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***Research Article***

# EVALUATION OF BENIGN BREAST DISORDERS IN FEMALES OF RURAL PUNJAB

***Bhargava G.S., Grover A., Ded K.S. and Gupta A.**
*Department of Surgery, Sri Guru Ram Das Institute of Medical Sciences & Research, Vallah, Amritsar (Pb.)*
**Author for Correspondence*

## ABSTRACT
The objective was to evaluate the benign breast disorders (BBD) in females of rural areas of Punjab. BBD has a number of varieties & presentations and causes fear of malignancy in patient's mind. Study of pattern of disease is a challenge due to variants in occurrence and presentation in different age groups and different geographical areas. Three Hundred patients were studied over a period of four years in our institute with respect to clinical pattern, age, and behavioral precedent, incidence among the patients in and around the institute to have an idea about the prevalence of the disease. Appropriate investigational protocol was followed. Most common BBD is fibroadenoma followed by breast abscess, mastalgia and fibrocystic disease in our population. Mean age of occurrence of BBD is 27 years. Commonest way of presentation was lump in breast followed by mastalgia and nipple discharge. Ultrasonography and mammography were used to differentiate benign from malignant disease. FNAC was performed wherever required. It can be concluded that BBD is apparently simple and none alarming but in fact challenging subject. Challenges for an analyst are posed by, lack of authoritative classification and inclusive terms, presentation of same benign disease clinically in different ways and different age groups. Way of presentation may not favor any of the benign disease and sometimes they may simulate malignant disease. For a correct analysis they need to be analyzed by fair understanding of basic presentation of each benign disease. Clinical, sonological, mammographical and histological studies need to be conducted in a systematic way to find answers of several complexities posed by the confusing presentation pattern of BBD.

***Keywords:*** *Benign Breast Disorders, Fibroadenoma, Mastalgia, Punjab, Rural Population*

## INTRODUCTION
Benign breast disorders are relatively neglected aspect of breast diseases and have been receiving step motherly treatment as compared to the malignancies of the breast. This is despite the fact that vast majority of breast lesions are benign and far more frequent than the malignant ones (Guray and Sahin, 2006; Caleffi *et al.*, 2004).
Ratio of BBD to malignant breast disease is 10:1. (Mansel, 1992) It has been reported that 90% of the patients attending breast clinics belong to this group (Murillo *et al.*, 2002; Pollitt and Gataley, 2004). Magnitude of the problem is such that almost 50% of women, at some point of time in their life, have sign and/or symptoms of benign breast disease (Naveen *et al.*, 2013).
The main problem is once the fear of cancer in the mind of patient as well as clinician is alleviated, the neglect of benign disease starts.
Benign diseases of breast of minor consequences go unreported by patients in India, especially in rural population, due to cultural barriers and financial constraints. Breast is an organ of beauty and pride for a female apart from performing important physiological function of lactation. Serious cosmetic problems may result from disease itself, repeated small biopsies or removal of breast quadrants in an attempt to search for small mammographic lesions.
With this background scenario, it was considered appropriate to determine the spectrum of BBD in this part of world, especially in rural population as it constitutes major portion of our country's demography. Objective of this study was to determine the frequency of various BBD among female patients of rural areas.

## MATERIALS AND METHODS

This was a prospective cohort study carried out at our institute, Sri Guru Ram Das Institute of Medical Sciences and Research, Sri Amritsar over a period of about four years starting from 2009 to 2013. All female patients visiting the surgical clinic with breast problems were included in the study. Patients with obvious clinical features of malignancy or those who on work up were diagnosed as carcinoma were excluded from the study. Detailed histories of patients were recorded that included age, marital status, parity, age of menarche, age at first pregnancy and age at menopause. Patients aged 50 years or above and having no menses for at least two years at the time of presentation were considered to be postmenopausal. Family history of breast diseases especially breast cancer, history of contraception used was recorded. Detailed examination of lump and axilla was made with especial attention to any clinical signs of malignancy. Ultrasonography or mammograms were done when required necessary. Fine needle aspiration cytology (FNAC) was performed in patients with lumps to confirm the diagnosis. Core biopsy / 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.

## RESULTS AND DISCUSSION

### *Results*

A total of 300 patients were included in the study during the four years from 2009 to 2013. About 47% (141/300) patients belonged to 25-40 years age group followed by 29% (87/300) from >40 years age group and 24% (72/300) from <25 years age group (Table 1).

**Table 1: Distribution of Benign Breast Disorders among Different Age Groups**

| Age Groups | No. of Patients | % |
|---|---|---|
| <25 | 72 | 24 |
| 25-40 | 141 | 47 |
| >40 | 87 | 29 |
| Total | 300 | 100 |

**Table 2: Distribution of Various Benign Disorders According to Age Groups**

| | Age Groups | | | Total |
|---|---|---|---|---|
| | <25 yrs | 25-40 yrs | >40 yrs | |
| Fibroadenoma | 54 | 66 | 30 | 150 |
| Abscess | 12 | 12 | 12 | 36 |
| Mastalgia | 3 | 18 | 12 | 33 |
| Fibrocystic Disease | 0 | 15 | 9 | 24 |
| Duct ectasia | 3 | 12 | 6 | 21 |
| Duct papilloma | 0 | 6 | 6 | 12 |
| Cellulitis | 0 | 6 | 3 | 9 |
| Antibioma | 0 | 3 | 3 | 6 |
| Phylloides tumor | 0 | 0 | 3 | 3 |
| Galactocele | 0 | 3 | 0 | 3 |
| Accessory breast | 0 | 0 | 3 | 3 |
| Total | 72 | 141 | 87 | 300 |

Fibroadenoma was the most common benign breast disease seen in 50% (150/300) of patients, followed by breast abscess seen in about 12 % (36/300) of patients. Mastalgia was seen in 11% (33/300) of patients, fibrocystic disease in 8 % (24/300) and duct ectasia in 07% (21/300) patients. Other benign diseases noted were duct papilloma in 4.0% (12/300), cellulitis in 3.0% (9/300), and antibioma was seen

in 2.0% (6/300) of patients. Phylloides tumour, galactocoele and accessory breast, each, was seen in 1.0% of patients.

About 36% patients with fibroadenoma belonged to <25 years age group followed by 44% from 25-40 years of age. About 33% of patients from, each, <25 years, 25-40 years and >40 years age group had breast abscess. Mastalgia was noticed in 54% of 25-40 years of age, 36% in >40 years of age and 9% in <25 years of age. 62% of patients with fibrocystic disease were from 25-40 years of age while 38% were from >40 years of age. About 57% of patients with duct ectasia were seen from 25-40 years of age followed by 28% from >40 years age group and 15% were less than 25 years of age.. Duct papilloma was equally distributed in 25-40 years and >40 years age groups only. 66% cases of cellulitis were of 25-40 years of age while 33% were of >40 years of age. A detailed account of these BBD according to the various age groups is shown in Table 2 (Table-2).

***Discussion***

Breast is a dynamic organ which continuously undergoes normal structural and physiological changes. When these normal changes (pubertal, cyclical, pregnancy, lactational and menopausal) exceed their limit and raise concern for the woman, they are labeled as BBD.

In our study about 71% of patients with BBD were in the age group of 13-40 years with peak incidence during 25-40 years of age. These results are consistent with those of many a studies conducted by Out AA (Out, 1990), Ihekwaba (1994), Chaudhary *et al.,* (2003), Navin *et al.,* (2013), Khanzada *et al.,* (2009). However a few studies like Dunn *et al.,* (1995) contradict these results in which mean age of BBD patients was 50 years.

In our study fibroadenoma was the most common BBD seen in 50% of the total patients. It was at its peak (44%) in 25-40 years age group, while 36% of fibroadenomas were seen in <25 years age group. Maximum incidence of fibroadenoma among all BBDs was also observed by Naveen *et al.,* (2013) and Khanzada *et al.,* (2009). While results were not so as observed by Krishnaswamy (2003), Shukla and Kumar (1989) and Khanna *et al.,* (1997). No significant difference was noted in the recent literature regarding the age groups having fibroadenoma. (Chaudhary *et al.,* 2003) This is because of its presentation as freely mobile discrete lump in the breast of young females and more awareness among females due to electronic media and education. However, above mentioned studies in urban India show that fibroadenoma is going to be preceded by lumpless BBDs, like mastalgia, due to growing awareness among patients as is the case in western countries.

Breast abscess was seen in 24% of the patients in our study equally distributed among <25 years, 25-40 years and >40 years age groups. This was most commonly observed in lactating females during the first three months after delivery. Similar results were observed by Khan S et al in a study conducted in South Asian rural population of Nepal (Khan *et al.,* 2003). Barton *et al.,* found acute bacterial mastitis common at any age but most frequently in lactating breasts (Barton, 1994). Breast abscess being second common disease in our study might be, firstly, due to compromised personal hygiene in this rural patient population, secondly, compelling clinical features of disease to seek medical remedy unlike mastalgia/fibrocystic disease where patients from rural base keep on ignoring the disease due to social and financial constraints.

Mastalgia was seen in 22% of patients in our study. Twenty five percent of the referral to breast clinics in West are due to mastalgia (Miltenburg and Speights, 2008) and it affects up to 70% women at some times during their lives (Chaudhary *et al.,* 2003). Ninety two percent of the patients with mastalgia in our study were from 25 - 40 years and >40 years of age group, highest being from former group. For reasons, namely the attitude of both doctors and patients, mastalgia continues to be ignored in the non-Western populations (Raju *et al.,* 1985; Amr *et al.,* 1995; Onukak and Cederquist, 1989; Algaratnam and Wong, 1989). This is true of India as well, with a few notable exceptions. Shukla (Shukla and Kumar, 1989) and later Khanna and colleagues (Khanna *et al.,* 1997) from Varanasi have drawn attention to the significant incidence of mastalgia. The latter estimated it to account for 70% of all BBD. Both found mastalgia to be more common in the 2nd and 3rd decades of life respectively. Krishnaswamy (2003) also found mastalgia to be a significant problem accounting for 56.9% of all BBD. However, in this study, the mean age of

patients with both cyclical as well as non-cyclical mastalgia falls into the early and late 3rd decades respectively. Thus the pattern vis-à-vis the woman's age is closer to that seen in the Western countries (Miltenburg and Speights, 2008). These figures are not comparable to figures currently obtained in Indian literature due to the fact that these samples deal exclusively with patients of urban origin who are aware and have no hindrances in seeking medical help. However, it does alert one to the possibility of a higher current incidence or even a rising incidence of mastalgia in India.

Fibrocystic disease was the fourth most common (16%) BBD seen in our study. The vast majority of the patients (62.5%) with fibrocystic disease were from 25-40 years age group followed by 37.5% who were above the age of 40 years. Naveen *et al.,* (2013) and Rashid *et al.,* (2005) noted fibrocystic disease as second common BBD after fibroadenoma accounting for 36% and 17% respectively. Stern (1992) found fibrocystic disease as the most common in females of all ages especially in the middle age group. Chaudhary *et al.,* (2003) in his study of 234 patients, found fibrocystic disease as the most common BBD with maximum age incident in the 5th decade of life while 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 among females and more in rural areas, the female affected with fibrocystic disease tend only to see surgeon when the symptoms are 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 (Guray and Sahin, 2006; Miltenburg and Speights, 2008). Although many other names have been used to describe this entity over the years including (fibrocystic disease, Cystic mastopathy, chronic cystic disease, mazoplasia, Reclus's disease), the term "fibrocystic disease" is now preferred because this process is observed clinically in up to 50% and histologically in 90% of the women (Khanzada *et al.,* 2009).

Mammary duct ectasia, also called periductal mastitis is a distinctive clinical entity that can mimic invasive carcinoma clinically (Guray and Sahin, 2006). In our study, 14% of the patients had duct ectasia with 57% incidence seen in 25-40 years of age and 30% in >40 years age group. Duct ectasia is commonly seen in the 30 - 50 years age groups in Western population and more than 40% have substantial duct dilatation by the age of 70 years (Caleffi *et al.,* 2004). It usually presents with nipple discharge, a palpable subareolar mass, pain, nipple inversion (Slit like) or nipple retraction. Smoking has been implicated as an etiological factor in mammary duct ectasia (Furlong *et al.,* 1994; Rahal *et al.,* 2005). No relationship of smoking and duct ectasia was seen in our study.

Cellulitis resulting from infectious etiology, foreign material or systemic autoimmune disease can involve breast. In our study, 18 patients (6%) had cellulitis. 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 antibiotic therapy is excellent. The overall incidence is less in developed countries than in developing countries due to better personal hygiene and living standard.

***Conclusion***

Benign breast disorder is a very common problem in females of reproductive age. Noted incidences of different BBDs vary from population to population for various reasons prevalent among those societies. Hence, incidences of different BBDs are not comparable among studies conducted, even, in same country. Among rural populations of countries like India or other South Asian nations, common problems for which women consult a breast clinic are, palpable lump, severe breast pain and nipple discharge. Fibroadenoma is the commonest reported problem in our setup mostly seen in 2nd and 3rd decades of life. Breast abscess, due to neglected hygiene is the second common entity. With increasing awareness and urbanization of our population the upset in order of frequency of different BBDs is likely to happen as has been reported by studies conducted in urban parts of India.

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