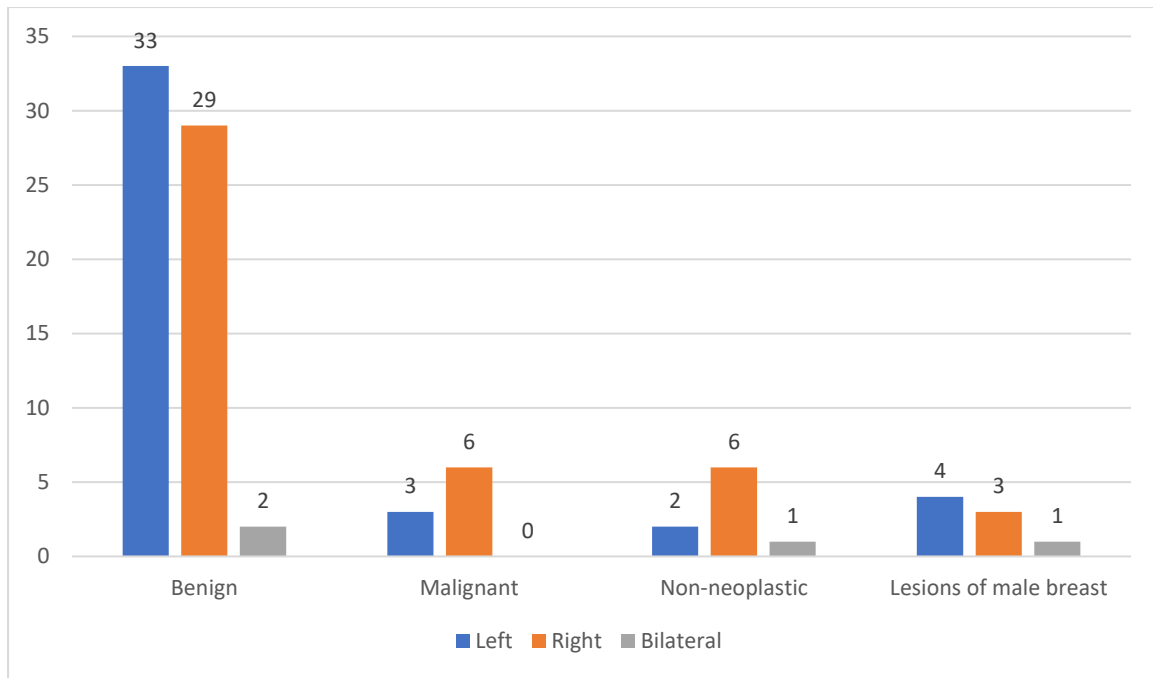


Table 4: Distribution of cases according to clinical features of breast lesions:

| Clinical features | No. of cases | Percentage (%) |
|----------------------------|--------------|----------------|
| Breast lump only | 84 | 93.33 |
| Breast lump with pain | 03 | 3.33 |
| Breast lump with discharge | 02 | 2.22 |
| Breast lump with abscess | 01 | 1.11 |

Table 5: Distribution of cases according to histopathology of breast lesions:

| Category | Diagnosis | No. of cases | Percentage (%) |
|---------------|-------------------------|--------------|----------------|
| Benign tumors | Fibroadenoma | 53 | 58.88 |
| | Benign Phyllodes tumour | 01 | 1.11 |
| | Fibroadenosis | 04 | 4.44 |
| | Lactating adenoma | 01 | 1.11 |
| | Tubular adenoma | 01 | 1.11 |

| | | | |
|-------------------------------|--|----|------|
| | Lipoma | 04 | 4.44 |
| Malignant tumors | DCIS (Ductal carcinoma in situ) | 04 | 4.44 |
| | Invasive breast carcinoma, not otherwise specified | 04 | 4.44 |
| | Mixed ductal and lobular carcinoma | 01 | 1.11 |
| Non-neoplastic lesions | Chronic mastitis | 02 | 2.22 |
| | Duct ectasia | 01 | 1.11 |
| | Fat necrosis | 01 | 1.11 |
| | Fibrocystic disease | 04 | 4.44 |
| | Galactocele | 01 | 1.11 |
| Lesions of male breast | Gynecomastia | 08 | 8.88 |



Figure 3: Fibroadenoma of breast

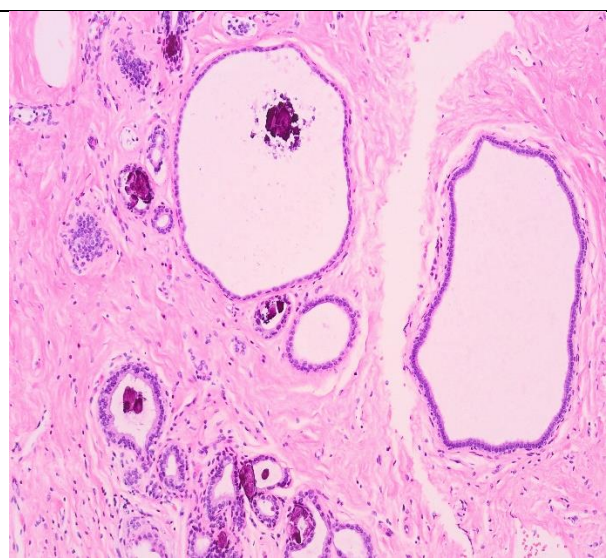


Figure 4: Fibrocystic disease of breast

DISCUSSION:

In present study, the most common age group affected was 21-30 years (37.77%), which correlate well with Honey Bhasker Sharma et al.^[8], Mrudula, et al.^[9], Yogalakshmi and Kavitha et al.^[10], Anushree C.N et al.^[11] and Rashmi Gupta et al.^[12]

In our study, 84 (93.33%) cases came to surgery OPD with complaint of breast lump only, which was similar to Yogalakshmi and Kavitha et al. study and Kiran H. S et al.^[13] In present study, only 2% cases had complaint of breast lump with discharge, Whereas in Yogalakshmi and Kavitha et al., it was found in 6% of cases.

In present study, out of 90 cases, 64 (71.11%) cases comprised benign breast lesions, while 9 (10%) cases were constituted by malignant lesions. This similar finding (Benign> malignant) was also highlighted by Honey Bhasker Sharma et al., Mrudula, et al., Yogalakshmi and Kavitha et al., Anushree C.N et al. and Rashmi Gupta et al. In benign lesions, fibroadenoma

was the most common cause, which was consistent with Honey Bhasker Sharma et al., Mrudula, et al., Yogalakshmi and Kavitha et al., Anushree C.N et al. and Rashmi Gupta et al., But these findings were differ with Kiran H. S et al., where incidence of malignant lesions (52%) were higher than the benign lesions (48%). And fibrocystic disease (41%) was the most common lesion followed by fibroadenoma (28%). In our study, malignant lesions like ductal carcinoma in situ (DCIS) and invasive breast carcinoma, not otherwise specified had similar incidence, which was 4.44%, in contrast Honey Bhasker Sharma et al., Mrudula, et al., Yogalakshmi and Kavitha et al., Anushree C.N et al. and Rashmi Gupta et al. found higher incidence of infiltrating duct carcinoma.

CONCLUSION:

In present study, benign breast lesions were the commonest breast diseases, in which fibroadenoma was the most common variety. Peak incidence of benign lesion found in the age group of 21-30 years. Right side of breast commonly involved by the breast lesions. Histopathology plays a key role in the early diagnosis and treatment of breast diseases.

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