

## A STUDY OF SPECTRUM OF BENIGN BREAST DISEASE IN A TERTIARY CARE INSTITUTE OF CENTRAL INDIA

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**ABSTRACT: AIMS AND OBJECTIVES:** The presence of a lump in the breast is a great cause of anxiety and apprehension, to the female patients. This may be accrued to the increasing public awareness of breast cancer which is presently the most common female malignancy worldwide. The aim of this study was to determine the frequency of benign breast diseases (BBD) amongst patients in tertiary care institute of central India. **MATERIAL AND METHOD:** It was a cohort study. In this study all patients visiting the surgical OPD clinic with breast problems were included. This study was conducted at Chirayu Medical College and Hospital Bhopal over a period of four years starting from November 2010 to November 2014. All patients with definite symptoms and sign of malignancy or those who on evaluation were diagnosed as carcinoma of breast were excluded from this study. **RESULTS:** A total of 112 patients were included in the study. About 54.4% (61/112) patients belonged to 3rd decade of life followed by 21.4% (24/112) from 4th decade (age between: 31 – 40 years). The most common benign breast disease, seen in 33.9% (38/112) of patients was fibro adenoma followed by fibrocystic disease seen in about 19.6% (22/112) patients. Breast abscess was seen in 20/112(17.8%) and Mastalgia was present in 15/112 (13.3%) patients. **CONCLUSION:** In females of reproductive age group Benign Breast Diseases (BBD) are common problems. Fibro adenoma is the commonest of all benign breast disease mostly seen in 2nd and 3rd decade of life. Fibrocystic disease of the breast is the next common BBD whose incidence increases with increasing age. Routine mammographic screening of high risk groups aimed at early detection of these premalignant lesions is therefore indicated. A biopsy with histological diagnosis of all breast lumps is also recommended as this will aid in the detection of premalignant lesions particularly in low resource settings

**KEYWORDS:** Benign breast disease, Fibro adenoma, Fibrocystic diseases.

**INTRODUCTION:** Benign breast diseases (BBD), includes all non-malignant conditions of the breast, including benign tumours, trauma, mastalgia, mastitis and nipple discharge.<sup>1</sup> Benign breast diseases (BBD), constitute a heterogeneous group of disorders including developmental abnormalities, epithelial and stromal proliferations, inflammatory lesions, and neoplasms. While most reports indicate that breast lumps are predominantly benign and mostly non-proliferative epithelial lesions however there has been increasing recognition of the risk implications of the various forms of premalignant lesions. Researchers widely believe that cancer risk is increased in patients with atypical ductal and atypical lobular hyperplasia.<sup>2,3</sup> It is therefore pertinent for pathologists, oncologists, and radiologists not only to recognize and distinguish BBD from breast cancer but also to have in depth knowledge of the pattern of occurrence of these disorders in their geographical region.

# ORIGINAL ARTICLE

**METHODOLOGY:** It was a cohort study carried out at Chirayu Medical College and Hospital, Bhopal over a period of four years starting from November 2010 to November 2014. All female patients visiting the surgical OPD clinic with breast problems were included in the study. Detailed Information on age at presentation, parity, duration of symptom before presentation, mode of discovery of lump, previous breast disease, side and quadrant of breast affected,, marital status, parity, age of menarche, age at first pregnancy and age at menopause was recorded. Family history of breast diseases especially breast cancer, history of contraception used was also recorded clinical diagnosis was made by consultant, after detail examination of lump and axilla with special attention to clinical signs of malignancy. FNAC, biopsy and histology diagnosis for patients were recorded. Patients with obvious clinical features of malignancy or those who on work up were diagnosed as carcinoma were excluded from the study. Mammograms were done when required necessary. Fine needle aspiration cytology (FNAC) was performed in patients with lumps to confirm the diagnosis. Core biopsy and / incisional or excision biopsy was done in patients with inconclusive FNAC report. Data was entered on pre-designed proforma and frequencies of various BBD in different age groups were calculated. Statistical analysis was done using the SPSS version 16 statistical package. Ethical clearance was obtained from the Ethical Committee.

**RESULTS:** A total of 112 patients were included in the study. About 54.4% (61/112) patients belonged to 3rd decade of life followed by 21.4% (24/112) from 4th decade (age between: 31 – 40 years). The most common benign breast disease, seen in 33.9% (38/112) of patients was fibro adenoma followed by fibrocystic disease seen in about 19.6% (22/112) patients. Breast abscess was present in 20/112(17.8%) and Mastalgia was seen in 15/112 (13.3%) patients. duct ectasia was seen in 7(6.2%) patients. Other benign diseases noted were duct papilloma in 4/112 (3.5%) galactocele in 1/112 (0.8%) and tuberculous mastitis in 2/112 (1.6%) of patients.

A total of 20/38 (52.6%) patients with fibro adenoma belonged to 3<sup>rd</sup> decade of life followed by 9/38 (23.6%) in 2<sup>nd</sup> decade of life. About 10/22 (45.4%) of patients with fibrocystic disease were from 3<sup>rd</sup> decade, 5/22 (22.7%) from 4<sup>th</sup> decade. Breast abscess was commonly seen in 15/20 (75%) patients of 3<sup>rd</sup> decade and in 3/20 (15%) patients of 4<sup>th</sup> decade. About 5/7 (71.4%) of patients with duct ectasia were seen from 3<sup>rd</sup> decade followed by 28.5% from 4<sup>th</sup> decade. About 6/15 (40%) of cases of mastalgia were from 3<sup>rd</sup> decade of life followed by 4/15 (26.6%) from 4<sup>th</sup> decade. Galactocele accounted for 1/112 (0.8%) of all BBD of patients in 3<sup>rd</sup> decade of life. Duct papilloma was seen in 2/4 (50%) in 3<sup>rd</sup> and 25% in 4<sup>th</sup> and 5<sup>th</sup> decade of life respectively, while granulomatous mastitis was equally (50%) seen in 3<sup>rd</sup> and 4<sup>th</sup> decade of life. A detailed account of these BBD according to the various age groups is shown in table no. 1.

Disease	Age in years				Total (%)
	1-20	21-30	31-40	41-50	
Fibro adenoma	9	20	7	2	38(33.9)
Fibrocystic disease	5	10	5	2	22(19.6)
Mastalgia	2	6	4	3	15(13.3)
Duct papilloma	-	2	1	1	4(3.5)

## ORIGINAL ARTICLE

Galactocele	-	1	-	-	1(0.8)
Duct ectasia	-	5	2	-	7(6.2)
Breast abscess	2	15	3	-	20(17.8)
Fat necrosis	1	1	-	-	2(1.6)
Tubercular mastitis	-	1	1	-	2(1.6)
Lipoma	-	-	1		1(0.8)
<b>Total</b>	<b>19 (16.9)</b>	<b>61 (54.4)</b>	<b>24 (21.4)</b>	<b>8 (7.1)</b>	<b>112 (100)</b>

Table 1: Detailed account of BBD according to the various age groups

**DISCUSSION:** Factors attributed to the increasing incidence of BBDs includes an observed overall rise in the patient population possibly influenced by a general increase in national population, an improving economy and literacy and an expansion in the three-tier levels of healthcare facilities. In our study about 92.9% of the patients with BBD were in the age group between 11-40 years with peak incidence (54.4%) in age group between 21-30 years. These results are consistent with the study of Out AA et al.<sup>4</sup> in which majority of the patients were below the age of 30 years. Ihekwa in his study from Western Africa showed that about 80.5% of the BBD occur in females between 16-35 years of age.<sup>5</sup> Chaudhary et al found almost equal incidence of BBD in patients between age group 21 - 30 & 31 – 40 years.<sup>6</sup> However Dunn et al. contradicts the results of all above mentioned studies in which the mean age of the patient with BBD was 50 years.<sup>7</sup> In our study fibro adenoma was the most common BBD seen in 38 of patients. Fibro adenoma was most commonly seen (52.6%) in patients with 3<sup>rd</sup> decade (21 - 30 years) of life and 23.6% in patients with 2<sup>nd</sup> decade (11 - 20 years) of life. This observation is also noted in two studies from African countries where they found fibro adenoma as common BBD with incidence of 46.2%, 44% respectively.<sup>8,9</sup> The incidence of this disease is almost equal in all ages in recent studies because of its presentation as freely mobile discrete lump in the breast and more awareness among females due to education. Fibrocystic disease was the second most common BBD (19.6%) seen in our study. The vast majority of the patients (45.4%) with fibrocystic disease were from 3<sup>rd</sup> decade followed by 22.7% from 4<sup>th</sup> decade of life. Anyikam A et al.<sup>10</sup> observed the incidence to be 22.9% Ali et al.<sup>11</sup> noted fibrocystic disease as second common BBD after fibroadenoma accounting for 36%. The difference between the age group in patients with fibrocystic disease differs geographically. The possible reasons being social accustom, age of menarche and parity, and breast feeding procedures, use of contraceptive pills and self-awareness. Because of low literacy rate in developing countries the female affected with fibrocystic disease tend only to see surgeon when the symptoms are disturbing and alarming. Recently it has been observed that fibrocystic changes constitute the most common and frequent BBD. Such changes generally affect the premenopausal women between 20-50 years of age.

Breast abscess was seen in 17.8% of the patients in our study with peak incidence in patients from 3<sup>rd</sup> decade of life. This was most commonly observed in lactating females during the first three months after delivery. Barton et al found acute bacterial mastitis common at any age but most frequently in lactating breasts.<sup>12</sup> In our study, 6.2% of the patients had duct ectasia. Duct ectasia is commonly seen in the 30 - 50 years age groups in Western population

## ORIGINAL ARTICLE

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and more than 40% have substantial duct dilatation by the age of 70 years. It usually presents with nipple discharge, a palpable subareolar mass, pain, nipple inversion (Slit like) or nipple retraction. Mastalgia was seen in 13.3% of patients in our study. Twenty five percent of the referral to breast clinics in West are due to mastalgia and it affects up to 70% women at some times during their lives.<sup>6</sup> 40% of the patients with mastalgia in our study were from 21-30 years of age group, However this was more common in the 4th and 5th decade of lives in western women. Duct papilloma was seen in 3.5% of the patients in our study, the commonest presentation being nipple discharge. Tubercular mastitis resulting from infectious etiology, foreign material or systemic autoimmune disease can involve breast. In our study, 2(1.6%) patients had granulomatous mastitis. Though rare in Western world but the fact that traveling from one place to another in the global world has been increasing and that the prognosis for complete cure with appropriate antituberculous therapy is excellent. According to Hanif A et al.<sup>13</sup> the overall incidence is less than 0.1% of all breast lesions in developed countries and 3-4% in developing countries.

**CONCLUSION:** The common problems for which women consult or are referred to breast clinic are palpable lump, breast pain and nipple discharge. Fibroadenoma is the commonest of all benign breast disease in our set up mostly seen in 2nd and 3rd decade of life. Fibrocystic disease of the breast is the next common BBD whose incidence increases with increasing age. A low prevalence of premalignant lesions, not reflective of the high incidence of breast cancer in this environment, was observed. Routine mammographic screening of high risk groups aimed at early detection of these premalignant lesions is therefore highly indicated. A biopsy with histological diagnosis of all breast lumps is also recommended as this will aid in the detection of premalignant lesions particularly in developing countries.

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## ORIGINAL ARTICLE

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