



A PROSPECTIVE STUDY ON THE PATTERN OF BENIGN BREAST DISEASES AT TERTIARY CARE TEACHING INSTITUTE IN NAVI MUMBAI

Surgery

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ABSTRACT

Background: Benign breast diseases are the most common cause of breast problems. About a quarter of women during her lifetime will suffer from a benign breast disorder that requires some form of treatment. Presenting symptoms ranges from mastalgias, inflammatory diseases, palpable mass, localised or generalized swelling of breasts & nipple discharge. Incidence of benign breast disease is about 90% of all the patients coming with breast complaints. In this study, we analyzed the various Benign Breast Diseases incidence with respect to age. **Methodology:** One hundred females who attended the General Surgery Outpatients Department at Tertiary Care Hospital & Research Centre in Navi Mumbai, with various forms of benign breast diseases during the period from October 2021 to September 2022, were studied. Early diagnoses by doing a triple assessment like a clinical examination, FNAC or a core needle biopsy and imaging methods like ultrasonography or mammography, were made within 72 hrs from the first consultation. The clinical diagnoses were compared with the cytological or histological findings wherever possible and their accuracies were evaluated. **Results:** Out of the 100 female patients who were studied, 87 patients who presented with breast lumps and fibroadenoma, accounted for 48% of the cases, which was the highest number of patients. Fibrocystic changes and breast abscesses came next with 18% and 12% cases respectively. We detected 3 cases of proliferative disease with atypia and one case with florid hyperplasia, which had high and low risk factors respectively, for developing invasive carcinoma. The oldest lady of the group who was clinically diagnosed to have benign disease, was detected to have invasive ductal carcinoma. They were treated in our hospital and were advised follow up. **Conclusion:** Benign breast diseases are common in female patients and fibroadenoma is the commonest of them all. Triple assessment provided a quick diagnosis and it alleviated unnecessary anxiety from the patients about breast cancer. The clinical diagnosis of a breast lump, as confirmed by cytology and histology, was accurate in 91.95 % of the cases.

KEYWORDS

Benign breast disease, Risk factors, Pathology, Triple assessment

INTRODUCTION:

Benign breast diseases are the most common cause of breast problems. About a quarter of women during her lifetime will suffer from a benign breast disorder that requires some form of treatment. The most common symptoms are breast pain, lumpiness or a lump and nipple discharge. Triple assessment that includes clinical examination, imaging like ultrasonography (USG) or mammography and a pathological examination – FNAC or core needle biopsy has a very high accuracy rate in diagnosing discrete benign breast diseases and this can be used for reassurance. So, present study was conducted to assess the pattern of Benign Breast diseases.

Breasts or mammary glands in the females can be considered as a distinguishing and unique feature of mammals.[1] Its development and growth are under the control of various hormones and various physiological statuses like menstruation, pregnancy, lactation and menopause. Further, it undergoes several cyclical changes during the reproductive life. Its physiology and histology are influenced by the hormones during puberty, menstruation, and menopause. Benign breast diseases (BBDs) are the group of noncancerous condition which includes a variety of diseases. They are most common cause of breast problems in females and are more frequent than those of malignant. [2] In the western countries they are 10 times more common as compared to breast cancer. [3] BBD constitute a heterogeneous group of breast lesions which include developmental abnormalities, inflammatory and granulomatous lesions, epithelial and stromal proliferations, and benign neoplasms.

Historically, the focus of the medical fraternity had always been on the early diagnosis and treatment of breast carcinoma, thus, for many decades no evidence-based recommendations were formulated for the screening, identification, management, prognosis, and reassurance for BBDs.[4] Histologically, benign breast diseases are an extension of the normal Histo-physiology of breast tissue. [5] In 1992, an international working group recommended a universal classification for these diseases and the classification came to be known as the “Aberrations of Normal Development and Involution (ANDI)” classification. [6]

Later, Page et al. developed a separate classification to simplify the

complicated 'ANDI' classification. According to Page's classification, all breast disorders are classified into non-proliferative, proliferative without atypia and proliferative lesions with atypia.[7] This classification categorizes histological changes in breast tissue according to their probability to develop into malignant carcinoma breast. Across geographical regions, significant variations have been noticed about the 'classic' presentation of different BBDs. [8]

Most BBDs have an overlapping spectrum of clinical presentation; however, the relative frequency of each symptom varies with the type of BBDs. [9] Further, the peak age for each of these BBDs varies from puberty to the postmenopausal period. Although national, state-, and regional level statistics are available for carcinoma breast, no reliable data or registry is available to indicate the burden of disease and secular trends about BBD among the female population of India. [10] The morbidity burden due to BBDs is constantly changing secondary to ever-changing demography, dietary habits, reproductive practices, change in the prevalence of hormonal contraceptives, and increasing awareness. [11]. So, present study was conducted to assess the pattern of Benign Breast diseases.

Aims & Objectives:

Aim is to observe the pattern and management of benign breast diseases in age group of 18 to 60 years of females with an objective to study varied symptoms, age distribution, diagnose and plan surgical strategy of benign breast diseases.(BBD)

MATERIAL AND METHODS:

This prospective study was conducted in the Out Patients Department of General Surgery at Tertiary care Hospital and Research Institute, Navi Mumbai, India from October 2021 to September 2022. Female patients reporting to Surgical OPD with complaints related to breast were included. Detailed clinical history and local and systemic examination of all the cases was done. Diagnosis was made according to clinical findings and relevant investigations which included FNAC and ultrasound imaging.

Conservative treatment was first tried and surgery was done when needed.

Ethical Consideration:

- This study was approved by Institutional Ethical Committee of this institute.
- Written informed consent was taken prior to the study of each participant.
- Data was collected by case record form and entered into MS excel 2016. Data analysis was done in SPSS Software version 26.

Inclusion Criteria:

- Female patients attending the Surgical Out Patients Department (OPD)
- Women aged 18 to 60 years
- Patients having benign breast diseases and inflammatory lesions

Exclusion Criteria:

- Patients diagnosed of malignant breast diseases
- Patients with Age < 18 years and >60 years
- Pregnant & Lactating women

Female patients reporting to Surgical OPD with complaints related to breast were included. Detailed clinical history and local and systemic examination of all the cases was done. Diagnosis was made according to clinical findings and relevant investigations which included FNAC and ultrasound imaging.

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RESULTS:

Among 100 study participants, the mean age of study participants was 32.5+ 11.7 years. Total 28% study participants were belonged to 21-30 years of age group followed by 18% cases were belonged to <20 years of age. Only 6 cases were belonged to more than 50 years of age (Table-1, Figure-1).

26% cases had Right upper lateral site of benign breast diseases, while 3% patients had presence of benign breast disease bilaterally (Table-2, Figure-2).

In the study, 98% cases were in normal menstrual cycle while 2% cases were menopausal (Table-3, Figure-3).

Among the study participants, 86% cases had presence of lump, 37% cases had felt pain and 25% cases had presence of engorged vein (Table-4, Figure-4).

61% cases had diagnosed with fibroadenoma, followed by 14 cases of Breast abscess, followed by 7% cases of fibrocystic disease and 6% cases of granulomatous mastitis (Table-5, Figure-5).

In 77% cases excision of lump was done, 9% cases underwent I & D while 14% cases were managed with the conservative treatment (Table-6, Figure-6).

Table 1: Age group wise distribution among study participants

Age group	Frequency (%)
≤ 20	18 (18)
21-30	28(28)
31-40	29(29)
41-50	19(19)
>50	6(6)



Table 2. Site of Benign breast disease among patients

Site	Frequency (%)
Right Upper Medial	20 (20)
Right Upper Lateral	26(26)
Right Lower Medial	1(1)
Right Lower Lateral	2(2)
Left Upper Medial	24 (24)
Left Upper Lateral	16 (16)
Left Lower Medial	2 (2)
Left Lower Lateral	6 (6)
Both	3 (3)

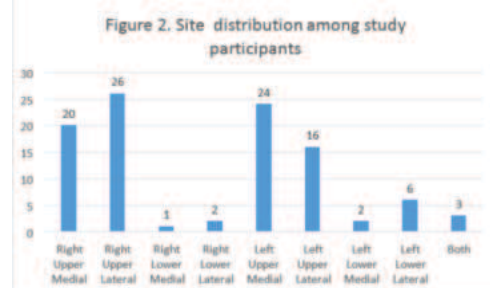


Table 3. Menstruation History among cases

Menstruation	Frequency (%)
Present	98 (98)
Absent	2 (2)

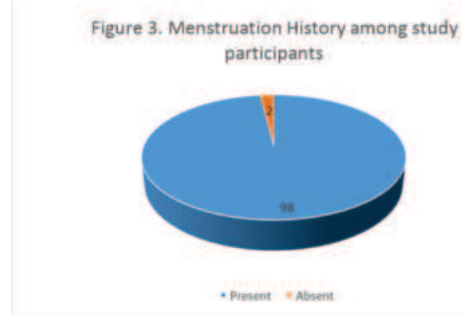


Table 4. Signs and Symptoms among study participants

Signs and Symptoms	Present	Absent
Axillary Node	0	100
Nipple Discharge	12	88
Lump	86	14
Pain	37	63

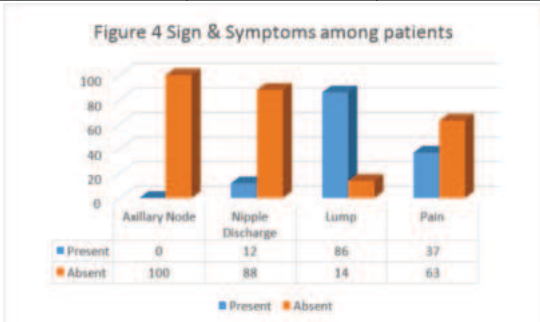


Table 5. Final Diagnosis among study participants

Final Diagnosis	Frequency (%)
Cystic lymphangioma of breast	1 (1)
Cytic lesion	1 (1)
Fat necrosis mass of Right breast	1 (1)
Fibroadenoma	61 (61)
Fibrocystic disease	7 (7)
Granulomatous mastitis	6(6)
Left breast abscess	10 (10)
Mastalgia	4 (4)
Phylloides tumor	4 (4)
Right breast abscess	4 (4)
Right breast sebaceous cyst	1 (1)

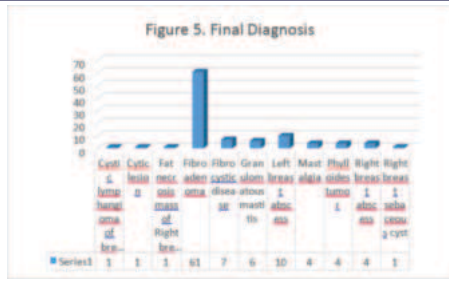
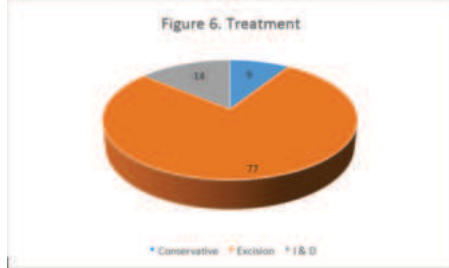


Table 6. Treatment among patients

Treatment	Frequency (%)
Conservative	9 (9)
Excision	77 (77)
I & D	14 (14)



DISCUSSION:

Moreover, reproductive and lifestyle factors have changed over time. The mean age at first birth is considerably higher today, and as was observed in this study, parity-related factors, such as number of births and age at first birth, were associated with the risk of BBDs. Mammographic screening enables more frequent detection of BBDs, and a possible interpretation is that the incidence rates reported in this study are higher than what older available studies have found.[12,13] However, this study's estimates are lower than the estimation from autopsy studies suggesting that every second woman will have a BBD, which indicates that some BBDs may not be diagnosed, such as benign lesions that do not appear as well-defined solid tumors. [14]

These findings suggest a heterogenous BBD risk pattern by the traditional hormonal breast cancer risk factors and that the risk of BBDs varies among the analysed age groups. As observed in this and previous studies on BBDs [15] and breast cancer, [16] obesity generally is associated with a reduced premenopausal risk, with the exception of EP. Of interest, the risk reduction extended to older age groups for FCCs and cysts in this study, which may suggest that certain cysts generally are more difficult to detect in breasts with a larger amount of fat tissue. [17] However, menstrual cycle patterns and BMI were reported only at the time of recruitment. Furthermore, this study and others have not found any association between age at menarche and the risk of BBDs, and irregular menstrual cycles have been found to be both more and less common in women with BBDs. [18] In this study, having regular menstrual cycles was associated with an increased premenopausal risk of fibroadenoma, and at postmenopausal ages, a history of regular cycles was associated with an increased risk of EPA but a reduced risk of fibroadenoma.[19] Furthermore, consistent with the findings in this study, oral contraceptives are generally protective against BBDs, especially with longer duration of use, whereas HRT increases the risk.[20] It is, however, debated whether the protective effect and increase in risk extend to atypical disease and how different doses affect the risk. [21] This study found a protective association between fibroadenoma and long use of oral contraceptives at premenopausal ages, whereas HRT was associated with an increased postmenopausal risk of EPA, fibroadenoma, FCCs, and cysts. Thus, additional studies are needed to determine how exogenous hormone use affects the risk of BBDs. [22] Notably, in premenopausal women, being nulliparous was associated with an increased risk of cysts when compared with parity of 3 or more but a reduced risk when compared with being uniparous, which might indicate that several full-term pregnancies are needed to reach a protective effect against developing cysts.

Approach to a patient with breast complaints includes, performing a 'triple assessment' which comprises of clinical breast examination, imaging of bilateral breast and a tru-cut biopsy/FNAC. The aim of

triple assessment is to aid detection of early cancer thus reducing morbidity and mortality. [23] The incidence of BBDs is almost ten times than the breast cancer in west. [24] Approximately 30-40 percent of the women suffering from BBDs require treatment at some time in their life. [25]

Recently there is an increased knowledge and awareness about benign diseases of breast. These diseases have been popularly classified according to ANDI i.e. the aberration of the normal development and involution. Love et al has described a new scoring system for benign disease of breast.[26] The scenario was different few years ago when benign disorders were given very less importance the terminology was vague, there was inadequate classification and poor correlation between clinical, radiological and pathological features.[27]

There were few studies done to analyse clinical profile, spectrum, age wise incidence, quadrant wise distribution, relation with menstruation and reproductive life in BBD. [28,29,30] For recent studies on BBD, when literature was searched in PubMed, Medline and Google using terms like benign breast diseases, . The aberration of normal development and involution, breast lumps, rural study etc. there are many studies related to benign breast diseases but there are very few studies from rural population Kumar et al presented a study of 124 females with various forms of BBD from Darbhanga located in Bihar. [31]

Janki et al presented an observational study of all the post pubertal women residing in the selected village from Pillaiyarkuppam, Pondicherry in which total of 128 women (1 in 8) had positive symptomatology with 94 (1 in 11) of them having a breast disease on examination.[32] Nagger et al reported clinico-pathological study on benign breast diseases in Gurugram, NCR in two hundred patients with breast lesions.[33]

CONCLUSION:

A lump in the breast is the commonest presentation. Breast pain and nipple discharge are the other symptoms. Most of the patients have more than one symptom. The commonest age group which is affected is the 21-30 years age group. The most common benign breast disease among enrolled women was a Fibroadenoma, followed by Fibroadenosis, breast abscesses and mastalgia.

The three most common concern among women in our study was a pain in the breast, a lump in the breast and discharge from the nipple. Most of the women who complained of breast pain were between 18-20 years of age and only 8% of women who complained of pain were between 36-45 years of age. Among most women the breast problem was unilateral. Age, side, distribution, incidence wise study of benign breast diseases in our institute is comparable with other studies. There is not much change in overall spectrum of benign breast disease

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