A Prospective Study on Clinico Pathological Evaluation of Benign Breast Diseases

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Abstract
Objective: *To find out the incidence, agedistribution, clinical presentation of benign breast disorders.*
Study design: *prospective study*
Materials And Methods*: The present prospective study on clinico pathological evaluation of benign breast diseases is carried out in our institution, department of general surgery, Govtmohankumaramangalam medical college Hospital, Salem, for the period of two years.108 female patients with benign breast diseases were included in this study.*
Observations and results*: Benign breast tumors were studied in general surgery department. Govt Mohan Kumaramangalam Medical College Hospital, Salem. There were 1, 15,058 new patients attended the surgical outdoor patient department, and out of which 2416 patients had breast diseases. Hence the prevalence of breast diseases was 2% during the study period. The admission rate of breast disease was 6.70%. 162 patients get admitted in our hospital during the specified period among these 108 had benign breast diseases and 54 had malignant breast diseases. The benign to malignant ratio was 2:1.*
Key words*: Fibro adenoma,phyllodestumor,fibroadenosis.*

I. Introduction

The breast is a complex gland and is a dynamic structure because it undergoes changes throughout the life. Due to its physiological function of nurturing child rearing it occupies the central position of feminity. The majority of lesions that occur in the breast are benign in nature. Benign breast diseases represents a spectrum of disorders that range from extreme normality to well defined disease process. The breast is subjected to changes during menstrual cycles by hormonal influences. Patients attending the breast clinic commonly presented with pain and lump. Most of the breast lumps are benign rather than malignant. Women with breast lump have anxiety due to fear of malignancy. Surgeons attending the clinic have two important tasks when confronted with a patient with a breast lump. Firstly, he has to decide whether the lump is truly abnormal or fall in the spectrum of normality. Secondly he has to exclude the possibility of malignancy and alleviate the anxiety to the patient. Majority of the breast lumps are diagnosed by cytological analysis. The main advantages of FNAC with immediate reporting is that this technique allows early reassurance and the avoidance of unnecessary surgery in patients with benign breast diseases while at the same time detecting all the patients with breast carcinoma. This study aims to evaluate the incidence, clinical presentation age distribution and management of the benign breast diseases and to determine the sensitivity, specificity and accuracy of FNAC in diagnosing benign breast diseases.

II. Aims And Objectives

1. To find out the incidence of various benign breast diseases and their age distribution in our institution and compare the results with previous similar studies.
2.To study the clinical presentation of various types of benign breast lesions.
3. To determine the sensitivity, specificity and accuracy of FNAC in diagnosing breast disorder.

III. Inclusion Criteria

1. All female patients presented with clinically palpable breast lump with features of benign diseases.
2. All female patients presented with breast lump and willing to undergo investigations and treatment.
3. All female patients presented with lump whose cytology report showed negative for malignancy or inconclusive report.

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4. All female patients with breast lumps whose USG/Mammogram shows benign features were included in this study.

IV. Exclusion Criteria

1. All male patients with breast lumps.
2. All female patients presented with breast lump with features of malignant disease.
3. All female patients presented with breast lump whose cytology report showed positive for malignancy were excluded from study.

V. Methodology

A detailed history was taken regarding the complaints, duration, mode of onset of lump in the breast, its progress and associated nipple discharge, previous history of lump in the breast, undergoing any surgeries for lump in the breast and history of mastalgia were inquired. Personal history, menstrual history, obstetric history and family history of breast carcinomas were also inquired. The normal breast first examined and then affected breast was examined. Breast was examined with respect to nipple, areola, details of the lump including size, site surface, margins, mobility, consistency, fixity to underlying structures, skin and chest wall. Axilla of same side is examined for lymph nodes. The systemic examination included respiratory system, cardiovascular system, and central nervous system, per abdomen, per vaginal and rectal examination. Information and consent was taken in each case before interventional procedures. The ultra-sonographic and mammographic examination was carried out with special reference to site, size echogenicity, heterogenicity, margins, parenchymal interface of breast lesion & presence or absence of micro calcification. The final impression was noted. Fine needle aspiration cytology was done in patients with palpable breast lump. FNAC was done by using 22 gauge needle attached to 10cc disposable syringe. The smears are prepared on a slide and sent for cytological examination.

VI. Results

Types Of Breast Diseases

In the present study fibro adenoma was the commonest benign neoplasm constituting 66 (61.1%) of all cases, followed by fibrocystic disease 12(11.1%). Next common benign tumor found was breast abscess 9 cases (8.3%),phyllodestumor were 6 cases (5.6%), tubular adenoma 4 cases (3.7%), fibroadenosis 3 cases (2.8%), breast cyst 2 cases(1.9%) and 2 cases (1.9%) of antibioma were recorded. Single case of chronic mastitis (0.9%), acute mastitis (0.9%), galactocele (0.9%), tuberculous mastitis (0.9%) were found

S.No	Diagnosis	No.of cases	Incidence (%)
1	Fibro adenoma	66	61.1
2	Fibrocystic disease	12	11.1
3	Breast abscess	9	8.3
4	Phyllodestumor	6	5.6
5	Tubular adenoma	4	3.7
6	Fibroadenosis	3	2.8
7	Breast cyst	2	1.9
8	Antibioma	2	1.9
9	Chronic mastitis	1	0.9
10	Acute mastitis	1	0.9
11	Galactocele	1	0.9
12	Tuberculous mastitis	1	0.9
	Total	108	100.0

Age Distribution

Mean age of cases in this study was 30 years (minimum 15, maximum -60, and standard deviation 10.15).The incidence of fibroadenoma was maximum, ie 44 cases (66.6%) in 16 to 30 yrs of age group. Fibrocystic disease (50%) was common in age group 31-45 yrs. Breast abscess (88.8%) is common in the age group of 16-30 yrs. All cases of phyllodestumor were found in 31 to 60 yrs. Among 3 cases 2 (66.66%) of fibroadenosis were found in 16-30 yrs. A single case of galactocele was seen in 27 yrs old female, tuberculous mastitis was seen in 37 yrs old female, acute mastitis was seen in 38 yrs old female, chronic mastitis was seen in 55 yrs old female.

Present Study Of Age Distribution

Age In year	Fibro adenoma		Phyllodes Tumors		Fibrocystic disease	
	No of cases	%	No of cases	%	No of cases	%
0-10	0	0	0	0	0	0
11-20	18	27.3%	0	0	0	0

21-30	29	43.9%	0	0	4	33.3%
31-40	14	21.2%	3	50%	5	41.7%
41-50	5	7.6%	0	0	3	25%
51-60	0	0	3	50%	0	0
Total	66		6		12	

Urban And Rural Distribution

In this study cases from rural area and urban area were equal. Antibioma, chronic mastitis and major cases of breast abscess were found in rural population. The high tendency of infective diseases in rural population may be due to poor hygiene and infected environment in this low socio economic group.

Clinical Features

The most common symptom of benign breast tumors in my study was presence of painless lump. In fibro adenoma group, out of 66 patients,60 [90.9%] presented with painless lump, whereas 6 patients [9.09%] presented with painful breast lump, pain was dull aching, non-radiating, continuous and not in relation to menstruation. All three cases of fibroadenosis presented as painful lump which was related to menstruation. Among 12 cases of fibrocystic disease nine cases (75%) presented with painful lump and three cases presented with painless lump which was related to menstruation. All six cases of phyllodes were presented with painless lump. All cases of breast abscess were presented with painful diffuse lump with fever. All cases of breast abscess, chronic mastitis, and acutemastitis were presented with enlarged mobile, firm, tender axillary nodes. Most of the fibro adenoma (42.4%) presented as lump breast with the duration of 3-6 months, 16(24.2%) cases with duration of 0-3 months and 14 (21.2%) cases with the duration of 6-9 months. Among 12 cases of fibrocystic disease 5 cases (41.6%) presented with duration of 6-9 months, 3 cases (25%) with 9-12 months duration, 4 cases (33.3%) 0-6 months duration. All cases (100%) of phyllodestumor presented with duration of 6-12 months. Among 3 cases of fibroadenosis each case presented with 3 months, 5 months, 6 months duration respectively.

Site And Side Of Lump

1In this study among 108 cases 63 cases (58.3%) had right breast involvement, 40 cases (37%) had left breast involvement and 5 cases (4.6%) had bilateral involvement, which is similar to study conducted by Kumar et al.[29]fibroadenoma occurred more often in the right breast (53%) than the left breast (39.3%) and bilateral involvement seen in 5 cases (7.5%). It commonly involved the upper outer quadrant. Fibrocystic disease occurred equally on both sides and commonly involved the upper outer quadrant. Breast abscess commonly involved the right breast (66.6%) than the left breast (33.3%). Among six cases of phyllodestumor 5 cases (83.3%) occurred in the right breast and one case (16.6%) occurred in the left breast. Among 3 cases of fibroadenosis 2 cases (66.6%) occurred in the right breast and one case occurred in the left breast (33.3%).

VII. Discussion

The breast or mammary glands are important for the survival of new-born. Benign breast disorders and diseases are 5-10 times more common than breast cancer. Benign conditions of breast are significantly more common than the malignant condition in developing countries. In this study benign and malignant ratio was 2:1 the prevalence of benign breast disease was 2% during the study period and the admission rate was 6.7%. In many study predominant benign breast tumor was fibro adenoma occurring in 61.1% of cases. Fibro adenoma was the predominant tumor in benign breast diseases studied by Rangabashyam et al.,6(57%) in 1983, Khanna et al.,5 (40.8%) in 1988. The next common benign tumors in my study were fibrocystic disease 11.1%, breast abscess 8.33%, and phyllodestumor 5.5% .This pathological types of benign breast lesions encountered in the present study are similar to other reports but their relative incidence shows same ethic variations. In Indian women as reported by rangaBashyam et al., 6 Khanna et al., 5 as well as in the present studies and in Black populations, fibroadenoma accounted for maximum cases of benign breast disease where as white females, the fibrocystic disease was the commonest benign lesion.

VIII. Conclusion

In this study 108 cases of breast diseases studied, which includes both benign breast tumors and inflammatory lesions. They have been studied with respectto their incidence, clinical presentation, pathology, cyto-histological correlation and management. Cases from urban and rural area were equal. Fibroadenoma was the predominant breast tumor occurring in (61.1%) cases. The next common tumors were fibrocystic disease occur in (11.1%), breast abscess 8.3%, phyllodestumor (5.6%), tubular adenoma (3.7%), and fibroadenosis (2.8%). I found two cases of breast cyst, two cases of antibioma and single case of chronic mastitis (0.9%) Acute mastitis (0.9%), Galactocele (0.9%), Tuberculous mastitis (0.9%). Majority of the fibroadenoma (66.6%) cases were found in the age group of 16-30 years. Fibrocystic disease was maximum (50%) in 31-45 years of

age. All 6 cases of phyllodestumor were found in 3rd and 5th decades. Youngest patient in our study was 15 years, oldest was 60 years and the standard deviation was 10-15. Acute mastitis was seen in a 38 year old female patient who was not lactating. For majority of fibro adenoma cases (42.4%) duration of lump was between 3-6 months. Majority of fibrocystic diseases (41.6%) presented with lump between 6-9 months of duration. Common mode of presentation of most of our benign breast tumors was painless lump in the breast. 90.9% offibro adenoma, 25% of fibrocystic disease and all cases of phyllodestumor presented as painless tumor. All cases of fibroadenosis presented with painful breast lump. Fibro adenoma was bilateral in 5 cases & multiplicity was found in one case. Fibro adenoma was common in upper outer quadrant. Majority of fibro adenoma, fibroadenosis, phyllodestumor, breast abscess were found in right breast. Our study indicates that FNAC is a diagnostically accurate procedure, which indicated by following statistics. Along with sensitivity and specificity the performance of a screening test is measured by its "predictive value" which reflects the diagnostic power of the best. Sensitivity and specificity and predictive value for positive andnegative test for common benign breast tumor are as follows.

Sensitivity And Specificity Of Fnac

Diagnosis	Sensitivity	Specificity	PPV PT	PPV NT	FN	FP
fibro adenoma	96.9	72.4	88.8	91.3	3	27.5
Fibrocystic Disease	66.6	98	80	95.4	33.3	2.4
Phyllodes Tumor	66.6	100	100	97.8	33.3	0

Above findings suggest FNAC of the benign breast tumors is diagnostically accurate. In the present study predictive value of positive test for fibro adenoma and fibrocystic disease almost similar to the study conducted by Hand U[27] and others. However, when FNAC was inconclusive, biopsy is the ultimate choice for breast tumors. An excision is an adequate and effective treatment for most of the benign breast tumors. All the cases of fibro adenoma, fibroadenosis, fibrocystic disease,antibioma, tubular adenoma, & chronic mastitis were treated by excision under general anaesthesia. Among six cases of phyllodestumour, excision was done in two cases, wide local excision in two cases and mastectomy in two the complaints of painless lump in the upper quadrant in one case and lower quadrant of the right breast in another case which was cytological diagnosed as fibro adenoma and epithelial hyperplasia but biopsy of the excised specimen came as feature suggestive of phyllodestumor. Incision and drainage was done for breast abscess.

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