

## Original Research Article

# A study of clinical patterns in benign breast disorders

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**Received:** 01 December 2017

**Accepted:** 28 December 2017

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### ABSTRACT

**Background:** This is a prospective study aimed at evaluating patients presenting with breast related complaints at Dr. D.Y. Patil Medical College, Pimpri, Pune. It outlines various clinical patterns in benign breast disorders; this includes age, type of presentation, side and quadrant of breast involved, size of breast lump and the eventual diagnosis.

**Methods:** A prospective study was conducted at Dr. D.Y. Patil Medical College, Pimpri, Pune, between July 2016 and July 2017. Author evaluated 50 patients, male and female, of all ages, presenting with complaints suggestive of a benign breast disorder. Patients that were a proven case of carcinoma of breast and those diagnosed with a malignant condition of the breast during evaluation were excluded from the study.

**Results:** The incidence of benign breast disorders is the highest in the age group of 21 to 30 years (42%). Most common presentation of benign breast disorder in the series was found to be lump in the breast (58%). The Left breast (44%) was noted to be more commonly involved than the Right breast (40%). Most commonly involved quadrant of breast was the upper inner quadrant (30%), followed by the upper outer quadrant (24%). Most of the breast lumps were of size ranging from 3 to 3.9cm (36.58%) followed by those of size ranging from 2 to 2.9cm. (21.95%). Fibroadenoma (42%) was the most common benign breast disorder in present study, followed by fibro-adenosis (18%).

**Conclusions:** Every benign breast disorder presents in a certain age group and follows a certain clinical pattern as outlined in this study. Detailed history taking and clinical examination while keeping in mind these clinical patterns, along with ultrasound and FNAC (triple test), aids in establishing the diagnosis of a benign breast disorder within 72 hours. Hence, the anxiety caused by breast lumps and nodularity can be alleviated by excluding the diagnosis of carcinoma breast. And since majority of benign lesions are not associated with an increased risk for subsequent breast cancer, unnecessary surgical procedures can be avoided.

**Keywords:** Breast, Benign, Benign breast disorder

## INTRODUCTION

Breast health means more than breast cancer. It has been noted that non-cancerous pathology of the breast has always been neglected, despite the fact that vast majority of breast lesions are benign and far more frequent than the malignant ones (10:1).<sup>1</sup> Most benign breast disorders are relatively minor aberrations of the normal processes

of development, cyclical hormonal response and involution.

It has been reported that 90% of the patients attending breast clinics belong to the group of benign breast disorders. Magnitude of the problem is such that almost 50% of women, at some point in their life, have signs and/or symptoms of benign breast disorder.<sup>2</sup>

Making an early diagnosis and planning the treatment within 72 hours of the first consultation, helps in alleviating unnecessary anxiety about breast cancer and those patients with an increased risk of malignancy like atypical hyperplasia, can be given prompt treatment, a proper follow-up and awareness regarding the risk of breast cancer.

In this study, author evaluated patients presenting with breast related complaints and outlined various clinical patterns that helped make a clinical diagnosis of a Benign Breast Disorder. Author also collected data to determine the individual and collective effectiveness of radiological and histopathological investigations in diagnosing benign breast diseases but that is not within the scope of this study due to limited data pool.

## METHODS

This is a prospective study, conducted at Dr. D.Y. Patil Medical College, Pimpri, Pune, between July 2016 and July 2017. Author evaluated 50 patients presenting with breast related complaints. All patients, male and female, of all ages, presenting with complaints suggestive of benign breast disorder, were included in the study. Patients who were proven cases of carcinoma breast, and those that were diagnosed with a malignant condition of the breast during the course of evaluation, were excluded from the study.

The patients were required to give written and informed consents before their enrolment in the study. All patients were subjected to detailed history taking which comprised of: age, marital status, parity and period of breast-feeding, relevant family history of breast diseases, hormone replacement therapy/contraceptive use. The patient data was further supplemented by a detailed examination of bilateral breast and axilla, along with general physical examination.

All patients underwent ultrasonography of bilateral breast and axilla. Mammography was done only in patients above 40 years of age. Fine needle aspiration cytology (FNAC) was performed in patients with lumps to confirm the diagnosis. Core biopsy or excision biopsy was done in patients with inconclusive FNAC report.

The final diagnosis was based on the histopathology report. All clinical findings were correlated to understand the clinical patterns in benign breast diseases.

## RESULTS

This study includes a total of 50 cases that were evaluated to draw the following inferences.

In this study, the age of the patients ranged from 11 to 55 years. Author divided the patients into 5 age groups and evaluated the data to calculate the incidence of benign breast diseases in each age group.

**Table 1: incidence of benign breast diseases in various age groups.**

Age range (yrs.)	No. of cases	% of cases
11 to 20	13	26%
21 to 30	21	42%
31 to 40	13	26%
41 to 50	2	4%
>50	1	2%

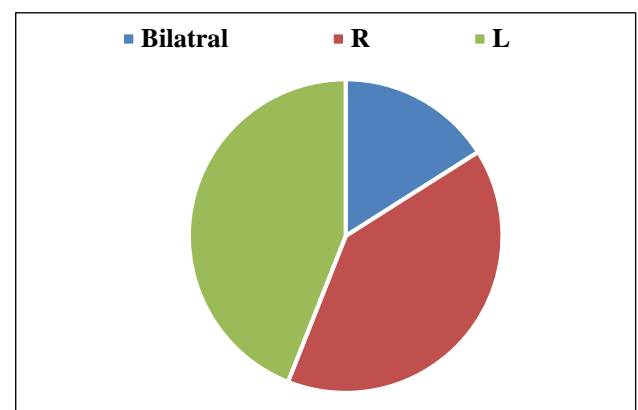
Author found that the incidence of benign breast diseases is the highest in the age group of 21 to 30 years (42%).

Author outlined the various presenting complaints and divided the patients into 6 groups accordingly. Most common presentation of benign breast disease in the series was found to be lump in the breast (58%). This was further classified into a painful lump (32%) and a painless lump (26%). This was followed by pain (16%) being the next commonest presenting complaint, closely followed by the complaint of nodularity (14%).

**Table 2: Types of presentations of benign breast diseases and their incidence.**

Presenting complaint	Incidence %
Lump in breast	58%
Painful lump	32%
Painless lump	26%
Pain	16%
Nodularity	14%
Breast enlargement in males	8%
Nipple discharge	2%
Axillary swelling	2%

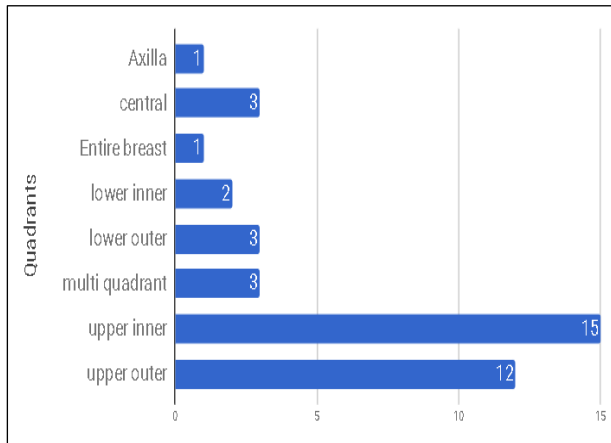
The Left breast (44%) was noted to be more commonly involved than the Right breast (40%).



**Figure 1: Side of breast involved.**

Most commonly involved quadrant of breast was the upper inner quadrant (30%), followed by the upper outer quadrant (24%). Author also outlined the most commonly affected side of the breasts in specific types of benign

breast disorders. In breast abscess, left breast was more commonly affected; whereas in case of fibroadenoma, incidence of involvement of left breast was equal to that of right breast. In fibroadenosis however, right breast was more commonly involved than the left breast.



**Figure 2: Quadrant of breast involved.**

**Table 3: Side of breast involved in particular types of BBD.**

Disorder	Left breast	Right breast	Bilateral
Fibroadenoma	35%	35%	30%
Breast abscess	100%	0%	0%
Fibroadenosis	11.11%	55.56%	33.33%
Cyclical mastalgia	0%	33.33%	66.67%

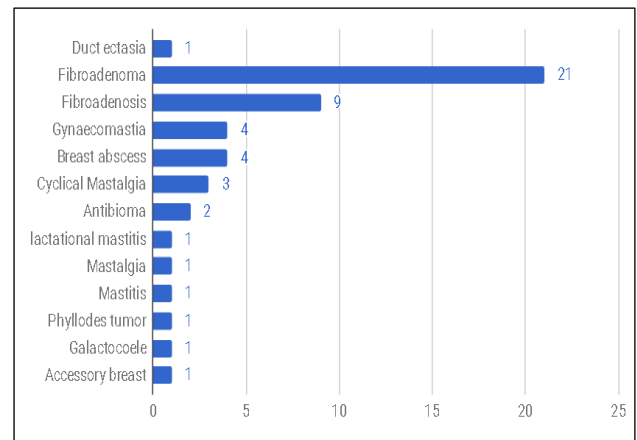
Upon analysis author found that the minimum size of the lump in patients presenting with a palpable breast lump was 1cm, maximum being 9cm. Most of the breast lumps were of sizes ranging from 3 to 3.9cm (36.58%) followed by those of sizes ranging from 2 to 2.9cm (21.95%). While the incidence of lumps of sizes 5 cm. or more was significant (19.52%), most of these were breast abscesses, galactocoeles and a case of phyllodes tumor. Only a single case of fibroadenoma was reported that was 5cm or more.

**Table 4: Size of breast lumps.**

Size of breast lump	No. of cases	Percentage
1 to 1.9cm	4	9.76%
2 to 2.9cm	9	21.95%
3 to 3.9cm	15	36.58%
4 to 4.9cm	5	12.19%
5 and >5cm	8	19.52%

In present study author outlined various benign breast disorders like Fibroadenoma, fibroadenosis, breast abscess, mastalgia, accessory breast, phyllodes tumor, gynaecomastia, galactocoele and antibioma. Author also calculated the incidence of each (Figure 3).

Fibroadenoma (42%) was the most common benign breast disorder in present study, followed by fibroadenosis (18%), breast abscess (8%), gynaecomastia (8%) and cyclical mastalgia (6%).



**Figure 3: Various BBDs and their incidence.**

## DISCUSSION

Throughout a woman's life the breast passes through three phases; development and maturation, cyclical and reproductive, and finally involution. For some women at each of these phases, the normal physiology could become exaggerated and it is then that it may be described as a disorder.<sup>4</sup>

Author outlined the various presentations of benign breast disorders namely: breast lump, nodularity, axillary swelling, pain in unilateral or bilateral breast, nipple discharge and enlargement of breast tissue in males. Author found that palpable breast lumps were the most common presentation, comprising of 58% of the cases. In a study conducted by Foncroft LM et al, 87.4% of the women attending the Wesley Breast Clinic presented with breast lumps.<sup>5</sup> In the study conducted by Ratana Chaikanont T, breast lump was the presenting symptom in 72.35% of the patients.<sup>6</sup>

In present study author found that the left breast was more commonly affected (44%), with the most commonly affected quadrants being upper inner quadrant (30%) and upper outer quadrant (24%). In a similar study by Shambhu Kumar Singh et al involvement of right breast (54.84%) was more than left breast (45.16%).<sup>7</sup> Among the quadrants involved, upper outer quadrant (UOQ) was the most common quadrant involved with 27.42% of cases reporting with UOQ involvement.

Author also noted that the incidence of benign breast diseases was the highest in the age group of 21 to 30 years (42%) in present study. This is in congruence to a similar study conducted by Das N et al, in which 45% of the cases belonged to the age group of 21 to 30 years.<sup>8</sup>

On investigation author found that, fibroadenoma accounted for 42%% of the cases in present study. This was similar to the statistics for most other studies on benign breast disorders, where the frequency of fibroadenoma ranged from 46.6-55.6%.<sup>9,10</sup> USG breast was found to be the most efficient investigation in diagnosis of fibroadenoma, especially when they are <2cm in size. FNAC was found to be most reliable to confirm the diagnosis. Fibroadenosis was the next common diagnosis in present study (18%). This was similar to most other studies conducted by Ihekwa FN et al, Florica JV et al.<sup>11,12</sup> Fibroadenomas <3cm in size and cases of fibroadenosis were managed with reassurance, T. Vit E for 3 months and follow up after a period of 3 months. Fibroadenoma >3cm in size were excised for cosmetic reasons and to alleviate anxiety due to palpable breast lump.

Author noted that most cases of breast abscesses, which comprised of 8% of the total cases, were in lactating females and were consistently associated with poor hygiene. Left breast was more commonly affected than the right breast. All of these cases needed incision and drainage.

There were 2 cases of Antiboma. Both shared a previous history of tuberculosis for which incomplete treatment was taken and one of them had complaints of primary infertility due to disseminated tuberculosis. Both needed incision and drainage and ATT (Anti-tuberculosis therapy) was started post-operatively.

Gynaecomastia comprised of 8% of the total cases and simple reassurance in these cases was sufficient. There was a singular case of nipple discharge which was diagnosed as duct ectasia on USG Breast and was initially treated conservatively, but on continued complaints for 6 months, a microdochectomy was done.

Another interesting case was that of a 14 years old presenting with a lump in left breast involving the entire breast and was diagnosed with Phyllodes tumor on FNAC. Excision was done and HPE of excised lump was also suggestive of Phyllodes tumor. Patient underwent postoperative radiotherapy and showed no recurrence after follow up for a year. This was the youngest patient presenting with lump in breast in present study and rare in its presentation with a phyllodes tumor at an age of 14 years. The youngest patient to have been diagnosed with Phyllodes tumor as reported by Ogando RA et al, was 12 years old.<sup>13</sup>

Author advised follow up at 3 months and 6 months. The patients were taught self-breast examination and the risk factors for carcinoma of the breast were explained to the patients.

In this study author learned that every benign breast disorder presents in a certain age group and follows a certain clinical pattern as outlined in this study. Hence,

with thorough clinical examination, ultrasound and FNAC (better known as triple test), the diagnosis of a benign breast disease can be accomplished without surgery within 72 hours. In a study by Kharkwal S et al, the sensitivity and specificity of the triple test was found to be 100% for benign breast disorders.<sup>14</sup> Hence, the anxiety caused by breast lumps and nodularity can be alleviated by excluding the diagnosis of carcinoma breast. And since majority of benign lesions are not associated with an increased risk for subsequent breast cancer, unnecessary surgical procedures can be avoided.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: The study was approved by the Institutional Ethics Committee*

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**Cite this article as:** Tonape TP, Tulsian AR, Gope DD, Gogineni JC. A study of clinical patterns in benign breast disorders. Int Surg J 2018;5:518-22.