Research Article

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Benign breast diseases: experience at a teaching hospital in rural India

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ABSTRACT

Background: Though benign breast diseases are very common with nearly 1/3 of women suffering some time during their life time, not many studies have focused on this entity, especially in rural areas. Our teaching hospital situated amongst the villages in rural part of India provided the right background for the study.

Objective: To determine the frequency of benign breast diseases in a teaching hospital situated in the rural setting and to analyze the role of triple assessment in assessing benign breast diseases.

Study design: Prospective, descriptive study.

Setting: MVJ Medical College and Research Hospital, Hoskote, Bangalore Rural district, Karnataka, India.

Method of study: Data including age, complaints, clinical examination, radiological investigations and histopathological diagnosis was collected from patients presenting to the department of surgery with breast complaints. Patients with carcinoma of the breast were excluded from the study.

Results: A total of 110 patients were studied between November 2009 to March 2011. Mean age of patients was 28.6 years. Fibroadenoma was the most common diagnosis in 56.4% followed by fibroadenosis in 20.9%. There was one case each of lipoma, tuberculosis and duct ectasia and two cases of atypical ductal hyperplasia. The sensitivity of clinical diagnosis in our study was 91.1% and FNAC was 100% accurate in all patients with fibroadenoma but had a sensitivity of only 78% in the diagnosis of fibroadenosis. Only 3.3% of cases of fibroadenoma were treated conservatively.

Keywords: Benign breast disease, Rural India, Triple assessment, Fibro adenoma

INTRODUCTION

Benign breast disease is a neglected entity despite the fact that it constitutes the majority of breast complaints. Breast cancer has taken precedence over benign breast disease since it is more fearsome although the number of females with benign breast diseases is substantial. 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 Benign breast diseases can occur any time during the life span of a female, though its manifestation in a male is limited.

Once a diagnosis of BBD has been made, risk factors for breast cancer are assessed based on the histologic classification of a benign breast lesion and a family history of breast cancer. Previously, it has been demonstrated that with the use of mammography, ultrasound, and magnetic resonance imaging of the breast and the extensive use of needle biopsies, the diagnosis of

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a benign breast disease can be accomplished without surgery in the majority of patients.³

In women between adolescence and the mid-20s, the lobules and stroma in the breast may respond to hormonal stimuli in an exaggerated fashion with the development of single and multiple palpable fibroadenomas.⁴ The spectrum of normal histologic features ranges from predominance of ducts, lobules, and intralobular and interlobular stroma to features that exhibit mainly patterns of fibrous change and cyst formation, formerly called fibrocystic disease of the breast. The term "fibrocystic changes" is now preferred, since in up to 50 to 60 percent of women without breast disease, this histologic pattern may be evident.⁵

Triple assessment, which includes clinical examination, imaging and histopathological examination, is now considered the gold standard approach to the diagnosis of all breast lumps1. Assessment is essentially clinical in young women aided by ultrasound, cytology, or core needle histology. Older women require mammogram and ultrasonography to identify a dominant lump or deep seated cysts and also to ensure targeted biopsy. 6

The current study was taken up to determine the frequency of benign breast diseases in a teaching hospital situated in the rural setting, to analyze the role of triple assessment in assessing benign breast diseases and understand its implications on the management.

METHODS

This prospective descriptive study was conducted between November 2009 and March 2011 at our hospital on patients presenting with breast complaints to the general surgical outpatient clinics and subsequently admitted for treatment. All patients presenting with breast lumps to the outpatient surgical OPD were included in the study. Patients with features of carcinoma on FNAC were excluded from the study.

Informed consent was obtained from all patients, and ethical clearance was taken from the Institutional Ethics Committee.

The method of study consisted of detailed history, clinical examination and relevant investigations. FNAC was done for all palpable lesions and patients with breast nodularity. The smears were studied by a pathologist after aspirating with a 22 gauge needle. Ultrasound and mammography of the breast was performed in patients aged above 35 years, patients with nipple discharge and in patients with non-cyclical mastalgia.

RESULTS

A total of 110 patients who presented with breast lumps to the outpatient department and had benign lesions on FNAC were included in the study.

Clinical findings

A total of 54.2% of these patients presented with only lump as their chief complaint and the next major symptom was lump and pain in 20.9%. Pain was the only symptom in 16 (14.5%) patients. Nipple discharge was found in patients with abscess, galactocoele and duct ectasia.

Table 1: Chief complaints in our study.

Chief Complaints	Frequency	Percentage
Lump	62	56.4
Pain	16	14.5
Lump and Pain	23	20.9
Nipple Discharge	09	8.2
Total	110	100

In our study, benign breast disease was very rare in patients less than 20 yrs of age and peaked between 20 to 40 years with a mean age of presentation of 28.6 years. Only one case of benign breast cyst was diagnosed in a 50 year patient. Fibroadenoma was the most common diagnosis in the age group of 21-40 years (53.6%) followed by fibroadenosis (18.1%).

The involvement was unilateral in 90.1% (right side in 47.3%, left side in 43.6%) and bilateral in 9.1% of patients (one case of breast abscess, 4 cases of fibroadenoma and 5 cases of fibroadenosis). Multiple fibroadenomas were found in 5 patients.

Imaging

Ultrasonography and mammography was done selectively and correlated with clinical diagnosis. Ultra sound was very useful in diagnosis of breast cyst in the 50 year old patient who had presented with a painless lump.

Histopathological examination

In this study, fibroadenoma was the most common diagnosis with 62 (56.4%) of patients having this disease followed by fibroadenosis in 23 patients (20.9%). A total of 7 patients (6.4%) had cyclical mastalgia without any palpable abnormality. There were few unusual cases in this study: one case each of tuberculosis of the breast and lipoma and two cases of atypical ductal hyperplasia. Fibroadenoma was solitary in 57 (91.9%), bilateral in 4 and multiple in 5 patients.

Table 2: Age distribution of benign breast disease.

Туре						
	less than 20	21-30	31-40	41-50	>50	Total
Fibroadenoma	2	39	20	1		62
Fibroadenosis	3	13	7			23
Abscess		6	3			9
Mastalgia		4	3			7
Galactocele		2				2
Duct ectasia					1	1
Lipoma		1				1
Benign cyst				1		1
Tuberculosis			1			1
Atypical ductal hyperplasia			2			2
Antibioma		1				1
Total	5	66	36	2	1	110

Figure 1: Side of the lesions.

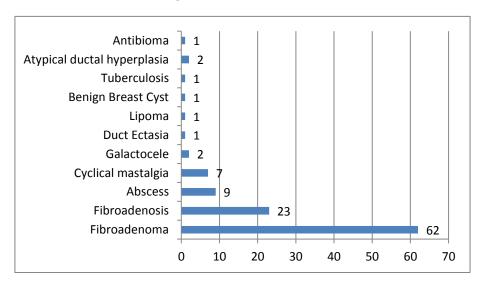


Figure 2: Spectrum of benign breast disease in our study.

Correlation of clinical examination and FNAC with histopathological examination

In this study, the sensitivity of clinical diagnosis was 91.1%. A total of 3 cases of fibrocystic change, one case each of lipoma and cyst were wrongly diagnosed. Majority of fibroadenosis was diagnosed clinically and confirmed by FNAC, ultrasonogram or mammogram.

FNAC had 100% sensitivity in the diagnosis of fibroadenoma and was sensitive in only 78% of fibroadenosis because of inadequate smears in some patients.

Management

A total of 68 (61.8%), of these patients underwent excisional procedure out of which 60 (88.2%) were fibroadenoma. Two cases of fibroadenoma were treated conservatively. A total of 2 patients underwent microdochectomy (one case each of duct ectasia and atypical ductal hyperplasia). A total of 20 patients (87%) with fibroadenosis were treated conservatively. One patient with persisting sinus after draining a non puerperal breast abscess underwent edge biopsy which turned out to be tuberculosis. Two cases of galactocoele were aspirated under ultrasound guidance.

Treatment Modalities Type **Excision** Conservative I and D Aspiration Microdochectomy Fibroadenoma 60 2 62 3 Fibroadenosis 20 23 Abscess 9 Mastalgia 7 7 Galactocele 2 2 **Duct Ectasia** 1 1 Lipoma 1 1 Benign Breast Cyst 1 Atypical ductal 2 2 hyperplasia **Tuberculosis** Antibioma 1 1 68 30 110 Total

Table 3: Treatment of benign breast disease in our study.

DISCUSSION

Benign breast diseases are more common than malignant lesions. It is important to be aware about the manifestations and treatment of benign breast lesions because women with proliferative breast lesions without atypia have a slightly increased risk of breast cancer, whereas women with atypical hyperplasia have a substantially increased risk. Clinicians, pathologists and oncologists need to be able to distinguish BBD from breast cancer and to have knowledge of their patterns of occurrence.

In developing countries like India and especially in rural areas, the treatment of breast diseases poses a problem because of illiteracy, poverty, lack of accessibility to good healthcare and most important of all superstition. Our institution located in rural part of south India thus provided an opportunity to study the awareness, willingness of rural women to allow themselves to be

examined, evaluated and treated for breast related problems.

In a similar study done over a period of two and half years by Kumar et al. in western part of rural India of 380 cases of benign breast disease, 47.6% of patients had right sided breast involvement, 39.7% had left sided and 12.63% had bilateral involvement. Fibroadenoma was the most common and constituting 42.1% of cases among which solitary fibroadenoma accounted for 39.7%, 1.5% were giant fibroadenomas and 0.7% were multiple fibroadenoma. Fibroadenoma was more commonly seen in age group of 11-30 years constituting 119 (74.3%) of all cases followed by 29 (18.1%) cases in age group of 31-40 years.

In a study done in Pakistan by Batool et al at Lahore, amongst the 63 patients with benign breast disease, 38 had fibroadenomas (60.3%), 15 had breast abscesses (23.8%) and 10 had breast tuberculosis (15.87%). Among 100 patients in another study, 49% patients have

Fibroadenoma, 18% fibrocystic disease, 15% breast abscess. In our study fibroadenoma was the most common diagnosis with 56.4% of patients with this disease followed by fibroadenosis in 23(20.9%). One case each of tuberculosis and lipoma were found in our study. Fibroadenoma is thus the most common breast disease as also evidenced by many other studies.

There was a high incidence of mastalgia and tuberculosis (5.2%) in a study by Shukla. 10 Similarly there was a high incidence of mastalgia (56.9%) in a study conducted in urban India by Krishnaswamy. 11 The incidence of mastalgia in our study was only 6.4% when compared to these studies probably reflecting the demography of the study and the lack of concern among rural women vis-avis breast pain when it is not accompanied by palpable abnormality. Moreover the study by Shukla et al was a retrospective study of 10 years duration and that by Krishnaswamy was a cross sectional study. In a study of benign breast disease in females of child bearing age, by Iyer et al. out of 60 patients with BBD, 8% of patients had tuberculous mastitis, 1 patient had lipoma and 1 with galactocoele.12 Tuberculosis of the breast constituted 1.21% (63) out of a total of 5200 cases of breast disease in a study conducted by Mehta et al. 13 The only case of tuberculosis was diagnosed in our study was after an edge biopsy of a non healing sinus as a consequence of incision and drainage of non puerperal breast in a different hospital. The low incidence of tuberculosis in our study may be because of the short duration of investigation. The incidence of lipoma (0.9%) and galactocoele (1.8%) are however are comparable. 11

Ferer et al. reported a positive predictive value of 79.3% for FNAC in benign breast disease. Similarly in another study by Park et al. the positive predictive value of FNAC for benign breast disease was 87.5%. The success of cytological diagnosis depends on the histologic subtype when performing FNAC on palpable lumps. FNAC has sensitivity between 68-97% for fibroadenomas. Iyer et al. Perported a sensitivity of 95% for fibroadenomas. In our study there was 100% sensitivity for fibroadenomas and 78% for fibroadenosis. The poor sensitivity in fibroadenosis was because of poor cellular aspirates.

Ultrasound was used selectively in patients with equivocal findings on clinical examination and or FNAC. Ultrasound was used to diagnose 2 patients with galactocele and in a 50 year old patient with breast cyst. Ultrasonography is useful in determining whether a lesion detected by other modalities is solid or cystic and in determining contour and internal properties of a lesion, but it is not a useful screening modality. ¹⁶

The accuracy of clinical diagnosis was 91.1% in our study and was comparable to the study by Iyer et al. (90.24%). In another study the accuracy of clinical diagnosis was 93% for benign breast disease. ¹⁷

Although it is recommended that fibroadenomas can be managed conservatively in women less than 35 years³ after adequate triple assessment, only 3.3% of our patients were treated conservatively since Indian women usually prefer excision for follow up because of the social stigma associated with it.

CONCLUSION

The spectrum of benign breast diseases in our study population does not appear to differ much from other studies with a concern towards the presence of lump or lump accompanied by pain. Mean age of presentation of benign breast disease in our study was 28.6 with a 50year-old patient presenting with a breast cyst. Fibroadenoma was the most common diagnosis in 56.4% followed by fibroadenosis in 20.9%. The sensitivity of clinical diagnosis in our study was 91.1% and FNAC was 100% accurate in all patients with fibroadenoma but had a sensitivity of only 78% in the diagnosis of fibroadenosis. Mastalgia as an isolated symptom appears to be neglected reflecting the low incidence in our study. Tuberculosis accounts for less than 5% of benign breast disease and in our study only one case of tubercular breast abscess was diagnosed. Although fibroadenomas in patients less than 35 years can be managed conservatively only 3.3% of our patients opted for conservative management for the fear of the lump being malignant, the presence of a lump itself and the social stigma associated with it.

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