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ORIGINAL RESEARCH ARTICLE

A Clinical Study of Benign Breast Disorders

[1]Dr. Aditya Raghav G., [2]Dr. Narendra Reddy Allam, [3]Dr. Naara Sreenivasulu, [4]Dr. Varsha Hajgude

[1,2,3]Assistant Professor, [4]Professor& HOD, Department of General Surgery, Konaseema Institute of Medical Sciences (KIMS), Amalapuram, Andhra Pradesh, India

Corresponding Author: Dr. Varsha Hajgude

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ABSTRACT

Background: This study was conducted to examine the patients with benign breast diseases on a clinical basis, with regard to regard their age-related incidence, parity-related incidence, types of clinical presentation, anatomical situation of lumps, various investigations of benign breast diseases, and treatments adopted.

Methods: This was a hospital-based study conducted among 100 patients with benign breast disorders who attended Surgical OPD and were admitted to the wards at the Department of General Surgery, KIMS Medical College and Hospital, Amalapuram, from September 2019 to August 2021 after obtaining clearance from the institutional ethics committee and written informed consent from the study participants.

Results: Fibroadenoma was more common in the age group of 11-20 years as compared to fibroadenosis. The peak incidence of benign breast diseases was found in the age group of 21-30 years. Benign breast diseases were more common in parous women with 1-2 children. Lump in the breast was the most common presentation of benign breast diseases. Mastalgia was the second most common presentation of benign breast diseases and nipple discharge was occasional. There was a slight preponderance of lesions in the right breast (47%) as compared to the left breast (33%). Bilaterality was noted in 20% of the patients with lumps. The incidence of cyclical mastalgia was 26% and that of non-cyclical mastalgia was 17%. FNAC was used for planning and determining the appropriate treatment modality and it was highly accurate in the present study. Danazol was found to be superior to placebo therapy for painful nodularity. Surgery was undertaken in 12% of cases that were refractory to medical line of management.

Conclusion: Education regarding breast self-examination and proper follow-up is highly recommended so that early treatment can be sought.

Keywords: Benign, Breast Disorders.

INTRODUCTION

Benign breast disorders have been a clinical problem for centuries, as reflected in writings as early as those of Astley Cooper at the beginning of the nineteenth century.[1] For patients, it causes discomfort and anxiety, which vary from nuisance value to serious interference with the quality of life. For clinicians, the condition causes a range of problems in diagnosis, assessment and management that are not always clearly recognized. Greater interest in benign breast disorders in recent years has led to a more precise understanding of the clinical pictures associated with individual elements, and the histological changes of cyclical nodularity are increasingly recognized as lying within the range of histological appearance in the normal breast[1]. Associated with this dynamic and physiological role, the breast faces a

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varied pathology of benign and malignant breast diseases, which are common clinical problems. Up to 30% of the women who suffer from BBDs will require treatment at some point in their lives.[2] Benign breast disease is a common disorder in females from puberty to menopause. Infective lesions are rarely seen in the West, but they are one of the most common benign diseases in India, where they are responsible for more than 13% of benign breast diseases.[3,4] Fibroadenoma is much more common in blacks as compared to whites and the reverse is true for Fibrocystic disease. As the breast is constantly undergoing changes because of various hormonal influences, there is a lot of confusion about differentiating between normality and pathology. The aim of managing benign breast diseases is to exclude cancer and thereafter treat any remaining symptoms. These include pain, a lump in the breast and nipple discharge. Much confusion surrounding benign breast diseases in the past has been caused by inadequate terminology and it is hoped that the new classification (ANDI) will avoid these problems and reinforce the understanding that many conditions are aberrations of normal physiology rather than indicators of disease. The subject is taken up for study, since benign disorders are the most common cause of breast problems. Up to 30% of women will suffer from a benign breast disorder requiring treatment at some point in their lives.[2] The most common symptoms are pain, lumps and discharge. The ANDI classification allows precise definition of an individual patient problem in terms of pathogenesis, histology and clinical significance. ANDI replaces the conventional view of 'normal' and 'disease' with a spectrum ranging from normal through slight abnormality (aberration) to disease.

AIMS AND OBJECTIVES

To study the patients with benign breast diseases on a clinical basis, guide their management and improve their prognosis; to study benign breast disorders regarding the age related incidence, parity related incidence, types of clinical presentation, anatomical situation of lumps, various investigations of benign breast diseases and treatments adopted and to remove the phobia of the patients and their attendants about the benign breast disorders in India.

MATERIALS & METHODS

This was a hospital-based study conducted among 100 patients with benign breast disorders who attended Surgical OPD and were admitted to the wards at the Department of General Surgery, KIMS Medical College and Hospital, Amalapuram from September 2019 to August 2021 after obtaining clearance from the institutional ethics committee and written informed consent from the study participants.

Inclusion Criteria

All patients who had clinical features of benign breast diseases and whose pathology was not suggestive of malignancy are included in this study.

Exclusion Criteria

All patients who had clinical features suggestive of malignancy and whose pathology was not suggestive of benign breast disorders are excluded from this study.

Statistical Methods

Data was collected and analysed both manually and by using computer; the calculated data was arranged in a systematic manner and presented in various tables, bar diagrams and pie charts; and statistical analysis was made to evaluate the objectives of this study.

RESULTS

Lesion	No. of Children		Nullipara	
	1-2	2-4	Married	Unmarried

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Fibroadenosis	28	16	7	5
Fibroadenoma	12	5	2	8
Inflammatory	6	2	0	1
Duct papilloma	3	2	0	0
Galactocele	2	0	0	0
Phyllodes	0	1	0	0
Percentage	51	26	9	14

Table 1: Parity

51 of the patients with fibroadenosis were married and 44 were mothers of 1-4 children. 19 of the patients with fibroadenoma were married, whereas 8 patients with fibroadenomas were unmarried. Eight cases of breast abscess were in parous women, most of them were lactating mothers. Duct papilloma, galactocele were noted in parous women.

Lesion	Lump	Pain	Discharge
Fibroadenosis	35	43	1
Fibroadenoma	26	4	0
Inflammatory	9	9	2
Duct papilloma	2	0	3
Galactocele	1	0	2
Phyllodes	1	0	0
No. of cases	74	56	8

Table 2: Type of Clinical Presentation

Most of the patients presented with complaints of lump (74) and pain (56) in the breast followed by a discharge complaint.

Lesion	Right Breast	Left Breast	Bilateral
Fibroadenosis	14	9	12
Fibroadenoma	12	12	2
Inflammatory	6	2	1
Duct papilloma	1	1	0
Galactocele	1	0	0
Phyllodes	1	0	0
No. of cases	35	24	15

Table 3: Anatomical Situation of LUMP

35 patients (47%) presented with pathology on the right breast followed by the left breast and bilateral.

Lesion	Present	Absent
Fibroadenosis	26	
Cyclical non-cyclical	17	13
Fibroadenoma	4	23
Inflammatory	9	0
Duct papilloma	0	5
Galactocele	0	2
Phyllodes	0	1
Percentage	56	44

Table 4: Pain (Mastalgia)

56% of the patients in this study had mastalgia as one of their symptoms. 43 patients with fibroadenosis had mastalgia. Only 4 cases of fibroadenomas had pain. Almost all cases of abscess have pain.

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Lesion	FNAC	Trucut Biopsy	Excision Biopsy	Mammography
Fibroadenosis	35	2	5	1
Fibroadenoma	27	2	27	2
Inflammatory	6	0	2	0
Duct papilloma	0	0	2	0
Phyllodes	1	0	1	0
No. of cases	69	4	37	3
Various Diagnostic Modalities				
Lesion	**Lumpectomy**	**Incision and Drainage**	**Microdochectomy**	**Wide Local Excision**
Fibroadenosis	5	0	0	0
Fibroadenoma	27	0	0	0
Inflammatory	4	5	0	0
Duct papilloma	0	0	3	0
Galactocele	2	0	0	0
Phyllodes	0	0	0	1
Total	38	5	3	1
Various Treatment Modalities - Surgery				

Table 5

5 patients with fibroadenosis underwent lumpectomy for severe mastalgia. All fibroadenomas underwent excision. Microdochectomy was done on patients with duct papilloma. Patients with galactocele were treated by excision of the lump. All Acute breast abscesses were treated by I & D.

Symptom Response	Placebo and Reassurance	Danazol
Lump	0	0
Nodularity	19	7
Pain	18	9
Discharge	0	0

Table 6: Conservative Management in Fibroadenosis

Reassurance and counselling were given to all the patients included in this study, irrespective of the type of benign breast disease.

DISCUSSION

Sex Distribution

In the present study, gynecomastia and carcinoma of the breast have been excluded. There were 100 cases of benign breast diseases; all patients were female. A study done by Khanna et al.[3] in which they analyzed 1031 cases of benign breast diseases in which 94% were females and 6% were males.

Age Distribution

On analysis of the present study, it was found that the incidence of benign breast diseases was found to be higher in the age group of 21- 30 years (53%) followed by 31- 40 years and then 11-20 years. Correlation of age distribution with Khanna et al. study.

In the present study, the majority of the patients with benign breast diseases were seen in the age group of 21-30 years (53%) which correlated with the study by Khanna et al. (40.06%) where patients presented within the age group of 21-30 years. Another study by Rangabashyam et al.[4] also showed that the majority of cases (70%) were in the age group of 21-30 years.

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In the current study, approximately 88.89% of fibroadenomas were observed in the 11-30 year age group. In an Indian study by Rangabashyam et al., the maximum number of cases (75.39%) was noted in the 11-30 years age group. Similarly, in the study by Khanna et al. 82.78% of fibroadenomas were seen in the age group of 11–30 years. A study by Sangma et al.[5] also states the peak incidence of fibroadenoma is between 21 and 30 years.
The majority of the cases in the present study were in the reproductive age group. 6 cases complained of irregular menstrual cycles and none of them had any significant change in the size of the swelling during or before menstruation.

Disease Pattern
Fibroadenosis was the most common tumor, with an incidence of 56%. Fibroadenoma was the next common lesion with 27%. These results correlate with Haagensen[6] study where 69.5% of cases were fibroadenosis and 21.7% were fibroadenomas. However, the Rangabashyam et al. study established over 5-years demonstrated fibroadenomas to be the most common followed by fibroadenosis and inflammatory disease.

Parity
51 (91.07%) patients with fibroadenosis were married and 44 (78.57%) patients were mothers of 1-4 children. 19 (70.37%) patients with fibroadenoma were married, whereas 8 (29.63%) patients with fibroadenomas were unmarried. 8 (88.89%) cases of breast abscess were in parous women; most of them were lactating mothers. Duct papilloma and galactocele were noted in parous women. 86 out of 100 female patients were married, of whom 77 (89.53%) had experienced pregnancy, and all of them breastfed their babies. Decholnoky et al.[7] had 27.5% of patients who experienced pregnancy and 63% were nulliparous. 23% of the patients were nulliparous in the present study. Early marriage and multiparity seem to influence the higher incidence in our population.

Symptomatology
In the present study, the most common complaint was a breast lump constituting about 74% of the cases. 56 cases presented with pain and 8 cases presented with discharge. Most of the fibroadenoma cases (96%) presented as lumps, whereas most of the fibroadenosis cases (62.5%) presented with lumps and pain. 2 cases of galactocele presented with discharge. Similarly, in the study done by Khanna et al. the common presenting complaint in benign breast disease was lumps, constituting about 77.4% of the cases. Breast lumps were the commonest presenting symptom in studies by Sangma et al. (87%). Krishnaswamy.[8] reported pain as the major complaint (56.9%). In the study by B.V. Sreedevi[9] cyclical and noncyclical mastalgia were present in 65.38% and 34.61% of patients respectively.

Anatomical Situation of Lump (Laterality)
In the present study, of the 100 cases, the right breast was involved in 39 cases (49.36%), 25 cases (31.65%) in the left breast, and 15 cases (18.99%) presented with bilateral involvement. This corresponds to most of the studies that state that the right breast was commonly involved with lesions compared to the left breast. 12 (34.29%) patients with fibroadenosis had bilateral lesions. 14 (40%) patients had right side lesions and 9 (25.71%) cases had left side lesions. 12 (46.15%) cases of fibroadenomas were seen in the right breast, and most of them in the upper outer quadrant. Two cases (7.69%) of fibroadenomas were bilateral, recurrent, and showed hyaline change and calcification on histopathological examination. One case of giant fibroadenoma was recorded in a 21-year-old woman. Most of the breast abscess occurred in the right breast. One case of duct papilloma was presented as a lump in the subareolar region.

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Pain

In this study, 56% of patients had mastalgia as one of their symptoms. 76.79% (43) of patients with fibroadenosis had mastalgia. Only four cases of fibroadenomas had pain. All cases of abscesses had pain. Mastalgia is one of the commonest symptoms in patients attending a breast clinic and is also the most frequent reason for breast related consultations in general practice.[10] In a study by Uma Krishnaswamy, 56.9% of the population suffered from mastalgia. In the present study, cyclical and non-cyclical mastalgia were present in 60.47% and 39.53% of patients respectively. Cyclical and non-cyclical mastalgia were present in 65.38% and 34.61% of patients respectively, according to B.V. Sreedevi. In the study by Preece et al.[11] they are two-thirds and one-third respectively.

Investigations

In this study, fine needle aspiration cytology was done in most cases of fibroadenosis to rule out malignancy. In two cases, the FNAC was inconclusive, and the two patients were subjected to a trucut biopsy. Six patients with fibroadenosis were subjected to excision biopsy, where a lumpectomy was done for severe mastalgia. An excision biopsy was done in all cases of fibroadenomas. Most of them were intracanalicular fibroadenoma (18 cases), and 2 cases of pericanalicular fibroadenomas and 4 cases of combined lesions were noted by histopathological examination. Each case of tubular, glandular and lactating adenomas was noted. Two cases of periductal mastitis and two cases of duct papilloma were subjected to biopsy after excision of the lump. A mammogram was done in one case of fibroadenosis, and malignancy was ruled out. FNAC is a useful investigation for the diagnosis of benign breast disease. It was done in most of the fibroadenosis cases and was diagnostic (94.3%).

Treatment

The main treatment modalities followed in this study were surgery and conservative treatment with placebo and danazol.

Surgical Treatment

Five patients with fibroadenosis underwent a lumpectomy for severe mastalgia. All fibroadenomas underwent excision, and no patients had recurrence during follow up, including an old case of recurrent fibroadenoma. Microdochectomy was done in patients with duct papilloma. All patients who underwent surgery were treated with antibiotics and analgesics post operatively. The patients with galactocele were treated by excision of the lump. No recurrence or secondary infection was noted. Chronic abscess was treated by excision, with wide local excision for phyllodes, no recurrence was noted during the 6 months follow up. All Acute breast abscesses were treated by I & D.

Medical Treatment

Prepubertal mastitis was treated with antibiotics and analgesics, which subsided after five days of treatment.

Conservative Treatment of Fibroadenosis

22 patients were treated with placebo and reassurance. 19 patients responded well to this treatment. 5 patients underwent lumpectomy for severe mastalgia. 7 patients were treated with danazol, and pain nodularity responded well. Twelve patients with fibroadenosis and painful nodularity received danazol.

100-200 mg/day for 2-3 months. The pain subsided completely. Danazol produced relief of pain in 80% of patients in the clinical study of Mansel RE[12] (1982), and in 92% of patients in this study of M. Dhont et al.[13] (1979).

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In fibroadenosis, out of 56 patients, 51 were treated conservatively but in five cases excision was done and mastalgia patients were treated conservatively. Out of 80 patients, 35 (43.75%) underwent surgical intervention, 29 patients were of fibroadenoma (80.55%), 2 patients (14.28%) were of fibroadenosis, 3 were of galactocoele and 1 was of lipoma by Akshara Gupta.[14]

In the study by Mallikarjuna, 47 of 50 cases underwent surgical intervention, with 36 cases being fibroadenoma, 6 cases being cystosarcoma phyllodes, and 2 cases each of galactocele, lipoma, tubular adenoma, and ductal ectasia.[15] Phyllodes tumor should be excised completely with clear margins to obviate any chance of local recurrence. In cases of recurrent disease, mastectomy is often performed.[16]

In the present clinical study on benign breast diseases it can be implied that benign lesions contribute to the majority of breast disorders but they have a very low chance of conversion into malignancy. During the course of this study difficulties were encountered regarding the follow up of the cases and they can be overcome by strict instructions pertaining to certain premalignant breast disorders for their follow up.

CONCLUSION

Benign breast diseases are one of the most common diseases in females in our society. Fibroadenomas can be effectively treated by excision of the lump. Acute breast abscesses can be treated by incision and drainage. Duct papilloma can be treated by microdochectomy. Histological pattern and family history were the two most important risk factors. Breast self-examination and education for females are very important in cases of benign breast tumors, as they are a common source of anxiety and worry. Reassurance is the first step in treating benign breast lesions. Hence, in a country like ours, education regarding breast self-examination and proper follow up is highly recommended so that early treatment is sought.

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