



ORIGINAL RESEARCH PAPER

Medical Science

DIAGNOSTIC EFFICACY OF FNAC AND HISTOPATHOLOGY IN THE DETECTION OF BENIGN BREAST DISORDERS

KEY WORDS:

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ABSTRACT

This study comprising of 100 cases was done between 2017 and 2018 at Katuri Medical College & hospital, chinakondrupadu. The study group consisted of 94 female and 6 male patients. This study was chosen, as 50-55% of women suffer from breast related disorders during their life time, and exclusion of serious pathology of the breast after evaluation, has a major reassuring effect on the patient. The objectives were to study the benign breast diseases with regard to demographic factors and its clinical presentations and to evaluate it clinically ,by FNAC and histopathology to increase the accuracy of diagnosis. A prospective study of patients attending surgical OPD and also admitted to surgical wards with breast disorders was done. Patients predominantly presented with fibroadenoma and fibrocystic disease. Cases of gynecomastia, cyclical mastalgia and breast abscesses were also encountered. Most of the patients underwent FNAC and a few of them had mammograms done. Treatment was mostly surgical in the form of excision, subcutaneous mastectomy, microdocotomy and incision and drainage. All the specimens were subjected to histopathological examination. Using clinical diagnosis, FNAC and histopathology increased the accuracy of diagnosis. Cases of fibroadenosis and cyclical mastalgia were treated conservatively with drugs. In conclusion, benign breast diseases that fairly prevalent with fibroadenoma and fibrocystic disease comprising most of the cases. Patients who were anxious about their breast disease had much relief after it was proved benign.

INTRODUCTION

Benign breast diseases are more common than breast cancers. It has been noted that noncancerous pathology of the breast has always been neglected, compared to breast cancer inspite of the fact that benign conditions account for 90% of the clinical presentations related to the breast.

About 5-55% of all women suffer from breast disorders in their life time They present most frequently between ages 20 and 50 with peak incidence reported at 20 to 24 years¹. Benign disorders of the breast are usually seen in the 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. There is no satisfactory classification for BBD. Presence of a wide variety of synonyms, inability of the clinicians to separate clinical from histological terms, further prevented development of knowledge regarding BBD. The concept of ANDI-Aberrations of Normal Development and Involution is gaining acceptance. Benign proliferations of the breast often considered as aberrations of normal development and involution The clinician should clearly differentiate between benign and malignant conditions of the breast, and reassure. the patients after serious pathology is excluded, as it has a major psychological effect on them.

The present study aims at evaluation of the spectrum of benign breast diseases with regard to demographic factors, ,diagnostic modalities and treatment modalities Malignant transformation of fibroadenomas is rare, occurring in less than 0.3%.²

Most breast abscesses result from secondary bacterial infection from skin contamination. Although Staphylococcus aureus is by far the main pathogen, other microorganisms can be encountered, for example Staphylococcus epidermidis, Streptococcus pyogenes, and anaerobes such as

Peptostreptococcus and Bacteroides.³

A sterile culture with absent growth of bacteria is reported in 21%- 45% of cultures, although this may be a false-negative finding due to previous treatment with antibiotics⁴⁻⁵

Around 60% of all boys develop transient pubertal breast enlargemen⁶ and 30-70% of adult men have Palpable breast tissue, with the higher prevalence being seen in older men and those with concurrent medical illnesses⁷⁻⁸

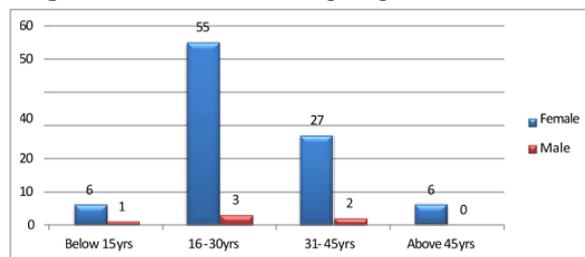
OBSERVATIONS

The present study of 100 cases of benign breast diseases were studied during the period of study from 2017 to 2018

1) Age incidence:

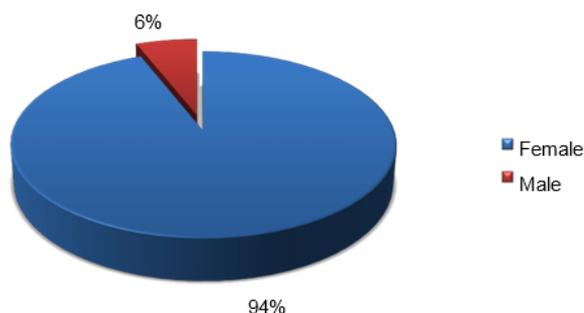
Youngest patient studied was— 12 yrs
 Oldest patient studied was—50 yrs
 Most of the patients were in the age group of 16- 30 yrs

Graph - 1 : No. of cases according to age & sex



On the whole, the bening lesions of the breast presenting in the 2nd and 3rd decade of life was 58%. It is more prevalent in female population (94%) than male (6%). The present study consists of 100 cases of which 94% are females & 6% are males.

Graph - 2 : Sex incidence (%)



Graph - 6 Quadrants of breast involved

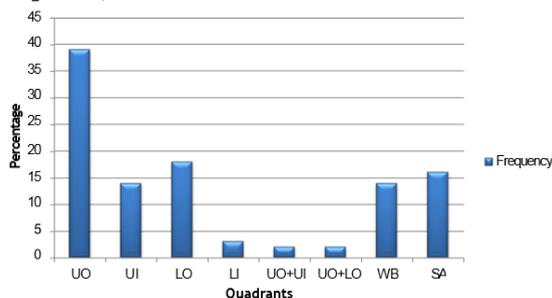
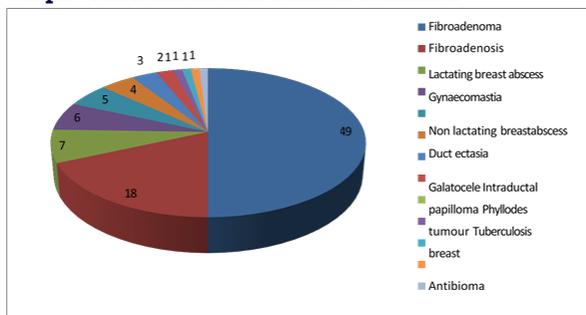


Table - 3 : Symptoms of benign breast diseases

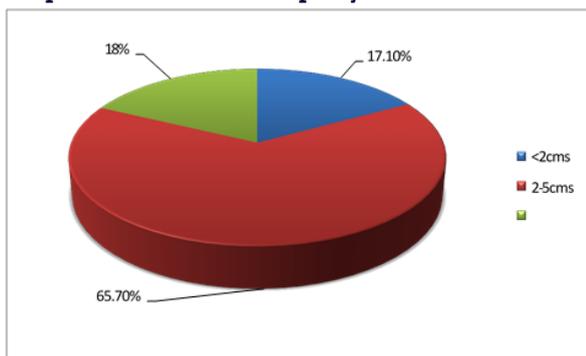
S.No.	Chief complaint	Frequency	Percentage
1.	Lump	55	55%
2.	Pain	5	5%
3.	Lump & pain	7	7%
4.	Swelling	13	13%
5.	Fever, Pain & Lump	10	10%
6.	Nipple discharge	9	9%
7.	Nipple discharge & Lump	1	1%
	Total	100	100%

Lump was found to have almost 55% incidence in the total sample. Least common symptom was nipple discharge with lump.

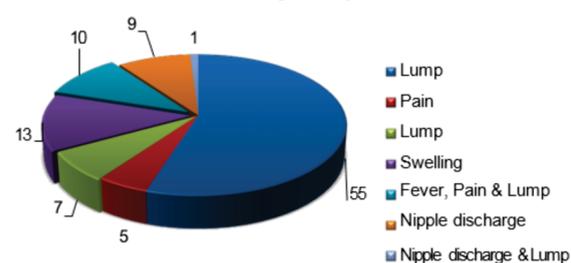
Graph - 7 : Distribution of Clinical Condition



Graph 8 : Distribution of Sample by Size of lesion

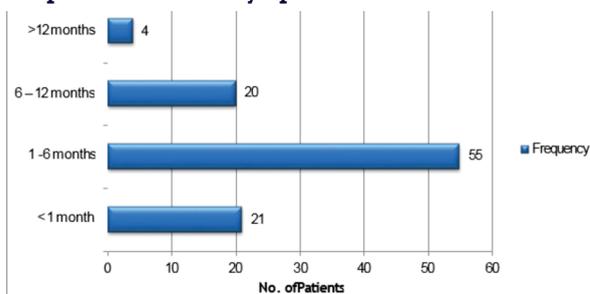


Frequency

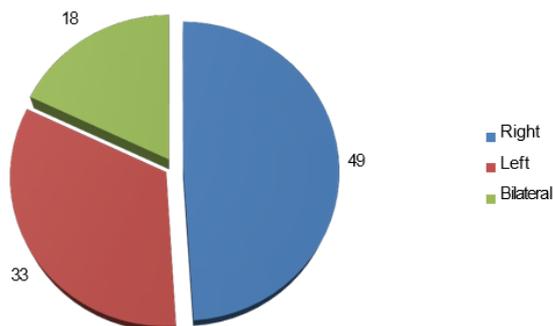


In the study patients mostly presented with lump in the breast (55%).

Graph - 4 : Duration of Symptoms



Graph - 5 : Side of Involvement



DISCUSSION

Hundred cases were analysed over a period of 2 yrs. On analysing the age incidence, it was found that the commonest age of occurrence was between 16- 30 yrs. (58%) and about 95% before 5th decade of life, average age of 28.1 yrs This illustrates the fact that benign breast disease commonly affects adolescents and young adults. Other studies like Foncroft LM et al., &Ratana Chaikanont Also showed that the adolescent and young adults are commonly affected than the older individuals, more than 45 years of age⁹⁻¹³. The occurrence of benign breast disease after 45 years of age was 6% in this series.

Benign breast diseases includes a heterogeneous group of conditions which range from normal, to aberrations in the physiology, to frank disease. The patients of BBDs generally present with one or more of these complaints – breast lump, breast pain or nipple discharge. It has been recommended that all the patients with discrete breast lumps should undergo a triple assessment to make an early diagnosis. By this approach, we provided the diagnosis of most of the benign breast conditions within 72 hours of the initial consultation

It was found that 94% were female cases when compared to 6% of male cases. Patients presented with symptoms of lump alone or combination of lump with pain, enlargement of breast or discharge⁹⁻¹¹.

In the study of Foncroft LM etal¹⁰., they found that 87.4% of the

women who attended the Wesley Breast Clinic had presented with breast lumps, while in the series of Ratana Chaikanont¹¹ a breast lump was the presenting symptom in 72.35% of the 331 benign breast patients. The corresponding figure for our study was 77%. The usual and commonest mode of presentation was lump alone - 55% and associated with pain in 22 % with or without fever. 76% of the patients presented within 6 months of the onset of the symptoms. This early presentation could partially be due to the greater awareness of the disease of the breast and fear that breast lump could be malignant.

The right breast was involved in 49% of cases and left in 33% of cases and bilateral in 18% of cases. Compared to 48% right and 40 % left and 12% bilateral in the study of MimaMaychet B.Sangma et al.,

It was found that the upper outer quadrant was commonly involved. This was also supported by Oluwole series (New York) which also reported involvement of outer and upper quadrant commonly.

Most of the lesions in this series were small in size, ranging from 2-5cm. Most of the lesions were excised under general anaesthesia. Fibroadenoma was the commonest lesion with 52%. Fibrocystic disease was the next commonest with 18% of cases. These figures correlate with those of Oluwole, New York⁹ who found Fibroadenomas in 48% and Fibrocystic disease in 24% of cases. Our finding was in agreement with most of the available literature on benign breast lumps, where the frequency of fibroadenoma ranged from 46.6%-55.6%

The peak incidence of fibroadenoma ranged from the 2nd to the 3rd decade of life, which was consistent with the findings of other studies.

FNAC was the quickest and the most reliable method which helped in making the diagnoses of the breast lumps.

The fibrocystic changes were the next common condition in our study and a majority of the patients belonged to the 25 to 35 years. In our study 18% of cases had Fibrocystic disease as compared to 24% of cases in Oluwole, New York⁹.

The incidence varies geographically. Many authors like Adesunkanmi AR¹² and Agbakwuru EA and Ihekweba¹³ FN found that the incidence of the fibrocystic changes ranged from 29.5-42.2% for the benign breast lumps. Most of the patients with Fibrocystic disease presented with lump in breast followed by lump and pain. Involvement of the side and quadrant were similar to that of benign breast disease in general.

18 cases with lesions of fibrocystic disease, examined clinically were subjected to FNAC and 16 were proved as having fibrocystic disease.

The incidence of breast pain in our series was 22%, which was nearly equal to the breast pain series, which ranged from 12.8%- 30.3%. Leis HP et al., reported that the incidence of breast discharge was only 9% of all the breast complaints in his study, which was equal to the 9% incidence which was found in our study. The next common lesion was breast abscess constituting 13% of cases in this study. Four cases of ductectasia were treated by microdochectomy. In this study there were 4 cases of family history of similar complaints among the first degree relatives. Seven cases gave past history of similar complaints which were treated surgically, 5 cases had lesion in the opposite breast and 2 cases in the same breast. Diagnosis of benign breast disease were made by clinical examination and investigative procedures. Routine investigations were done for all patients and when required mammography was done.

The incidence of benign breast diseases begins to rise in the

2nd decade and it peaks in the 4th or 5th decades as compared to the malignant lesions, for which the incidence continues to rise after menopause. 24 number of cases among 88 female patients studied were unmarried.

Fibroadenoma

From the above data in this study it is evident that 2 groups of benign breast disease i.e. Fibroadenoma and Fibrocystic disease constitutes more than 65% of all benign breast diseases.

The total number of Fibroadenomas in the present study were the highest number constituting 49%. Hence we analysed this lesion in some greater detail.

Our findings were in agreement with most of the available literature on benign breast lumps, where the frequency of fibroadenoma ranged from 46.6%-55.6%.

In this series Out of these 49 cases, 4 cases (8.6.5%) were single fibroadenoma confined to one breast only including giant fibroadenoma. There were 7 cases (13.4%) of multiple fibroadenoma both unilateral & bilateral. There were 7 cases (13.4%) of bilateral fibroadenoma.

In this series, the upper outer quadrant was involved in 29 %, with upper inner quadrant involvement in 10%, lower outer quadrant in 9% and lower inner quadrant in 3%.

The subareolar area was affected on 5% in this series.

From this study, the most frequently involved quadrant was the upper outer quadrant.

This study also compared the values of involvement of each breast to fibroadenoma. It was found that Right breast in fibroadenoma was involved in 25 (48%) and Left breast in 20 (38.4%) cases and 7 (13.4%) cases bilateral, where as in Oluwole (New York)⁹, right breast involved in 45%, left breast 42%, Bilateral involvement in 14% of cases. In this study none of the pt reviewed for any recurrence, This study could not assess relationship with oral contraceptives as none of our patients took oral contraceptives.

The commonest age group of occurrence of fibroadenoma in this series was 16-30 years which was consistent with the findings of other studies. The earliest age at which this tumor occurred in this study was 12 years and the oldest was 50 yrs.

This study found that lump alone was the most common mode of presentation accounting for more than 90%. Other complaints are swelling, pain. Cases of Bilateral Fibroadenoma - opted to undergo surgery on both sides in the same sitting. In this series one case had foci of calcification in a case of Fibroadenoma.

Two cases had family history of benign breast disease among first degree relatives for which surgery was done. All the cases of fibroadenoma were accurately (100%) diagnosed clinically when compared with post operative histopathological examination, FNAC was the quickest and the most reliable method which helped in making the diagnoses of the breast lumps.



Fig.4: Irregular swelling in left Breast



Fig.5: Multiple Lobulated Masses

Fibrocystic Disease

In this series, it was found that the fibrocystic disease constituted 18 cases i.e. 18%. This was comparable to the study of Oluwole who had 20% Fibrocystic disease in his series⁹⁻¹¹. It was also evident that fibroadenoma was more common in India than Fibrocystic disease, the possible explanation being early menarche, early marriage and multiparity of Indian women.

Fibrocystic disease was more frequent in this series between 20- 35 years. On analyzing the symptomatology, most patients presented with lump in breast, followed by lump and pain, similar to that the benign disease in general.

Involvement of the side of the breast and specific quadrant in the breast almost followed that of benign breast disease in general. The upper outer quadrant was commonly (44.4%) involved.

Most of the lesions of fibrocystic disease were between 2-5 cm in diameter and surface was nodular. Mobility was restricted in majority of cases, while few were freely mobile.

This study encountered no family history of benign breast disease in 18 cases of fibrocystic disease.

Two patients had history of similar complaints in the past. Of these, 1 case lesion was present in the opposite breast and in 1 case on same side.

Out of 18 cases of fibrocystic disease, 15 cases were treated conservatively with capsule of evening primrose oil or tab Danazol for all cases for 3 months. Both responded well. But symptoms recurred after stopping evening primrose oil. But cases on danazol 100 mg OD for cyclical mastalgia, reported 50% reduction in 1-2 weeks and asymptomatic by the end of 1 month. Patients with nodularity were put on 200-400 mg danazol and they reported resolution of nodules by end of 3 months. Some patients discontinued the treatment as drugs were costly, and insisted on surgical excision which was done later. Some of the patients were anxious and not comfortable even after reassurance. Hence they were treated surgically but most educated women who were reassured, settled with conservative line of management.

Breast Abscess

This study encountered 12 cases (12%) of lactating and non-lactating breast abscess cases. The earliest case presentation was 3 days since the onset of symptoms, and one case presented with 14 days history. Average time of presentation was 3-6 days.

Lactating breast abscess treated by repeated aspirations, pts for whom requires repeated aspirations or pts not responding to conservative treatment were subjected to I& D, out of 7 cases of lactating breast abscess, aspiration is attempted to all of them along with antibiotics, abscess resolved in 4 pts., 3 of them not responding to repeated aspirations are subjected to I&D under the coverage of antibiotics, 5 cases of non lactating breast abscess were treated by incision and drainage, under the coverage of antibiotics.



Fig.6:Aspiration of Breast Abscess Gynaecomastia

This series had a total of 6 patients (6%) The duration of symptoms varied from 2 months to 1 year, 3 patients in the age of adolescence & early adult, 3 middle aged all of them with in the age limit of 14-31yr. Most of them presented with enlarged breast and pain. There was no history of drug ingestion or any demonstrable cause of gynaecomastia. They were treated by subcutaneous Mastectomy.

The indication for surgery in this study was mainly cosmetic and persistent pain.



Fig.7:Enlarged Both Breasts



Fig.8:Postop Circum Areolar Scar

Phyllodes Tumor

This study encountered 2 cases (2%) of phyllodes tumor (Benign variety). Both cases measured >5x5 cms in size. One patient underwent simple mastectomy and another one underwent wide excision. The 2nd case was diagnosed as giant fibroadenoma by FNAC, but HPE proved it to be low grade phyllodes tumor. Both of them followed up to 15 months no recurrence was found



FIG -9 Large tumour in Right Breast



Fig.-10 simple mastectomy specimen huge mass with little normal tissue Duct Ectasia

In this series there were 4 cases (4%) of duct ectasia which presented in the age group of 40- 50yr. One case presented with lump, pain and thick white discharge. This case which presented was diagnosed as duct ectasia clinically and on FNAC, and ductogram was also done. The case underwent Microdochectomy. HPE reported as Duct ectasia. The other 3

cases presented with discharge and pain. Diagnosis confirmed by ductogram and then Microdochectomy done.



Fig-11 Brownish Discharge from Nipple



Fig.12:Procedure of Microdochectomy

Intraductal papilloma

This study encountered 2 cases of intraductal papilloma, of which one presented with sub areolar mass, FNAC done under the guidance of ultrasound which is suggestive of intraductal papilloma occupying major duct, quadrantectomy done and sent for HPE reported as intraductal papilloma of major duct. 2nd case presented with nipple discharge more on expression, no mass palpable , FNAC suggestive of fibrocystic disease, underwent quadrantectomy and sent for HPE ,reported as intra ductal papilloma no evidence of malignancy found.

Galactocoele

3 cases of galactocoele were presented in this study. Presented with swelling, 1 case during lactation, 2 cases after cessation of lactation, all of them treated with aspiration.

Simple breast cyst

This series one case of simple breast cyst was presented with lump, on ultrasound no mass lesion found with in the cyst, cyst aspiration done which was completely disappeared, aspirate is serous, not blood stained, followed for 6 months no lump recurred.

Antibioma

This study encountered 1 case of antibioma which presented as lump mimicking carcinoma, hard lump with skin fixity with non tender axillary lymph nodes firm in consistency , while doing FNAC it revealed frank pus s/o acute inflammatory condition, pus sent for culture & sensitivity reported as sterile ,I&D done with curetting the abscess cavity wall.

Tuberculosis of breast

In this study one case of tuberculosis of breast is encountered, which presented as discharge from nipple, pain in both breasts, no cyclical mastalgia, no h/o chronic cough h/o fever present low grade intermittent more during evenings, h/o night sweats present, h/o loss of wt. loss of appetite present, o/e multiple scars present over both breasts around areola, central group of axillary lymph nodes enlarged non tender, matted, present with B/L nipple inversion , diagnosed it as fibrocystic disease, nipple discharge sent for cytology revealed chronic inflammatory cells , ZN staining revealed AFB, axillary lymph nodes FNAC s/o tuberculosis, pt sent to dept. of chest & TB, for evaluation of tb and treated with ATT for 9 months. Most of the cases of benign breast disease occurred in reproductive age group (95%).

Multiple healed scars with inversion of Nipple on both sides



The standard treatment advocated was followed for all cases, where necessary minor adjustments were made. Surgical treatment was the mainstay of treatment¹⁴⁻¹⁶. For most of the cases circumareolar incision was used, the follow up was from 3 months to 1- ½ yrs. The present study of benign breast disease in a teaching hospital revealed that they were more frequent than generally expected. Most of the cases of benign breast disease occurred in reproductive age group (95%). and in the upper outer quadrant with fibroadenoma being the most frequent problem.

There were good correlation between clinical diagnosis, FNAC to HPE with respect to fibroadenoma and fibrocystic disease. Surgical treatment and medical line of management respectively for these cases were successful with resolution of pre-operative symptoms.

The present trend of conservative management of most benign breast disorders has reduced number of surgical procedures for these conditions. However in view of the anxiety regarding symptoms, distance to be travelled, poor socioeconomic conditions leading to difficulty in follow up, quite a few patients opt for an early surgical method of resolution of symptoms.

CONCLUSION

BBD occupy majority of total breast diseases. This study of 100 cases includes the clinical profile and management of BBD.

Fibroadenoma was the most commonest benign lesion encountered (49%) followed by fibroadenosis (18%) and breast abscess (12%). Fibroadenoma presented most often in the second and third decade while fibroadenosis present a decade later.

Lump in the breast was the commonest presentation of BBD, pain was the second commonest symptom of BBD. Diffuse nodularity and nipple discharge are other symptoms that are seen in benign breast diseases.

Majority of BBD presented as lump ranges from 2-5cm and were located in upper outer quadrant.

Fibroadenoma remains a diagnostic challenge. A considerable amount of benign breast lesions can mimic fibroadenoma on cytology and such diagnostic categories as "fibroadenomatous lesion" or "consistent with fibroadenoma" are associated with low diagnostic accuracy. While the cytologic requisites for entering a program of conservative management of broadenoma are established, it seems the strict diagnostic criteria should be applied even at the expense of diminishing sensitivity.

There is increasing evidence that conservative approach is acceptable in adolescents patient who choose conservative management need to be informed about the limitation of the test and must be assessed properly if there is symptomatic and clinical changes. Hence the fibroadenoma in adolescence can be treated conservatively, however in a adult women by triple test is a prerequisite for conservative management. Cytological study is useful in confirmation of diagnosis of benign lesion of the breast. It also

help in the conservative management of small lumps and to avoid unnecessary surgical intervention.

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