nal o

# **ORIGINAL RESEARCH PAPER**

# CLINICOPATHOLOGICAL STUDY AND MANAGEMENT OF BENIGN BREAST DISEASE

KEY WORDS: Benign Breast

General Surgery

diseases, Fibroadenoma, fibroadenosis, cystosarcoma phylloides.

S.In Lak	dira Vara shmi	Senior Resident, Dept Of General Surgery, NRI General Hospital, Chinnakakani, Guntur, A.P			
Muralikrishna Madhupaka		Assistant Professor , Dept Of General Surgery ,NRI General Hospital, Chinnakakani, Guntur, A.P			
	<b>Bedrace and Study of pattern of bonign broast disease is a shallonge due to variante in assurrance and presentation in differen</b>				

**Background:** Study of pattern of benign breast disease is a challenge due to variants in occurrence and presentation in different age groups and different geographical areas.

*Aim* : The objective is to study the clinical profile and pattern of benign breast disease and its pathological correlation.

**Methods**: This is a prospective study of females with breast disease presenting to surgery department over a period of two years. This survey was mainly meant for studying the age distribution, to evaluate the different types of benign diseases of the breast, their mode of clinical presentation and pathology and to evaluate the various modes of management for different types of Benign Breast Diseases. Patients with obvious malignancy and males were excluded from the study.

**Results:** A total of 70 females were included in the study. Fibroadenoma (37%) and fibroadenosis (23%) were the commonest diseases, both presenting mostly at 21-30years of age. Left side involvement was most common. The commonest presentation was breast lump which comprised 84 (84%) cases, out of which 26 (26%) had associated complaints like breast pain 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.

## INTRODUCTION

ABSTRACT

Mammary glands or breasts are a distinguishing feature of mammals. The vast majority of the lesions that occur in the breast are benign. Much concern is given to malignant lesions of the breast because breast cancer is the most common malignancy in women in Western countries; however, benign lesions of the breast are far more frequent than malignant ones<sup>1-9</sup>.

The term "benign breast disease [BBD]" encompasses a heterogeneous group of lesions that may present a wide range of symptoms or may be detected as incidental microscopic findings. The incidence of benign breast lesions begins to rise during the second decade of life and peaks in the fourth and fifth decades, as opposed to malignant diseases, in which the incidence continues to increase after menopause, although at a less rapid pace<sup>2-14</sup>

Fine needle aspiration cytology (FNAC) has been found as a very important tool in the assessment of breast masses. Various modalities have been used for the diagnosis of breast lesions, which include clinical examination, mammography, xeroradiography, thermography, fine needle cytology, and open biopsy. The combination of fine needle cytology, clinical examination, and mammography has been suggested as a triple test for the preoperative diagnosis of breast masses<sup>16</sup>

The advantage of these cytological procedures lies in the fact that they are simple to perform, cost-effective, rapidly accepted by the patient, and cosmetically least disfiguring. This more rapid diagnostic approach helps to allay the anxiety caused by delays in scheduling, performing, and interpreting an open biopsy.

A benign diagnosis allows surgery to be avoided in the majority of cases, while a positive diagnosis of carcinoma allows preoperative discussion with the patient and proper treatment planning with minimal morbidity.

**AIM:** The purpose of this study is to assess the actual sprectum of clinical findings and their correlation with final diagnosis in benign breast diseases and to evaluation of management of benign breast diseases.

#### MATERIALS AND METHODS:

This descriptive study was conducted in the out patients department of general surgery in NRI Medical College, Chinnakakani, Andhra Pradesh from 2014 to 2016. Seventy women with BBD were included in this study. The patients were

www.worldwidejournals.com

required to give written informed consent prior to their enrollment in the study and a clearance was taken as per the institutional ethical committee guidelines.

## **Inclusion criteria**

Female patients from menarche to 50 years with any benign disorder/disease of the breast-for example, a breast lump, breast pain or nipple discharge, were included.

#### **Exclusion criteria**

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

A detailed history and a thorough physical examination were the basis of the study. After making an appropriate clinical diagnosis, one or more of the special investigations – FNAC, mammography, ultrasound or a core-needle biopsy were carried out for the confirmation of the diagnosis.

The FNAC smears were reported by using standardized diagnostic criteria by the same pathologist and they were categorized into non proliferative/proliferative without atypia/atypical proliferative lesion/frank carcinoma. A routine histopathological examination was done for the core biopsy and the excision biopsy samples and a cytological and histological-correlation was also done. The clinical diagnosis, particularly in the case of the benign breast lumps, was compared with the cytological or the histological findings and the accuracy of the clinical diagnosis was evaluated

## **RESULTS:**

Total 70 patients presented with Various benign breast diseases is shown in Fig-1 in the present study



## PARIPEX - INDIAN JOURNAL OF RESEARCH

one case of tubular adenoma were found

# VOLUME-6 | ISSUE-7 | JULY-2017 | ISSN - 2250-1991 | IF : 5.761 | IC Value : 79.96

Table – 3: Results of FNAC

Cases	Conclusive	In conclusive
27	23 (85.18%)	4 (14.8%)

Table – 4: Histopathology details in present study.

Pathology	No of cases (n:60)
Fibroadenoma	34
Fibrocystic disease	11
Cystosarcoma phyllodes	4
Galactocele	4
Traumatic fat necrosis	2
Lipoma	2
Ductal ectasia	2
Tubular adenoma	1

## Mode of Treatment :

In this study, out of 70 cases, surgery was done in 60 cases and 10 were managed conservatively, out of which 7 cases are fibrocystic disease and 3 are fibroadenoma. The surgery was done for 60 cases. Out of these, 54 patients have undergone simple excision or enucleation of swelling, 3 cases underwent wide local excision which include 1 case of cystosarcoma phyllodes and 2 cases of traumatic fat necrosis. 3 cases underwent simple mastectomy for cystosarcoma phyllodes as shown in Fig-3.



# **Details of Surgical Management**

The surgery was done for 60 cases. Out of these, 54 patients have undergone simple excision or enucleation of swelling, 3 cases underwent wide local excision which includes 1 case of cystosarcoma phyllodes and 2 cases of traumatic fat necrosis. 3 cases underwent simple mastectomy for cystosarcoma phyllodes.

#### Table -5: Details of Surgical Management

Surgery	No cases (n-60)
Excision	54
Wide excision	3
Simple mastectomy	3

#### DISCUSSION:

Benign breast diseases are common. Up to 30% of women will suffer from benign breast diseases requiring treatment at sometimes in their lives<sup>17</sup>. It is at least 10 times more common than breast cancer<sup>18</sup>. Growing public awareness has increased referrals to hospitals. Breast is a dynamic structure and undergoes various physiological changes during development. They include cyclic changes, pregnancy, lactation and involution. These physiological changes create a concept of aberration of normal development and involution (ANDI). This does not mean that BBD does not occur pathologically, but that the term should be reserved for disorders of such severity that they are frankly abnormal. The majority ultimately prove to have a benign origin<sup>19</sup>. Breast lesions may present with a variety of symptoms often confusing clinical evaluation leading to error in treatment of benign conditions.

Swelling or breast lump is the predominant complaint in fibroadenoma, fibroadenosis, cystosarcoma phyllodes, and chronic mastitis. Lump associated with pain is seen in fibroadenosis, breast abscess, tuberculous mastitis, and chronic mastitis.

Breast diseases include inflammatory, benign and malignant conditions. Around 200,000 cases of breast diseases are

#### Distribution of trauma patients according to age

Of 70 patients, In this study, most commonly affected age group of benign breast disease is 21-30 yrs. The age distribution is shown in Fig.2.

In this study, fibroadenoma forms the most common benign

breast disease which is accounting for about 37 cases (52.85%), followed by fibrocystic disease accounting for 18 cases (25.71%), 4 cases of cystosarcoma phyllods, 4 cases of galactocele, 2 cases of traumatic fat necrosis, 2 cases of lipoma, 2 cases of ductal ectasia,



## Duration of symptoms in the study

out of seventy cases of benign breast disease, 64 cases [91.4%] are noted in premenopausal women and 6 cases [8.6%] are noted in post-menopausal women as shown in Table-1

Table –	1: Duration of	symptoms	in the study
---------	----------------	----------	--------------

Diseases	1-3m	4-6m	7m-1y	1-2yrs	2-4yrs
Fibroadenoma	7	9	9	10	2
Fibrocystic Disease	6	4	5	3	-
Cystosarcoma	-	1	1	2	-
Phyllodes					
Galactocele	1	1	-	2	-
Traumatic fat	2	-	-	-	-
Necrosis					
Lipoma	-	-	-	1	1
Ductal ectasia	-	-	1	-	1
Tubular Adenoma	-	-	-	1	-
Total	16	15	16	19	4

## **Mode of Presentation**

In this study, fibroadenoma occurred more on right breast 57.35% than left breast 45.9% and bilateral involvement is seen in one case 2.70% Fibrocystic diseases are occurred more common in right breast (50%) than left breast (33.35%) and bilateral in 3 cases (16.66%). Cystosarcoma phyllodes occurred in right breast 75% and bilateral in one case (25%). Galactocele occurred more as left side 75% and right side 25%. And traumatic fat necrosis occurred on left side 100%, lipoma of axillary tail and ductal ectasia on both sides each accounting for 50% and tubular adenoma on left side 100% shown in the Table-2.

# Table - 2: Mode of Presentation

Diseases	Total No	Painless lumps		Lump	Painful Iumps	Nipple Dischar
		No	%	No	%	ge
Fibroadenoma	37	28	75.67	9	24.32	-
Fibrocystic	18	10	55.55	8	44.44	1
Cystosarcoma phyllodes	4	-	-	4	100	-
Galactocele	4	4	100	-	-	2
Traumatic fat necrosis	2	1	50	1	50	-
Lipoma	2	2	100	-	-	-
Ductal ectasia	2	-	-	2	100	2
Tubular adenoma	1	1	100	-	-	-
Total	70	46		24		5

#### PARIPEX - INDIAN JOURNAL OF RESEARCH

diagnosed annually throughout the world.<sup>20</sup> Breast diseases are more prevalent among females as compared to males and the pattern of breast diseases and their etiology varies among different countries and ethnic groups<sup>21</sup>.

Benign diseases can be classified as inflammatory, epithelial and stromal proliferation, neoplasm and developmental anomalies. Benign breast diseases are more prevalent as compared to malignant and inflammatory, as seen throughout the world<sup>22</sup>. Fibroadenomas are in greater frequency among the population, constituting almost half of all cases of benign diseases<sup>23</sup>. Incidence of benign lesions is common in the second decade reaching on its peak at fourth and fifth decade of life<sup>24</sup>. Risk factors for benign and malignant breast diseases include low parity, nulliparity, low age at first birth and late menopause, highlighting the fact towards excessive circulating estrogen levels25

Benign breast disease is common in our country. The most common benign breast disease was fibroadenoma occurring in 72% of cases. In the study conducted by Rangabashyam et al<sup>27</sup> in 1983, fibroadenoma was the main type of disease in 57%. In the series of Khanna et al<sup>28</sup>, in 1988, fibroadenoma was the main type of disease in 40.8%. Farrow JH et al<sup>29</sup>, reported fibroadenoma as the commonest benign breast disease.

Fibroadenoma presents as a freely mobile, firm, nontender, and often palpable breast mass. Although most frequently unilateral, in 20% of cases, multiple lesions occur in the same breast or bilaterally.

The current management of patients with clinically or radiologically suspected fibroadenoma varies. Some physicians prefer excision for tissue diagnosis, but conservative management will likely replace surgical treatment in the near future, on the basis of the young age of the patient, findings of benign imaging and clinical characteristics, and benign findings on either fine needle aspiration biopsy or needle core biopsy<sup>30,31</sup>. Minimally invasive techniques, such as ultrasound-guided cryoablation, seem to be an excellent treatment option for fibroadenoma in women who wish to avoid surgery<sup>1</sup>, or else the lesion may simply be treated with observation and followed up periodically.

For correct diagnosis of breast diseases, background knowledge of general features of individual breast diseases like incidence, age distribution, symptoms on palpation findings are very important. Benign conditions of breast are significantly more common than the malignant conditions in developing countries.

Lump in the breast was the most common presenting symptom in both benign and malignant groups followed by pain in 10.14% in the benign group and 12.12% in the malignant group. In the present study, fibroadenoma was the most common benign lesion constituting 52.85% followed by fibrocystic disease in 25.71% of the patients. The study by Malik<sup>32</sup> reported 55% of fibroadenoma. Benign breast disease includes heterogeneous group of conditions belonging to deformities or abnormalities of the breast. It has been recommended that all patients with discrete breast lump should undergo triple assessment to make an early diagnosis. In the study we tried to reach at diagnosis of benign breast diseases within 72 hours by this approach.

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<sup>24</sup> Although many other names have been used to describe this entity over the years including (fibrocystic disease, cystic mastopathy, chronic cystic disease, mazoplasia, Reclus's disease), the term "fibrocystic disease" is now preferred because this process is observed clinically in up to 50% and histologically in 90% of the women<sup>33</sup>.

In this study most common presenting compliant is breast lump constituting about 46 cases (65.72%) were painless and 24 cases presented with painful lumps (34.28%).

In this study, out of 70 cases, 34 cases on right breast (48.57%), 31 www.worldwidejournals.com

cases over left side (44.28%) and 5 cases presented as bilateral involvement (9.14%). This corresponds to most of the studies which states that right breast is commonly involved with lesions compared to left breast.

Patients were managed either surgically or conservatively depending upon their diseases. Three cases out of 37 cases of fibroadenoma and seven cases out of 18 cases are managed conservatively. Most of these patients were presented with lump and pain.

In conservative management, patients were managed by simple analgesics and vit-E capsules.All 34 cases of fibroadenoma are underwent surgery in the form of excision biopsy. One case of bilateral fibroadenoma was excised. Incisions were radial in majority and semicircular incision also used depending upon site of lump. Of the 4 cases of cystosarcoma phyllodes, one case underwent simple mastectomy and one case underwent wide excision. Two cases of lipoma, ductal ectasia and tubular adenoma underwent excision and two cases of traumatic fat necrosis underwent wide excision. A drain was kept where necessary and was removed after 48 hrs. Post-operatively antibiotics and analgesics are given. Suture removed on 7-8 days and 2 cases had superficial surgical site infection.

#### Limitations of the study

A large number of cases of benign breast diseases are not advised FNAC. The histopathologic confirmation was not available in 100% of the cases. The reason behind this was that majority of the lesions were benign and the patients refused to undergo histopathologic confirmation.

# Fig-4&5 showing Fibroadenoma & Fibroadenoma Excision



Disease

Fig-6 showing Fibrocystic | Fig-7 showing Cystosarcoma Phyllods

## CONCLUSION:

Majority of the benign breast diseases occurs in younger age group. Most common presenting complaints are lump in the breast, pain in the breast followed by nipple discharge. Fibroadenoma and fibrocystic diseases are the most common benign breast diseases. Majority of breast lumps are painless to present with. Fibroadenoma are usually present with unilateral solitary lump. In case of large mammary mass in adolescent girls, think about juvenile fibroadenoma as a differential diagnosis along with virginal hypertrophy and cystosarcoma phyllodes tumour. Diseases like cystosarcoma phyllodes, ductal ectasia, and lipoma of axillary tail are rare. Traumatic fat necrosis usually presents as a lump in breast with irregular surface is frequently mistaken for carcinoma of breast. Benign breast diseases most commonly affects upper and outer quadrant. Fine needle aspiration cytology is the sensitive simple cost effective investigation of choice in benign breast disease. Conservative treatment is one of the options in young women who are clinically have < 2 cms breast

39

#### PARIPEX - INDIAN JOURNAL OF RESEARCH

lumps and cytologically confirmed cases of fibroadenoma and fibrocystic diseases. Surgery in the best treatment for benign breast disease. Excision is best modality of treatment in majority of benign breast lumps. The incidence, prevalence and presentation in age group remain same inspite of increased socioeconomic status of patients in our set up.

#### **REFERENCES:**

- Caleffi M, Filho DD, Borghetti K et al. Cryoablation of benign breast tumors: evolution of technique and technology. Breast 2004;13:397–407.
- Kelsey JL, Gammon MD. Epidemiology of breast cancer. Epidemiol Rev1990;12:228–240. 2
- Cole P, Mark Elwood J, Kaplan SD. Incidence rates and risk factors of benign breast 3. neoplasms. Am J Epidemiol 1978; 108:112–120. Hutchinson WB, Thomas DB, Hamlin WB et al. Risk of breast cancer in women with
- 4 benign breast lesion. J Natl Cancer Inst 1980;65:13-20.
- Fitzgibbons PL, Henson DE, Hutter RV. Benign breast changes and the risk for subsequent breast cancer: an update of the 1985 consensus statement. Cancer Committee of the College of American Pathologists.Arch Pathol Lab Med 5 1998;122:1053-1055
- Sarnelli R, Squartini F. Fibrocystic condition and "at risk" lesions in asymptomatic 6. breasts: a morphologic study of postmenopausal women. Clin Exp Obstet Gynecol 1991;18:271–279.
- 7 Bartow SA, Pathak DR, Black WC et al. Prevalence of benign, atypical, and malignant breast lesions in populations at different risk for breast cancer. A forensic autops study. Cancer 1987;60:2751–2760. Cook MG, Rohan TE. The patho-epidemiology of benign proliferative epithelial
- 8. disorders of the female breast. J Pathol 1985; 146:1-15.
- La Vecchia C, Parazzini F, Franceschi S et al. Risk factors for benign breast disease 9 and their relation with breast cancer risk. Pooled information from epidemiologic studies. Tumori 1985;71:167–178.
- Donegan WL. Common benign conditions of the breast. In: Donegan WL, Spratt JS, eds. Cancer of the Breast, Fifth Edition. St. Louis, MO: Saunders, 2002:67–110. Shaaban AM, Sloane JP, West CS et al. Histopathologic types of benign breast lesions and risk of breast cancer. Am J Surg Pathol 2002;26: 421–430. Morrow M. Pre-cancerous breast lesions: implications for breast cancer prevention with bethe disclosure building and an and a state of the st 10
- 11. 12
- trials. Int J Radiat Oncol Biol Phys 1992;23:1071–1078. 13
- London SJ, Connolly JL, Schnitt SJ et al. A prospective study of benign breast disease and the risk of breast cancer. JAMA 1992;267:941–944. McDivitt RW, Stevens JA, Lee NC et al. Histologic types of benign breast disease and 14
- the risk for breast cancer. Cancer 1992;69:1408-1414 15
- Love SM, Gelman RS, Silen W. Fibrocystic disease of the breast a non disease? N Eng J Med. 1982;309:1010–14
- 16 Martelli G, Pilotti S, Coopmans de Yoldi G, Viganotti G, Fariselli G, Lepera P, et al. Diagnostic efficacy of physical examination, mammography, fine needle aspiration cytology (triple-test) in solid breast lumps: An analysis of 1708 consecutive cases. Tumori 1990;76:476-9.
- Russel R.C.G., Williams S. Norman, Bulstrode J.K. Christopher, "The Breast", Chapter 46, Bailey and Love's short practice of surgery, 23rd Edn, Arnold 17 publishers, London, 2000 : 749-772 pp.
- Mansel E. Robert, Fenn J. Nell, Davies L. Eleri, "Benign breast disease and its management ", Chapter 5, recent advances in surgery, No. 21, Johnson C.D., 18
- management ", Chapter 5, recent advances in surgery, No. 21, Johnson C.D., Taylor I., Churchill Livingstone, Edinburgh, 1998: 71-73 pp Lange R. Julie Md. "Benign breast disease", current surgical therapy, 6th Edn, Cameron John L., Mosby, Philadelohia, 1998: 624-626 pp. Malik M, Salahuddin O, Azhar M, Dilawar O, Irshad H, Sadia SA: Breast diseases; 19
- 20 spectrum in Wah cantt; POF hospital experience. Professional Med J. Sep 2010, 17 (3): 366-372
- Siddiqui M, Kayani N, Gill M, Pervez S, Muzaffar S, Aziz S, Setna Z, Israr M, Hasan S: 21 Breast diseases: a histopathological analysis of 3279 cases at a tertiary care center in Pakistan. J Pak Med Assoc. 2003, 53 (3): 94-97.
- 22 Mansoor I: Profile of female breast lesions in Saudi Arabia. JPMA. 2001, 51 (7): 243-246
- Olu-Eddo A, Ugiagbe EE: Benign breast lesions in an African population: A 25-year 23 histopathological review of 1864 cases. Niger J Med: J Niger Med Assoc. 2011, 52 (4): 211-10.4103/0300-1652.93790.
- 24. Merih Guray and Aysegul A.SahinBenign Breast Diseases: Classification, Diagnosis, and Management. The Oncologist May 2006 vol. 11no. 5 435-449
- Hislop T, Elwood J: Risk factors for benign breast disease: a 30-year cohort study. 25 Can Med Assoc J. 1981, 124 (3): 283
- Parazzini F, La Vecchia C, Franceschi S, Decarli A, Gallus G, Regallo M, Liberati A, 26 Tognoni G: Risk factors for pathologically confirmed benign breast disease. Am J Epidemiol. 1984, 120 (1): 115-122.
- 27 Rangabashyam N, Gyanprakashan D, Krishnaraj B, Manohar V, Vijaya lakshmi S.R, Spectum of benign breast lesion " J Roy Coll Surgeons Edinburgh 1983; 28:369-373
- Khanna Sushila, Aryya N.C, Khanna N.N, "Spectum of benign breast disease" 28 Indian Journal of Surgery 1988;50:169-174, Ashikari R, Farrow JH, O'Hara J. "Fibroadenomas in the breast of juveniles". Surg
- 29
- ObstetGynec 1971; 132:259-262, Carter BA, Page DL, Schuyler P et al. No elevation in long-term breast carcinoma risk for women with fibroadenomas that contain atypical hyperplasia. Cancer 30 2001;92:30-36
- Graf O, Helbich TH, Fuchsjaeger MH et al. Follow-up of palpable circumscribed 31. noncalcified solid breast masses at mammography and US: can biopsy be averted? Radiology 2004;233:850–856.
- Malik R, Bhardwaj VK; Breast lesions in young females. A 20year study forsignificance of early recognition. Indian JPathol Microbiol., 2003; 46(4): 559-32 562
- Tariq Wahab Khanzada, Abdul Samad, Champa Sushel Spectrum of benign breast 33. diseases Pak J Med Sci April - June 2009 Vol. 25 No. 2 265-268