International Journal of
Surgery Science

Dr. Tushar B Patil
Associate Professor, ACPM Medical College, Dhule, Maharashtra, India

Dr. Aditya A Manekar
Junior Resident, ACPM Medical College, Dhule, Maharashtra, India

Epidemiology of benign breast disease in rural population of North Maharashtra

Dr. Tushar B Patil and Dr. Aditya A Manekar

Abstract
We hereby present a case series of and epidemiological study on benign breast diseases among rural population of North Maharashtra. Breast health awareness has resulted in increasing detection of early breast cancer and corresponding decrease in breast cancer morbidity. About 80% of breast biopsies result in a benign pathology. Women with a benign disorder, require treatment at some time in their lives. The concept of ANDI – Aberrations of Normal Development and Involution is gaining acceptance. This study highlights the spectrum of epidemiology of benign breast diseases in rural population.

Keywords: Epidemiology, benign breast disease, rural population, North Maharashtra

Introduction
Breast health awareness has resulted in increasing detection of early breast cancer and corresponding decrease in breast cancer morbidity. About 80% of breast biopsies result in a benign pathology. Women with a benign disorder, require treatment at some time in their lives. Breast is an important organ which undergoes changes throughout women's reproductive life, and superimposed on this, cyclical changes throughout menstrual cycle. The pathogenesis involves disturbance in breast physiology extending from an extreme normality to well defined disease process [1]. The most common symptoms are pain, lumpiness or a lump. Symptomatic breast lesions are traditionally evaluated by clinical, cytological and radiologic methods. The main problem from women's patient of view is fear that such a lump may be a cancer. The clinician must therefore provide a degree of diagnostic accuracy while at same time ensuring that an excessive biopsy rate is prevented. It is now easier to exclude cancer with the development of diagnostic aids such as mammography, ultrasonography and fine needle aspiration cytology (FNAC) [2]. The role of FNAC and USG in the diagnosis and management of breast disease is increasing. But each of these diagnostic modalities by itself has an appreciable false negative rate. Most breast complaints are benign in nature. They have been known to affect both males and females. Unlike breast cancer, benign breast diseases have often been difficult to understand in part due to variety of names that have been used to describe the various conditions. The variety of benign breast problems can be classified according to the presenting symptoms – lumps, nipple problems, pain, and infections. Thus, the inaccuracy in diagnosis of breast disease can be overcome by combination of these diagnostic methods, by which sensitivity increases.

About 5 - 55% of all women suffer from breast disorders in their lifetime. Benign disorders of the breast is usually seen in reproductive period of life, is thought to be largely hormone induced and there is a dramatic fall in the incidence, after menopause due to cessation of clinical ovarian stimulation. Benign breast disease is 4 -5 times more common than breast cancer [3].

The concept of ANDI – Aberrations of Normal Development and Involution is gaining acceptance [4]. Benign proliferation of the breast are often considered as aberrations of normal development and involution. The cyclical changes due to variations in estrogen and progesterone result in increased mitosis around days 22–24 of the menstrual cycle but apoptosis restores the balance across the cycle. ANDI, first proposed by Huges is now universally accepted. This concept allows conditions of the breast to be mapped between normality, through benign disorders to benign breast disease [4].

In my study, I am attempting to analyse the spectrum of the benign breast diseases with respect to age, mode of presentation, clinical features and the histopathological correlation of the same.

Correspondence
Dr. Tushar B Patil
Associate Professor, ACPM Medical College, Dhule, Maharashtra, India

Aims and objectives
1. To clinically, cytologically and radiologically evaluate all the patients with benign breast disease.
2. To give conservative or operative treatment to those patients who need it.
3. To do histopathological examination of the excised specimen for the confirmation of cytological, radiological and clinical diagnosis.

Materials and Methods
Source of Data
Study was conducted on all outpatients and inpatients who presented with a breast lump, from all units of the Department of General Surgery in Annasaheb Chudaman Patil Medical college and Hospital (A.C.P.M.M.C.H), Sakri road, Dhule.

Method of Collection of data
- All the patients coming to ACPMMCH surgery OPD with the features suggestive of benign breast diseases were subjected to detailed history and clinical examination. Their complaint were noted in chronological order. Clinical examination was thoroughly carried out to find the various modes of presentation.
- Routine investigations like CBC, Blood sugar level, serum urea, creatinine, urine routine and chest radiograph were performed.
- All the patients were subjected to FNAC besides routine investigations.
- Sonomammography was done in all cases
- The patient in whom surgery was planned (excisional biopsy) and histopathological examination of the excised lump/ specimen was done.

Inclusion Criteria
1. All female patients
2. Age 15-50 years
3. Patients who are eligible candidates for surgery.
4. Patients who are willing for surgery

Exclusion Criteria
1. Patients who have been diagnosed with a malignant disease.
2. Patients refusing any sort of treatment.
3. All male patients.
4. Patients above 50 years of age.
5. Patient presenting with recurrence of disease.

This study included 40 patients presenting predominantly with breast lump. The patients underwent clinical examination with USG and FNAC. The diagnosis of breast lump was reached with correlation of clinical findings, sonomammography and FNAC.

Observations and results
In the study out of 40 patients with benign breast disease, maximum i.e. 35% were within 21 to 25 years age group, 22.5% were either within 16 to 20 years age or were above 30 years age while 20% patients had age within 26 to 30 years.

Table 1: Age group distribution of patients with Benign Breast disease

Age Group (years)	Frequency	Percent
16 to 20	9	22.5
21 to 25	14	35.0
26 to 30	8	20.0
>30	9	22.5
Total	40	100.0

Chief complaints of 87.5% patients was of only presence of breast lump, 7.5% complained of lump with milky nipple discharge and 5% had pain along with lump.

Table 2: Chief complaints of patients with Benign Breast disease

Chief Complaint	Frequency	Percent
Only Lump	35	87.5
Lump with Milky nipple discharge	3	7.5
Lump with pain	2	5.0
Total	40	100.0

In maximum patients i.e 82.5% single lesion of benign breast disease was noted on clinical examination while 17.5% patients had multiple breast lesions.

Table 3: Number of lesion of patients with Benign Breast disease

Number of lesion	Frequency	Percent
Single	33	82.5
Multiple	7	17.5
Total	40	100.0

The size of breast lump clinical was less than 3 cms in 7.5% patients, 77.5% had 3 to 5 cm size lump while in 15% patients the lump was more than 5 cms.

Table 4: Lump size on clinical examination of patients with Benign Breast disease

Clinically Lump size (cms)	Frequency	Percent
<3	3	7.5
3 to 5	31	77.5
>5	6	15.0
Total	40	100.0

In all 40 patients the benign breast lump had firm consistency and was mobile.

Table 5: Consistency and mobility of lump on clinical examination of patients with Benign Breast disease

		Frequency	Percent
Consistency	Firm	40	100.0
Mobility	Mobile	40	100.0

The clinical diagnosis of benign breast disease of 72.5% patients was fibroadenoma, 10% were diagnosed as fibroadenosis and 12.5% as galactocoele and 5% as sebaceous cyst.

Table 6: Clinical diagnosis of Benign Breast disease

Clinical Diagnosis	Frequency	Percent
Fibroadenoma	29	72.5
Fibroadenosis	4	10.0
Galactocoele	5	12.5
Sebaceous Cyst	2	5.0
Total	40	100.0

Table 7: Lump size on mammographic examination of patients with Benign Breast disease

Lump size on Mammography (cms)	Frequency	Percent
<3	11	27.5
3 to 5	23	57.5
>5	6	15.0
Total	40	100.0

Mammography findings in 15% patients was hyperechoic, 72.5% had hypoechoic findings while 12.5% had isoechoic finding.

Table 9: Echogenicity findings on mammography of patients with Benign Breast disease

Echogenicity	Frequency	Percent
Hyperechoic	6	15.0
Hypoechoic	29	72.5
Isoechoic	5	12.5
Total	40	100.0

On FNAC maximum patients i.e. 72.5% were diagnosed of Fibroadenoma, 10% as fibroadenosis, 12.5% as Galactocoele and 2.5% as either to be epidermal cyst or sebaceous cyst.

Table 9: FNAC diagnosis of patients with Benign Breast disease

FNAC	Frequency	Percent
Epidermal Cyst	1	2.5
Fibroadenoma	29	72.5
Fibroadenosis	4	10.0
Galactocoele	5	12.5
Sebaceous Cyst	1	2.5
Total	40	100.0

On histopathological examination 72.5% had fibroadenoma, 10% had fibroadenosis, 12.5% had Galactocoele and 5% had sebaceous cyst.

Table 10: Histopathology diagnosis of patients with Benign Breast disease

Histopathology	Frequency	Percent
Fibroadenoma	29	72.5
Fibroadenosis	4	10.0
Galactocoele	5	12.5
Sebaceous Cyst	2	5.0
Total	40	100.0

Discussion
Benign breast diseases are a common disease affecting women in our country. This study includes 40 cases of benign diseases which were assessed, evaluated and treated surgically at our setup.

1. Age distribution
In the present study, patients less than 15 years and more than 45 years were excluded. Of the 40 cases of benign breast diseases, maximum incidence was found in the age group from 21-25 years, followed by age group of 16-20 years and more than 30 years and then 26-30 years.

2. Symptomatology
In our present study, the most common presenting symptom was breast lump present with all 40 cases (100 percent). Amongst them, 35 (87.5 percent) patients presented only with the lump, 3 cases (7.5 percent) presented with a nipple discharge along with the lump and 2 cases (5 percent) presented with painful lump.

3. Laterality
In the present study, of the 40 cases, right breast was involved in 19 cases (47.5 percent), 16 on the left side (40.0 percent) and 5 cases presented with bilateral involvement (12.5 percent). However, no statistically significant difference was found in the laterality of the breast lesion and different age groups.

4. Number of lesions
Most lesions (33 cases) were solitary (82.5 percent) and multiple lesions were present in 7 cases (17.5 percent) on clinical examination. There was statistically no significant difference of number of lesions in different age groups.

5. Lump size, consistency and mobility and clinical diagnosis
In our present study, the majority of cases (31 cases) had lumps of size 3-5cms (77.5 percent), followed by 6 cases with lumps of size more than 5 cm (15 percent) and 3 cases of size less than 3 cm (7.5 percent). There was statistically no significant ($p>0.05$) difference of size of lump within different age groups
The lump was found to be firm in consistency in all 40 cases (100 percent). The lump was mobile too in all 40 cases (100 percent). Based on the clinical features, 29 cases were diagnosed as fibroadenoma (72.5 percent), 4 cases were diagnosed clinically as fibroadenosis (10.0 percent), 5 cases were diagnosed as galactocoele (12.5 percent) and 2 cases (5 percent) were diagnosed as sebaceous cyst. There was statistically no significant difference of the Clinical diagnosis of benign breast disease within different age groups.

6. Sonomammography findings
In our present study, on ultrasonography of the breast, 23 patients (57.5 percent) had lump size from 3-5 cms, followed by 11 cases (27.5 percent) with ultrasonographic lump size less than 3 cms and 6 cases (15.0 percent) with lump size more than 5 cms.
Majority of lumps, 29 cases, were hypoechogenic (72.5 percent), followed by 6 cases which showed hyperechogenicity in the lumps (15 percent) and 5 cases with isoechogenic lumps (12.5 percent). There was statistically significant difference of the echogenecity of breast lump in different age groups.

7. Pathological findings
FNAC proved to be an important diagnostic tool in our present study of 40 cases, with maximum number of cases (29) being reported as fibroadenoma (72.5 percent) followed by 5 cases which were reported as galactocoele (12.5 percent), 4 cases as Fibroadenosis (10.0 percent) and 1 case each as epidermal cyst and sebaceous cyst (2.5 percent each).
Histopathologically, results of FNAC were confirmed. On histopathological examination 29 cases of fibroadenoma were diagnosed (72.5 percent) same as that on FNAC, as with 5 cases of galactocoele (12.5 percent), 4 cases of fibroadenosis (10.0 percent). However 1 case diagnosed as epidermal cyst on FNAC was diagnosed as sebaceous cyst (2 cases, 5.0 percent) on histopathological examination. There was statistically highly significant difference of the clinical diagnosis in different echogenicity of lump.
There was no difference of clinical diagnosis with that of the diagnosis by FNAC of Fibroadenoma, Fibroadenosis, Galactocoele. While epidermal cyst on FNAC was diagnosed to be sebaceous cyst clinically. The Clinical diagnosis of benign breast lump in patients were confirmed histopathologically. There was no difference of the diagnosis.

Conclusion
We have studied 40 cases of BBD, who have been subjected to clinical examination, USG breast and FNAC/HPE. Fibroadenoma is the most common among all benign breast disorders. FNAC along with USG is an important tool for the diagnosis and management of benign breast diseases.

References
1. Sainsbury RC. The breast. In: Rusell RCG, Williams NS, Bulsrode CJK. Editors - Bailey and Love's Short Practice of

Surgery. 24th edition, Arnold, London; 2004, 824-846.

2. Greenall MJ. Benign Conditions of Breast. In: Morris PJ, Malt RA editors. Oxford Textbook of Surgery. Oxford Medical Publications. New York; 1994, 789-808.

3. Douglas J, Merchant MD. Benign Breast Disease. Obstetrics and Gynaecology. Clinics of North America; 2002; 29(1):1-2.

4. Hughes LE, Mansel RE, Webster DJT. Abberation of normal development and involution (ANDI): A new perspective in pathogenesis and nomenclature of benign breast disorders. The Lancet 1987, 1316-1319.