

## Original Research Article

# An observational study on benign breast diseases in a tertiary healthcare centre in Chengalpettu district

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### ABSTRACT

**Background:** Benign breast disorders constitute the majority of breast complaints presented by young females to a surgical OPD. It is 10 times more common than cancerous conditions and deserves attention due to its high prevalence, impact on woman's life associated anxiety and possibility of some turning into cancerous conditions. It is divided into aberrations and abnormalities in development, epithelial and stromal proliferations, inflammations and neoplasms. In this study we aim at finding the prevalence, age, clinical presentation of commonest benign breast conditions and its correlation with pathological and radiological studies.

**Methods:** The 98 cases of benign breast diseases between the age group of 15-45 years underwent triple assessment consisting of clinical examination, ultrasonography and fine needle aspiration cytology. Patients who were diagnosed with malignancy were excluded from the study.

**Results:** Out of 98 breast lesions the commonest presentation was breast lump and found most commonly in right upper quadrant. The most common age was 20-30 years and fibroadenosis was most common benign lesion followed by fibroadenoma, mastalgia, breast abscess and nipple discharge.

**Conclusions:** BBDS are a common problem among females in the reproductive age group. It is important to differentiate between fibroadenoma and fibroadenosis. FNAC and ultrasonography are a useful aid in diagnosis of benign breast lesions.

**Keywords:** Benign breast disease, Fibroadenoma, Fibroadenosis, FNAC, Ultrasonography

### INTRODUCTION

Benign breast diseases are a group of heterogeneous disorders that consists of epithelial and stromal proliferations, developmental abnormalities, inflammatory lesions and benign neoplasms. BBDS are an ignored entity and receive a second-hand treatment in comparison with breast malignancies. Hence it is important to arrive at an appropriate diagnosis to give an accurate surgical plan and also rule out malignancy which is the major cause of apprehension in these patients. BBDS are pathologically divided into non-proliferative lesions, proliferative lesions with or without atypia,

atypical proliferative lesion. They are hormone induced and therefore usually seen in the reproductive period of life with dramatic fall thereafter. Estrogen regulates the development of ductal tissue development of ductal tissue, progesterone facilitates ductal branching and lobuloalveolar development and prolactin regulates milk production.<sup>1-8</sup> They are clinically classified as (a) physiologic swelling and tenderness, (b) nodularity, (c) breast pain (d) palpable lumps, (e) nipple discharge and (f) infections or inflammation. The common disorders are fibroadenoma, fibroadenosis, sclerosing breast cysts, mastalgia, breast abscess, duct ectasia, galactocoele, lipoma, sebaceous cyst. With growing awareness in the

rural population about breast pathologies, a female with a breast lump is one of the commonest presentations in outpatient departments.

Clinical examination would be followed in most patients with an ultrasonography and a confirmatory diagnosis under the microscope. Patients usually have an anxiety regarding the diagnosis of malignancy in breast lesions for which ultrasound and FNAC play a vital role in diagnosis.<sup>9,10</sup> In this study we are evaluating the clinical profile of benign breast diseases in relation to age, sex and clinical presentation; to correlate clinical, with radiological and pathological findings

**Aim and objectives**

The objective is to study the distribution of various benign breast diseases in relation to age, presentation, severity and to correlate with relevant pathological and radiological investigations in a rural setup.

**METHODS**

This is a prospective observational study conducted in the department of general surgery, Karpaga Vinayaga Institute of medical sciences and research centre, Madhuranthagam, Chengalpettu district from the period of June 2021-July 2022. All patients who came with complaints of breast disorders such as breast lump, asymmetry of breasts, pain, nodularity, nipple discharge were included in our study.

**Sampling method**

Sampling method was of purposive sampling.

**Inclusion criteria**

All patients who presented to OPD with breast complaints between the age group of 15 to 45 years and were subjected to all three modes of examination that is clinical, ultrasonography and FNAC.

**Exclusion criteria**

Those who were diagnosed with breast malignancy, or were treated before for the same were ruled out from the study.

**Sample selection procedure**

Patients who presented with complaints of benign breast disease to surgical OPD a detailed history including menstrual history and drug history was taken and thorough examination was performed. She is then sent to ultrasonography to identify the type and location of the lesion. Under informed consent patient was sent to pathology department where she undergoes FNAC either direct or under USG guidance. Samples sent were

followed up and those that turned out to be benign breast lesion were included in the study.

The study was conducted after taking permission from institutional ethics committee. Informed consent will be obtained from all patients. Participation in study will not affect treatment in any way.

Data analysis was done using Software SPSS-version 21.0

**RESULTS**

A total of 98 patients with benign breast diseases were evaluated and the results are as follows

**Age distribution of patients with benign breast diseases**

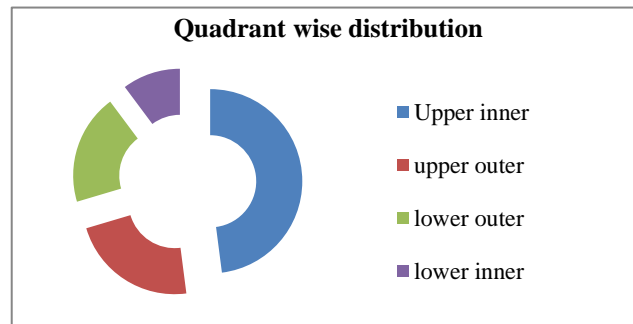
The most common age group of presentation was between 20-30 years followed by 30-40 years of age (Table 1).

**Table 1: Age distribution of patients with benign breast diseases.**

Diseases	<20 years	20-30 years	30-40 years	>40 years
<b>Fibroadenoma</b>	2	17	5	-
<b>Fibroadenosis</b>	3	25	13	-
<b>Fibroadenoma with fibroadenosis</b>	1	10	3	-
<b>Breast abscess</b>	-	4	3	-
<b>Duct ectasia</b>	-	1	2	-
<b>Lipoma</b>	1	2	-	-
<b>Sebaceous cyst</b>	-	-	3	1
<b>Accessory breast</b>	1	-	-	-
<b>Phyllodes tumour</b>	-	-	1	-
<b>Total</b>	8	59	30	1

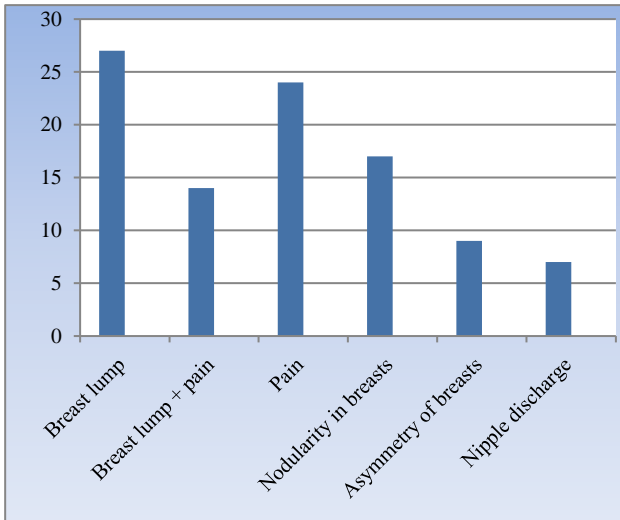
**Clinical symptoms**

Upper inner quadrant was more commonly involved than lower quadrant (Figure 1).



**Figure 1: Most common quadrant involved in BBD in our area.**

Breast lump was the most common presenting symptom followed by breast pain and asymmetry of breasts (Figure 2).



**Figure 2: Most commonly presenting symptoms in benign breast diseases.**

Fibroadenosis presented with breast lump, breast pain and with both symptoms. Nipple discharge was usually serous

or greenish. No bloody discharge noted.

The most common benign breast disease found in our study fibroadenosis followed by fibroadenoma (Table 2).

Among all benign breast diseases right breast involvement was more common than left breast. Bilateral involvement was seen in some cases.

Patients were subjected to fine needle aspiration cytology and ultrasound to confirm the clinical diagnosis. The findings are as below (Table 3).

Clinical diagnosis of breast abscess, duct ectasia, lipoma, sebaceous cyst, accessory breast tissue and phyllodes tumour correlates with fine needle aspiration in this study. The correlation between clinical and FNAC in our study for fibroadenoma and fibroadenosis was 95.8% and 92.68% respectively due to variations in presentation (Table 4).

Out of 24 patients of fibroadenoma diagnosed clinically 18 were diagnosed as fibroadenoma and 6 were diagnosed as fibroadenosis on ultrasound. Out of 41 patients diagnosed as fibroadenosis 36 had similar clinical and radiological correlation 3 were fibroadenoma and 2 had normal study.

**Table 2: Most common diagnosis and site among patients presenting with benign breast disease.**

Disease	No. of cases	Percentage (%)	Left	Right	Bilateral
<b>Fibroadenoma</b>	24	24.48	5	17	2
<b>Fibroadenosis</b>	41	41.83	14	22	5
<b>Fibroadenoma with fibrocystic disease</b>	14	14.28	4	6	4
<b>Breast abscess</b>	7	7.14	2	5	-
<b>Duct ectasia</b>	3	3.06	1	2	-
<b>Lipoma</b>	3	3.06	0	3	-
<b>Sebaceous cyst</b>	4	4.08	1	3	-
<b>Accessory Breast</b>	1	1.02	1	-	1
<b>Phyllodes Tumour</b>	1	1.02	1	-	-

**Table 3: Clinical correlation of diagnosis with Fine needle aspiration cytology.**

BBD	Clinical diagnosis	No of cases diagnosed by FNAC		Percentage of accuracy (%)
		Correct	Incorrect	
<b>Fibroadenoma</b>	24	23	1	95.8
<b>Fibroadenosis</b>	41	38	3	92.68
<b>Fibroadenoma with fibrocystic disease</b>	14	12	2	85.71
<b>Breast abscess</b>	7	7	0	100
<b>Duct ectasia</b>	3	3	1	100
<b>Lipoma</b>	3	3	0	100
<b>Sebaceous cyst</b>	4	4	0	100
<b>Accessory breast</b>	2	2	0	100
<b>Phyllodes tumour</b>	1	1	0	100

**Table 4: Clinical correlation of benign breast diseases with ultrasonography results.**

BBD	Clinical diagnosis	No. of cases diagnosed by ultrasound		Percentage of accuracy (%)
		Correct	Incorrect	
Fibroadenoma	24	18	6	75
Fibroadenosis	41	35	6	85.36
Fibroadenoma with fibrocystic disease	14	11	3	78.57
Breast abscess	7	7	0	100
Duct ectasia	3	2	1	66.66

## DISCUSSION

Breast undergoes varying degrees of changes due to influence of hormones, systemic and local factors in the reproductive age group.<sup>11,12</sup>

In a study carried out by Kumar et al it was asserted that BBDs are 5-10 times more common in Indian rural population than breast cancers. They also observed that the prevalence of BBDs differs in different geographic areas, and BBDs are widespread in developing countries but women ignore the breast lump due to lack of awareness. They proposed that general features of individual breast diseases such as lack of expert advice, illiteracy, social taboo, and lack of knowledge result in delay in both benign and malignant lesions in diagnosis.<sup>13</sup>

In our study most commonly patients with benign breast diseases presented with breast lump followed by breast pain and nodularity of breast. Similar results were shown in a study conducted by Modhia et al and Tonape et al where they found that maximum patients presented with painless swelling of the breast followed by pain and swelling in the breast.<sup>14-16</sup>

The most common age group of presentation was 20-30 years of age followed by 30-40 years of age. Similar studies done by Khanzada et al where 120 out of 275 patients diagnosed with BBD belonged to 3<sup>rd</sup> decade. Out AA conducted a study in Nigeria where similar results were seen. In this study we also found most common benign breast disease presenting to this centre to be fibroadenosis. They commonly presented with breast lump followed by nodularity of breast, most commonly in the age group of 20-30 years of age. Fibroadenoma was the second most common lesion and occurs in the age group of 20-30 yrs followed by 30-40 years.<sup>17,18</sup>

Most common presenting symptom was breast lump followed by breast pain in fibroadenoma. It usually feels as a breast mouse on palpation and fibroadenosis as a nodularity. Similar studies conducted by Stern et al and Chaudhary et al found that fibrocystic disease as the most common in females of middle age group. Another lesion found in this region was breast abscess commonly in the age group of 20-30 years of age.<sup>19,20</sup>

The correlation and accuracy of clinical with pathological is the highest with breast abscess, duct ectasia, sebaceous cyst and lipoma followed by fibroadenoma and fibroadenosis. The accuracy of benign breast diseases with radiological findings is as given in table 4. Breast abscess and sebaceous cyst can be diagnosed with good clinical acumen as it had similar results in ultrasonography and cytology. This is consistent with the findings by Fancroft et al and Ihekwa et al.<sup>21-26</sup>

Therefore, benign breast diseases although a common encounter in surgical OPD. Diagnosis can be made clinically with a few differentials but an accuracy is obtained with the aid of FNAC and ultrasonography.

This was a limited period and a single centre study around 30 km radius in a rural setup.

## CONCLUSION

Benign breast diseases are a commonly encountered cases in a surgical OPD among women in reproductive age group. The most common presentation is of breast lump followed by breast pain and nodularity of breasts. Fibrocystic diseases is the most common benign breast disorder in our setup and the most common age group of presentation is in the 3<sup>rd</sup> decade of life.

Diagnosis of benign breast disease based on clinical, FNAC and ultrasonography is a reliable method. Differentiation between fibroadenoma and fibroadenosis is relevant in planning surgical treatment for the patient. Most of them can be diagnosed by a clinician with a good clinical knowledge and experience and relevant investigations.

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