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Benign breast disorders and diseases in rural Andhra Pradesh: A prospective study

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Abstract

Background: Throughout life period of female, breast is subjected to constant physical and physiological alterations that are related to puberty, menstrual cycle, pregnancy, lactation, and menopause. Benign breast diseases (BBD) constitute a heterogeneous group of breast lesions which include developmental abnormalities, inflammatory and granulomatous lesions, epithelial and stromal proliferations, and neoplasms.

Methods: This is a prospective study of females with breast disease presenting to surgery department over a period of one year. Malignant cases or benign cases treated earlier are excluded from the study. In addition to detailed history, triple assessment including thorough clinical examination, imaging study and tissue biopsy was done to arrive at a diagnosis. Investigations included routine hematological in all patients and imaging (ultrasonography and mammography) in some.

Results: Most common BBD is fibroadenoma followed by mastalgia, breast abscess and fibrocystic disease in our population. Commonest way of presentation was lump in breast followed by mastalgia and nipple discharge.

Conclusion: Benign breast diseases are common problems of 2nd and 3rd decade in females and raises considerable fear of malignancy. The patients of BBDs generally present with one or more of these complaints—breast lump, breast pain or nipple discharge. All the patients with discrete breast lumps should undergo a triple assessment to make an early diagnosis.

Keywords: Benign breast disorders, fibroadenoma, mastalgia, rural population, Andhra Pradesh

Introduction

Benign breast disease is a neglected entity despite the fact that it constitutes the majority of breast complaints^[1]. The vast majority of the lesions that occur in the breast are benign. Breast is a dynamic organ which undergoes cyclical changes throughout a woman's reproductive life.

Hormones and growth factors acting on the epithelial and stromal elements right from the onset of puberty till menopause cause significant morphological changes leading to Aberration in Normal Development and Involution (ANDI) causing majority of benign breast diseases^[2].

The term "Benign breast diseases" includes a heterogeneous group of lesions and may present with wide range of symptoms^[3]. Benign breast diseases can occur any time during the life span of a female. The aberrations of normal development and involution (ANDI) classification of BBD provides an overall framework for benign conditions of the breast that encompasses both pathogenesis and the degree of abnormality^[4].

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^[5, 6].

Ratio of BBD to malignant breast disease is 10:1^[7]. It has been reported that 90% of the patients attending breast clinics belong to this group^[8, 9]. 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^[10].

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.

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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 BBDs among female patients of rural areas.

Materials and Methods

Type of study, Duration and Setting of the study, Sample size

A prospective study of 100 cases of benign breast lesions was carried out in the department of General Surgery, Great Eastern Medical School and Hospital, Srikakulam from March 2018 to April 2019 for a period of one year.

Inclusion criteria

Female patients with any benign disorder/disease of the breast - for example, a breast lump, breast pain or a nipple discharge in the age group of 20 to 55 years were included in the study.

Exclusion criteria

Women with an obvious malignant disease or those who had been treated for malignancy earlier and male patients were excluded in this study.

Data Collection and Procedures

The study was conducted after Institutional Ethics Committee approval. 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.

Statistical Analysis

Statistical analysis was performed by the SPSS program for Windows, version 17.0 (SPSS, Chicago, Illinois) and variables are presented as absolute numbers and percentage.

Results

Fibroadenoma was the most common benign breast disease seen in 44% of patients, followed by Mastalgia seen in about 16%, breast abscess in 13%, fibrocystic disease in 8% and duct ectasia in 08% patients. Other benign diseases noted were duct papilloma in 3%, cellulitis in 1% and antibioma was seen in 3% of patients. Phylloides tumour, and galactocoele, each, were seen in 2% of patients.

About 31.8% patients with fibroadenoma belonged to <25 years age group followed by 50% from 25-40 years of age. About 38.4%, 46.5%, 15.4% of patients from, <25 years, 25-40 years and >40 years age group respectively had breast abscess. Mastalgia was noticed in 56.25% of 25-40 years of age, 31.25% in >40 years of age and 12.5% in <25 years of age. 75% of patients with fibrocystic disease were from 25-40 years of age

while 25% were from >40 years of age.

About 62.5% of patients with duct ectasia were seen from 25-40 years of age followed by 25% from >40 years age group and 12.5% were less than 25 years of age. A detailed account of these BBD according to the various age groups is shown in Table 2.

Table 1: Distribution of cases according to age groups.

Age groups	No. of patients	%
<25	22	22
25-40	54	54
>40	24	24
Total	100	100

Table 2: Distribution of various benign disorders according to age groups.

Age Groups	<25 yrs	25-40 yrs	>40 yrs	Total
Fibroadenoma	14	22	8	44
Abscess	5	6	2	13
Mastalgia	2	9	5	16
Fibrocystic Disease	0	6	2	8
Duct ectasia	1	5	2	8
Duct papilloma	0	1	2	3
Cellulitis	0	1	0	1
Antibioma	0	2	1	3
Phylloides tumor	0	0	2	2
Galactocoele	0	2	0	2
Total	22	54	24	100

Discussion

Benign breast diseases include a heterogeneous group of conditions which range from normal, to aberrations in the physiology, to frank disease. The patients of BBDs generally present with one or more of these complaints – breast lump, breast pain or nipple discharge. It has been recommended that all the patients with discrete breast lumps should undergo a triple assessment to make an early diagnosis.

In our study about 76% of patients with BBD were in the age group of 20-40 years with peak incidence during 25-40 years of age. These results are consistent with those of many a studies conducted by Naveen et al, Out AA, Ihekwa, Chaudhary et al, Khazada *et al.* [10, 14] However a few studies like Dunn et al contradict these results in which mean age of BBD patients was 50 years [15].

In our study fibroadenoma was the most common BBD seen in 44% of the total patients. It was at its peak (50%) in 25-40 years age group, while 31.8% of fibroadenomas were seen in <25 years age group. Maximum incidence of fibroadenoma among all BBDs was also observed by Naveen et al and Khazada et al. [10, 14] While results were not so as observed by Krishnaswamy, Shukla and Khanna et al. [16, 18] No significant difference was noted in the recent literature regarding the age groups having fibroadenoma.

Breast abscess was seen in 13% of the patients in our study 38.4%, 46.5%, 15.4% respectively 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 [19]. Barton et al, found acute bacterial mastitis common at any age but most frequently in lactating breasts [20].

Mastalgia was seen in 16% of patients in our study. Twenty five percent of the referral to breast clinics in West is due to mastalgia and it affects up to 70% women at some times during

their lives [21]. 87.5 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 [22, 25]. This is true of India as well, with a few notable exceptions. Shukla and later Khanna and colleagues from Varanasi have drawn attention to the significant incidence of mastalgia [17, 18]. 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 also found mastalgia to be a significant problem accounting for 56.9% of all BBD [16].

Fibrocystic disease was the fourth most common (8%) BBD seen in our study. The vast majority of the patients (75%) with fibrocystic disease were from 25-40 years age group followed by 25% who were above the age of 40 years. Naveen et al and Rashid et al noted fibrocystic disease as second common BBD after fibroadenoma accounting for 36% and 17% respectively [10, 26]. 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 [5, 21].

Mammary duct ectasia, also called periductal mastitis is a distinctive clinical entity that can mimic invasive carcinoma clinically [5]. In our study, 8% of the patients had duct ectasia with 62.5% incidence seen in 25-40 years of age and 25% in >40 years age group. It usually presents with nipple discharge, a palpable subareolar mass, pain, nipple inversion (Slit like) or nipple retraction.

Conclusion

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.

Benign breast diseases raises considerable fear of malignancy. Hence, All the patients with discrete breast lumps should undergo a triple assessment to make an early diagnosis.

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