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A Clinical Study on Benign Breast Diseases in a Tertiary Care Centre

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Abstract

Background: To study the patterns of clinically benign breast diseases in females and their management

Methods: Thirty-six (36) females who attended the Department of General Surgery at the Palakkad Institute of Medical Sciences (PIMS), Walayar, Kerala, India, with various kinds of benign breast disorders, were studied during the period of September 2023 to August 2024. Early diagnosis is done by triple assessment (clinical examination, imaging, and tissue sampling). These patients were managed either conservatively or surgically. Then the clinical diagnosis is compared with histology and cytology findings.

Results: Out of the 36 female patients who were studied, 33 patients presented with breast lumps. Out of that, 15 are diagnosed to be fibroadenoma, which accounted for about 42% of the cases, which was the highest number of patients. Fibroadenosis/fibrocystic disease and breast abscesses accounted for 16.6% and 13.8% of cases, respectively. We detected 2 cases of duct ectasia and 2 cases of Phyllodes tumour, one of which is a benign variant and the other one being a borderline case. They were advised to follow up.

Conclusion: Benign breast disorders are common in female patients of age group 18 to 70, and the commonest of them all is fibroadenoma. Triple assessment helps in arriving at an accurate diagnosis. About 38% of these patients are managed conservatively, while others required either excision of the breast lump or incision & drainage of breast abscess. The clinical diagnosis of a breast lump was accurate in 91.6% of the cases as confirmed by cytology and histology.

Keywords: Benign breast disorders, triple assessment, risk factors, excision, management

Introduction

Benign Breast disorders are a cluster of breast diseases that are the most common cause of worry in females of all age groups. Also, they are more frequent than the malignant ones [1-2]. 30% of these women with benign breast disorders are in need of treatment at some point in their lives [3]. Triple assessment is done on an outpatient basis, which consists of i) clinical examination, including detailed history, ii) imaging (ultrasonography (USG) or mammography), and iii) pathological examination (FNAC or core needle biopsy). This helps in arriving at an early diagnosis, thus providing reassurance to

many patients by attenuating unwanted anxiety. Many of these lesions do not have an increased risk for breast cancer and help in refraining from needless surgical intervention.

As it is difficult to discern between pathologic and normal physiological alterations, the widely used Aberration of Normal Development and Involution (ANDI) classification of benign breast disorders causes confusion. Love S et al.'s Nashville classification [4] is a more satisfying one for this reason. As a result, benign breast diseases are categorised using two different approaches. According to pathology, they are divided into three categories: i) non-proliferative lesions, ii) proliferative lesions without atypia, iii) atypical proliferative lesions. Benign breast diseases are categorised clinically as follows: (a) physiologic tenderness and swelling; (b) nodularity; (c) breast pain; (d) palpable lumps; (e) discharge from the nipples; and (f) infection or inflammation. The incidence of BBDs, the relative frequencies of the various kinds of benign breast disease, and their clinical characteristics were all characterised in this study. Second, different types of management are studied. Lastly, we made every effort to correlate clinical and pathological data.

Materials and Methods

This prospective study was conducted in the Department of General Surgery at the Palakkad Institute of Medical Sciences, Walayar, Kerala, India, from September 2023 to August 2024. This study comprised the first 36 (thirty-six) women who received treatment for benign breast diseases.

Inclusion criteria

The study included female patients with any benign breast disease or disorder, such as nipple discharge, breast pain, or breast lumps.

Exclusion criteria

Women having a clear malignant breast disease or those who had already undergone treatment for breast malignancy were not included in this study.

Methods

The study's foundation was a comprehensive physical examination and a detailed history. After arriving at an appropriate clinical diagnosis, one or more of the specific investigations—ultrasonography, mammography, FNAC, or core-needle biopsy—were performed to confirm the diagnosis.

The pathologist used standardised diagnostic criteria to report the FNAC smears, classifying them as either non-proliferative, proliferative without atypia, atypical proliferative lesions, or malignancy. The core biopsy and excision biopsy samples underwent a standard histopathological analysis, and a cytohistologic correlation was also performed. The accuracy of the clinical diagnosis was assessed by comparing it with the cytological or histological results, especially in the case of benign breast lumps.

Results

A total of 36 female patients who attended the Department of General Surgery for breast illnesses were broadly categorised into 3 groups, depending on their symptoms and signs, such as a breast lump, breast pain/tenderness, and a nipple discharge.

Breast lumps were the most common presentation, accounting for 33 cases (91%), of which 17 cases (47%) included related complaints such as nipple discharge and breast pain. Many of these patients exp-

erienced multiple symptoms.

Out of 18 patients (50%) who experienced breast pain, 4 patients (11%), who complained of only breast pain (mastalgia), received conservative treatment or reassurance. Nipple discharge and breast lumps were among the related concerns of the remaining individuals. Of these, half of them experienced bilateral breast tenderness. 6 patients had non-cyclical mastalgia, while 12 patients experienced cyclical mastalgia.

Only one of the 7 patients (19%) with nipple discharge had discharge alone, without any lump or pain. 2 cases had a yellow discharge from the nipples, 4 cases had serosanguinous fluid, and 1 case had bloody discharge. The cause for nipple discharge is mammary duct ectasia in 2 cases, whereas the remaining cases had fibroadenosis.

The different types of presentations and their incidence are shown in [Table/Figure-1].

[Table -1] Types of presentation and incidence of benign breast diseases

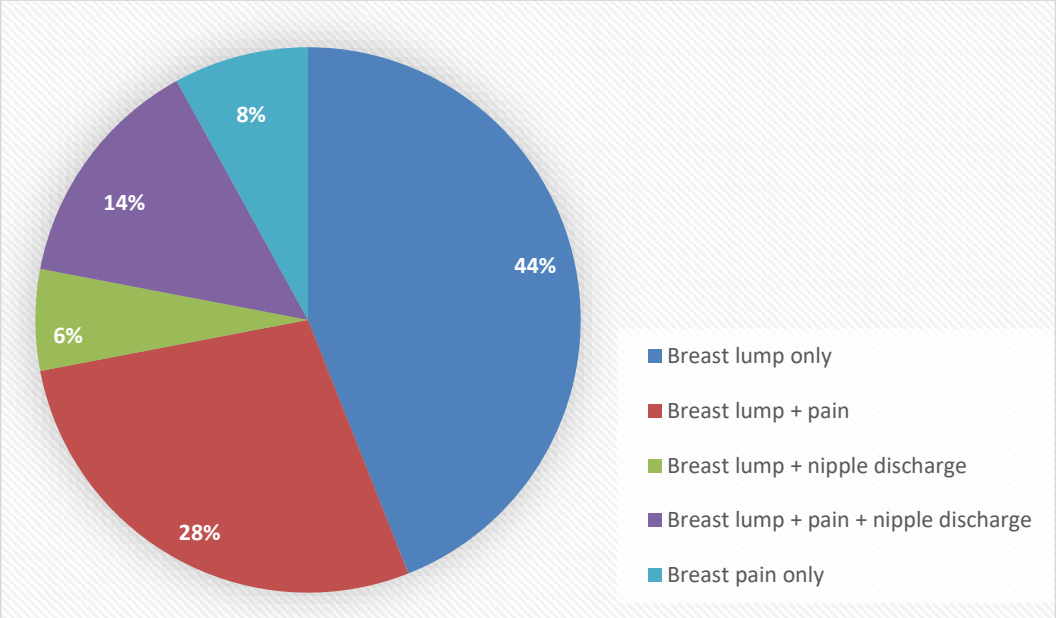
Symptoms	No. of patients	Percentage
1. Breast lump only	16	44%
2. Breast lump + pain	10	28%
3. Breast lump + nipple discharge	2	6%
4. Breast lump + pain + nipple discharge	5	14%
5. Breast pain only	3	8%
6. Nipple discharge only	nil	nil
Total	36	100%

Number of patients with breast lump: 33

Number of patients with breast pain: 18

Number of patients with nipple discharge: 7

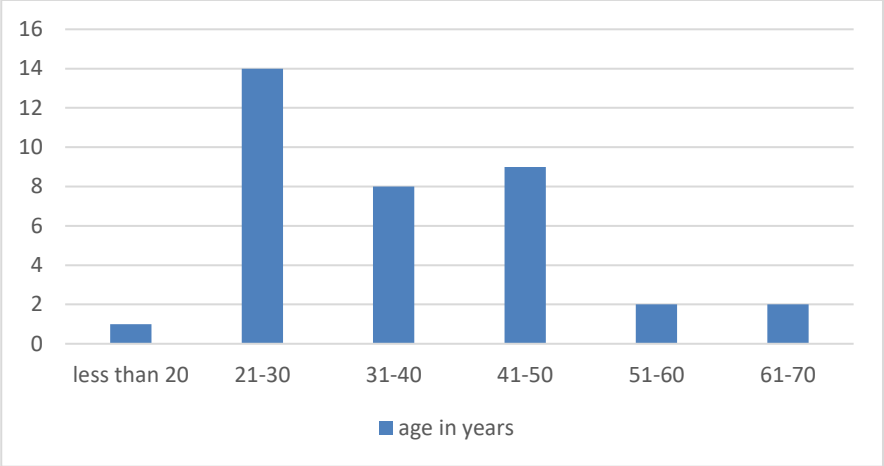
[Figure-1] Types of presentation and incidence of benign breast diseases



The age-wise distribution of the patients is given in [Figure-2]. The individuals with benign breast disease were between the ages of 18 and 70. At presentation, the mean age of these patients was 35.6

years. Fourteen (14) of the patients were between the ages of 21 and 30. The youngest, an 18-year-old girl, had fibroadenosis and presented with a lump on her left breast. The oldest was a 70-year-old woman who had a large lump on her left breast that was diagnosed to be a phyllodes tumour.

[Figure-2] The age distribution of the patients with benign breast disorders



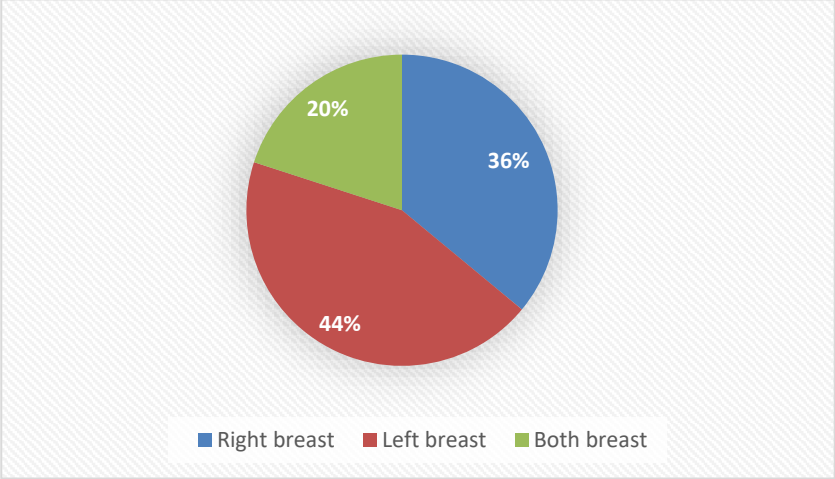
There were two giant fibroadenomas, the largest measuring 8x8 cm. One of the largest lumps reported was a 25x15 cm phyllodes tumour on the left side, weighing around 1.7 kg. According to HPE, two of the non-tender breast lumps that were clinically described as fibroadenomas were actually fibrolipomas, while one was identified as a fibroepithelial tumour.

Thirteen (36%) of the 36 patients had problems in their right breast, while sixteen (44%) had their left breast affected. As seen in [Table-2/Figure-3], both breasts were involved in 7 (20%) of the cases.

[Table-2] Side-wise distribution of benign breast diseases

Side involved	No. of cases	Percentage
1. Right breast	13	36%
2. Left breast	16	44%
3. Both breasts	7	20%
Total	**36**	**100%**

[Fig-3] Side-wise distribution of benign breast diseases



Out of the 33 patients presented with breast lumps, 15 (42%) are diagnosed to have fibroadenoma, which accounted for the highest number of patients. Fibroadenosis/fibrocystic disease and breast abscess reckoned for 16.6% and 13.8% of cases, respectively. 4 patients had only mastitis. We detected 2 cases of duct ectasia and 2 cases of Phyllodes tumor. The incidences of different types of benign breast diseases are given in [Table-3].

[Table- 3] Incidence of benign breast diseases

Diagnosis	No. of cases	Percentage
1. Fibroadenoma	15	42%
2. Fibroadenosis	6	17%
3. Breast abscess	5	14%
4. Mastitis	4	11%
5. Duct ectasia	2	5%
6. Phyllodes tumour	2	5%
7. Fibrolipoma	1	3%
8. Fibroepithelial tumour	1	3%
Total	36	100%

Management

Out of 36 patients, 22 patients required surgery, and 14 of them were managed conservatively. Of 15 patients with fibroadenoma, excision was done in 11 patients, while the other 4 were managed conservatively and advised to follow up. All patients with fibroadenosis were managed conservatively. 5 patients with breast abscess were managed by incision & drainage with antibiotics. Patients with mastitis were treated with antibiotics and analgesics. Of 2 patients with duct ectasia, excision was carried out in one patient while in the other patient conservative treatment was done. Both cases of Phyllodes tumour were excised. Different types of management of benign breast diseases are given in [Table-4].

[Table-4] The management of different types of benign breast diseases

Management	No. of cases	Percentage
Excision of breast lump	17	47%
Incision & drainage of breast abscess	5	14%
Conservative management (analgesics, antibiotics, and follow-up	14	39%
Total	**36**	**100**

Clinical and histocytological correlations

Histological, cytological, or combined methods were used to confirm the diagnosis of breast lumps. In 33 cases, FNAC was performed. In 17 cases, FNAC and biopsy were performed. In 16 out of 18 cases,

the clinical diagnosis of fibroadenoma was made with 89% accuracy. Two of the seventeen cases of excised samples were identified as phyllodes tumour. In 6 out of the 8 cases, the clinical diagnosis of fibrocystic changes was accurate. HPE identified two of the non-tender breast lumps that were clinically characterised as fibroadenomas as fibrolipoma, and fibroepithelial tumour. Overall, 33 of the 36 patients with benign breast diseases had the correct clinical diagnosis (91.6% accuracy).

Discussion

Benign breast disorders are a diverse set of ailments that can vary from blatant disease to physiologic abnormalities. One or more of these complaints—breast lump, breast pain/discomfort, or nipple discharge—are typically prevalent in these patients. To make an early diagnosis, it has been suggested that all patients with distinct breast lumps have a triple assessment. A breast lump was the presenting symptom in 72.35% of the 331 benign breast patients in the series of Ratana Chaikanont T [5], whereas 87.4% of the women who had breast lumps, according to the study by Foncroft LM et al. [6]. In our investigation, the corresponding figure was 91%. In our study, 41.66% of the benign breast lumps were fibroadenomas. Our results were consistent with the majority of the literature on benign breast lumps, which found that the frequency of fibroadenoma varied between 46.6% and 55.6% [7-9]. The highest incidence of fibroadenoma occurred between the second and third decades of life, which was in line with the results of other studies. To diagnose breast lumps, FNAC was the most expedient and dependable technique.

The next most prevalent disorder in our analysis was fibrocystic changes/fibroadenosis, and most of the patients were in their third or fourth decade. Geographical variations exist in the incidence. Numerous authors, including Agbakwuru EA, and Adesunkanmi AR, discovered that the incidence of fibrocystic changes for benign breast diseases varied between 29.5 and 42.2% [8]. We had 16.66%, which was a little less. At presentation, the average age was 35.6 years. There were 14 patients in the 21–30 age range. This observation was nearly identical to the one made by Navneet Kaur et al. [10].

Our study had a 50% incidence of breast pain, which was almost the same as the series with a range of 12.8% to 51.5% [5-9]. In their study, Leis HP et al. [11] observed that the incidence of breast discharge was only 18% of all breast complaints, which is nearly identical to the 19% incidence we found.

In 2 of the 7 patients with nipple discharge, it was diagnosed to be mammary duct ectasia. To rule out malignancy, occult blood tests and nipple discharge cytology were performed. A straightforward reassurance might then be enough, but if the discharge continues to be unbearable, the affected duct or ducts must be removed surgically [12]. In most cases, mammary duct ectasia can be treated conservatively and does not require surgery [13]. We treated 1 case of mammary duct ectasia by using conservative management, and in the other case it was excised.

As opposed to malignant lesions, which continue to increase in incidence after menopause, the incidence of benign breast disorders starts to rise in the second decade and peaks in the fourth or fifth.

Given that certain studies have demonstrated the development of carcinoma in the low-risk category [14], we recommended follow-up every three months for both the low and high-risk categories. The patients were informed of the risk factors for breast cancer, which include a four-fold increased chance of proliferative lesions with atypia and a two-fold increased risk of developing Ca breast in florid hyperplasia.

Conclusion

Women frequently suffer from benign breast illnesses. The most typical manifestation is a breast lump. The additional symptoms include nipple discharge and breast pain. The majority of people experience multiple symptoms. The age range of 21 to 30 is the most frequently affected. Fibroadenoma is the most common breast lump, followed by fibrocystic changes and breast abscess. Breast pain can occur alone or in combination with a lump or discharge from the nipple. 33% of people experience cyclical pain, while 16% experience non-cyclical pain. The discharge from the nipple is innocuous, especially if it is serous or greenish.

61% of patients required surgery, and the remaining were managed conservatively. Excision of fibroadenoma was done in 11 out of 15 patients. All patients with fibroadenosis were managed conservatively. Patients with mastitis were treated with antibiotics and analgesics. Of 2 patients with duct ectasia, excision was carried out in one patient while the other was treated conservatively. Both cases of Phyllodes tumour were excised.

In 91.6% of cases, the clinical diagnosis of benign breast lumps was accurate.

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