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Benign breast disease in rural population attending tertiary hospital: An epidemiological study

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Abstract
Background: Various types of lesion from inflammation to carcinoma can affect the breast. Some lesions are common in young females while others are more common in elderly age group. Early presentation and prompt diagnosis is essential to relieve anxiety of non-neoplastic conditions.
Methods: The study conducted on all outpatients and inpatients who presented with a breast lump, from all units of the Department of Pathology in Great Eastern Medical School & Hospital, Ragolu, Srikakulam during December 2017 to December 2018. It is a cross sectional study with 78 patients as sample size.
Results: In the study out of 78 patients with benign breast disease, the majority were within 21 to 25 years age group. On FNAC maximum patients, i.e. 74.4% were diagnosed of Fibroadenoma, 7.7% as fibroadenosis, 15.4% as Galactocele and 2.6% as either to be an epidermal cyst or sebaceous cyst. On histopathological examination, 74.4% had Fibroadenoma, 7.7% had fibroadenosis, 15.4% had Galactocele, and 2.6% had a sebaceous cyst.
Conclusion: Most cases of breast lump are benign, but most of these patients are in a state of heightened anxiety. Hence, Awareness about the benign breast diseases and diagnostic tools such as USG and FNAC would help in the proper resolution of the breast lump and better outcomes.

Keywords: breast, cancer, cytology, fibro adenoma, lump

Introduction

Breast is a vital organ which changes women's reproductive life and superimposes on this, cyclical changes throughout the menstrual cycle. The pathogenesis involves a disturbance in breast physiology, extending from extreme normality to well-defined disease process [1].

Breast lump can be the cause of different benign and malignant lesions, and the management of the patients varies accordingly. Though clinical examination of the breast lump and the age of the patient can provide information about the nature of the lump, pathological examination is necessary to establish the diagnosis.

The main problem from women's patient of view is fear that such a lump may be cancer. The clinician must, therefore, provide a degree of diagnostic accuracy while at the same time ensuring that an excessive biopsy rate 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]. Most cases of breast lump are benign but most of these patients are in a state of heightened anxiety until they have undergone specialist assessment and eventual reassurance [15, 16].

About 5-55% of all women suffer from breast disorders in their lifetime. Benign diseases of the breast usually seen in the reproductive period of life thought to be mostly 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]. 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 period. This concept allows conditions of the breast to be mapped between normality, through benign disorders to benign breast disease [4].

Risk factors for benign and malignant breast diseases include low parity, null parity, young age at first birth and late menopause, highlighting the fact towards excessive circulating

oestrogen levels [5, 6].

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 a histopathological examination of the excised specimen for the confirmation of cytological, radiological and clinical diagnosis.

Materials and Methods Source of Data

The study conducted on all outpatients and inpatients who presented with a breast lump, from all units of the Department of Pathology in Great Eastern Medical School & Hospital, Ragolu, Srikakulam during December 2017 to December 2018.

With prior approval from IEC, Study was conducted. It is a cross sectional study.

Method of Collection of data

All the patients are coming to surgery OPD with the features suggestive of benign breast diseases subjected to a detailed history and clinical examination. Their complaint noted in chronological order. Clinical analysis 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 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 were 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 diagnosed with malignant disease.
2. Patients are refusing any treatment.
3. All male patients.
4. Patients above 50 years of age.
5. A patient was presenting with recurrence of the disease.

This study included 78 patients presenting predominantly with a breast lump. The patients underwent clinical examination with USG and FNAC. The diagnosis of breast lump reached with the correlation of clinical findings, Ultra sonomammography and FNAC.

Results

In the study out of 78 patients with benign breast disease, the majority were within 21 to 25 years age group (Table1).

Chief complaints of 78.2% patients were of only presence of breast lump, 16.7% complained of Lump with nipple discharge, and 5.1% had pain along with Lump (Table 2). In maximum patients, i.e. 94.9% single lesion of benign breast disease was noted on clinical examination, while 5.1% of patients had multiple breast lesions. (Table 3)

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

Age Group (years)	Frequency	Percent
16 to 20	12	15.4
21 to 25	26	33.3
26 to 30	22	28.2
>30	18	23.1
Total	78	100.0

Table 2: Chief complaints of patients with Benign Breast disease

Chief Complaint	Frequency	Percent
Only Lump	61	78.2
Lump with nipple discharge	13	16.7
Lump with pain	4	5.1
Total	78	100.0

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

Number of lesion	Frequency	Percent
Single	74	94.9
Multiple	4	5.1
Total	78	100.0

The size of breast lump clinical was less than three cms in 10.3% patients, 83.3% had 3 to 5 cm size lump while in 6.4% patients the Lump was more than five cms. (Table 4) In all 78 patients, the benign breast lump had firm consistency and was mobile.(Table 5) The clinical diagnosis of benign breast disease of 75.6% patients was a fibroadenoma, 7.7% diagnosed as fibroadenosis and 15.4% as galactocele and 1.3% as a sebaceous cyst. (Table 6)

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

Clinically Lump size (cms)	Frequency	Percent
<3	8	10.3
3 to 5	65	83.3
>5	5	6.4
Total	78	100.0

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

		Frequency	Percent
Consistency	Firm	78	100.0
Mobility	Mobile	78	100.0

Table 6: Clinical diagnosis of Benign Breast disease

Clinical Diagnosis	Frequency	Percent
Fibroadenoma	59	75.6
Fibroadenosis	6	7.7
Galactocoele	12	15.4
Sebaceous Cyst	1	1.3
Total	78	100.0

Out of 78 patients with breast lump when underwent sonomammography, 54 cases have shown hypoechogenicity. On FNAC maximum patients, i.e. 74.4% were diagnosed of Fibroadenoma, 7.7% as fibroadenosis, 15.4% as Galactocele and 2.6% as either to be an epidermal cyst or sebaceous cyst. On histopathological examination, 74.4% had Fibroadenoma, 7.7% had fibroadenosis, 15.4% had Galactocele, and 2.6% had a sebaceous cyst.

Table 7: FNAC diagnosis of patients with Benign Breast disease

FNAC	Frequency	Percent
Epidermal Cyst	1	1.3
Fibroadenoma	58	74.4
Fibroadenosis	6	7.7
Galactocoele	12	15.4
Sebaceous Cyst	1	1.3
Total	78	100.0

Table 8: Histopathology diagnosis of patients with Benign Breast disease

Histopathology	Frequency	Percent
Fibroadenoma	58	74.4
Fibroadenosis	6	7.7
Galactocoele	12	15.4
Sebaceous Cyst	2	2.6
Total	78	100.0

Discussion

Benign breast diseases are a common disease affecting women in our country. This study includes 78 cases of benign conditions which assessed, evaluated and treated surgically. In our study, maximum incidence occurred in the age group of 21-30 which is similar to Chandak *et al*., [7]. Yadav SS *et al*. [8] the rarity of the breast diseases in the first decade of the life is observed in our study which is comparable to Stone *et al*., [9]. Seltzer *et al*, [10]. Ferguson *et al*, [11].

In our study, the most common clinical complaint was Lump in the breast (78.2) which is followed by Lump with nipple discharge (16.7). Out of 78, 74 lesions are solitary (94.9) while rest are multiple lesions. In our study, the most common benign lesion is Fibroadenoma (74.4) which is similar to Khanna R *et al*., [12] Singh UR *et al*., [13] followed by Galactocele (15.4) The average number of breast tissue specimens received in our study is almost similar to that shown by Singh UR *et al*. [13]

The peak incidence of benign lump was found in 21 to 30 years age group and peak incidence of malignant lumps 31 to 50 years which is younger compared to the western observation [17]. No breast tumors were seen in the first decade of life. The rarity of breast disease in the first decade of life is also reported by others [9]. FNAC of breast lumps is an important part of triple assessment (clinical examination, imaging, and FNAC) of palpable breast lumps. The application of FNAC for the diagnosis of palpable breast masses was first introduced by Martin and Ellis in 1930 [18].

In our study, FNAC and HPE are almost similar except that an epidermal cyst diagnosed in FNAC found out to sebaceous cyst. Majority of the lumps in our study were between 3-5cms, and all of them are mobile & firm in consistency with most cases showing hypoechogenicity on ultrasound mammography which is similar to Tushar B Patil *et al*. [14].

There are no significant studies on benign breast diseases in rural population which makes it difficult to compare the study.

Conclusion

Mass in the breast, whether benign or malignant is a cause of anxiety to the patient and her family members. Most cases of breast lump are benign, but most of these patients are in a state of heightened anxiety until they have undergone specialist assessment, the necessary investigations and ultimate reassurance. Hence, awareness about the benign breast diseases and diagnostic tools such as USG and FNAC would help in the proper resolution of the breast lump and better outcomes.

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