



"CLINICO PATHOLOGICAL EVALUATION OF FIBROADENOMA BREAST"

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ABSTRACT **BACKGROUND:** Fibroadenoma is the most common benign tumor of the breast in the women less than 30 to 35 years old constituting approximately one-third of all benign breast lesions [1]. These usually arise in the fully developed breast between the ages of 15 and 25 years, although occasionally they occur in much older women. Fibroadenomas are benign tumors, rarely neoplasia may develop in the epithelial elements within them. 50% of neoplasia that involve fibroadenomas are LCIS, 35% are invasive carcinomas, and 15% are Intraductal carcinoma.

OBJECTIVES: To study in detail clinico-pathological presentation of Fibroadenoma of breast, to correlate pre-operative and post-operative clinico-pathological features of Fibroadenoma and to evaluate the discrepancies between FNAC and Histopathological examination.

MATERIALS & METHODS:

A two-year prospective comparative study conducted in the department of general surgery in Vijayanagara Institute of Medical Sciences (VIMS), Bellary. 50 diagnosed cases of Fibroadenoma were retrieved and examined and relevant clinical and histopathological data were analyzed

RESULTS:

Fibroadenomas were commonly encountered in 2nd and 3rd decade with mean age of 28.9 yrs. Left breast was involved in 48% cases, right breast alone is involved in 42% cases, and bilateral involvement is seen in 10% cases with maximum involvement of upper outer quadrant (32%). Of the 50 cases diagnosed as Fibroadenoma by FNAC 84% were Fibroadenoma, 10% were Fibrocystic disease and 2% each of benign Phyllodes tumor, Sclerosing adenosis and chronic non-specific mastitis. Even though 8 cases were misdiagnosed none of them showed features of malignancy

CONCLUSION:

This study highlights diagnostic accuracy of FNAC and its relevance as an effective screening tool for benign breast diseases. It is important to remember that thorough clinical examination is needed and not depend solely on FNAC on arriving at final diagnosis.

KEYWORDS : Fibroadenoma; FNAC; Histopathological Examination; Fibrocystic disease; Phyllodes tumor;

INTRODUCTION

Breast diseases are 10 times more common in the East than in West. 50-55% of women suffer from complaints of Breast Disease and 30% of Benign Breast Disease require treatment eventually. Recent studies have demonstrated an increase in the Incidence of Breast Diseases especially over the past decade.

Fibroadenoma is the most common benign tumor of the breast in the women less than 30 to 35 years old constituting approximately one-third of all benign breast lesions^[1].

These usually arise in the fully developed breast between the ages of 15 and 25 years, although occasionally they occur in much older women. They arise from hyperplasia of a single lobule and usually grow up to 2-3 cm in size. They are surrounded by a well-marked capsule and can thus be enucleated through a cosmetically appropriate incision.

Many studies have been conducted on benign breast diseases and Fibroadenoma constitutes one-third of all the benign breast diseases. Fibroadenomas are benign tumors, although neoplasia may develop in the epithelial elements within them^[2].

Cancer in a newly discovered Fibroadenoma is exceedingly rare; 50% of neoplasia's that involve fibroadenomas are LCIS, 35% are invasive carcinomas, and 15% are Intraductal carcinoma.

A study by Bojia.F et al concluded that FNAC as a routine investigation, has sensitivity of 94.3% and specificity of 78.6%. The positive and negative predictive values were 68.8% and 96.5% respectively with false positive and false negative cases^[3].

In this study we intend to compare the pre-operative and post-operative clinico pathological features of fibroadenomas and any discrepancies in pre-operative and post-operative diagnosis in patients admitted

MATERIALS AND METHODS

It's a Prospective comparative study conducted in Department of General Surgery VIMS, Bellary for a period of 2 years

Study Population:

Female patients

- Attending the Outpatient clinics of the Department of General Surgery, with complaints pertaining to breast disease and
- Admitted patients, who are clinically diagnosed and confirmed by FNAC to have Fibroadenoma

Inclusion Criteria:

Female patients are clinically diagnosed and confirmed by FNAC to have Fibroadenoma.

Exclusion Criteria:

- Patients who got admitted, who are clinically diagnosed to have Fibroadenoma but in whom FNAC reports proved to be otherwise are excluded.
- Post-menopausal women under hormonal therapy.

RESULTS

Mean age of the study participants was 28.3 years and standard deviation was 9.25 years.

Younger the age group more the chance of breast pathology being benign.

Also implying that the younger generation are quick to seek medical advice owing to better awareness. Majority of the study participants are married women, though two-fifth are young unmarried girls.

Sidewise Distribution

When it comes to the side of breast being involved the percentage of Fibroadenoma involving right and left are near equal, with the left breast being involved slightly higher. 10% of the women had bilateral involvement.

Table 1: Laterality Distribution

Laterality	Frequency	Percent
Right	21	42.0
Left	24	48.0
Bilateral	5	10.0
Total	50	100.0

Quadrant with maximum involvement is upper outer quadrant (32%) owing to the fact that the greater percentage of breast tissue is contained in it.

Chief complaint was lump in the breast with 32% complaining of associated pain.

Percentage of patients with complaint of pain is more with advanced age group and in those conditions encompassed under ANDI.

Histopathological Diagnosis

Histopathological Diagnosis (HPE) confirms FNAC reports in 84% of the cases.

Disparity between HPE and FNAC increases in patients with advanced age group.

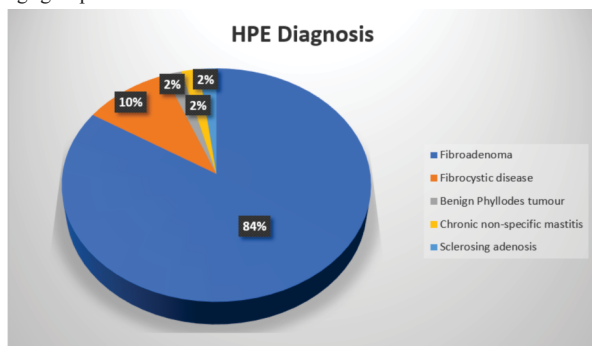


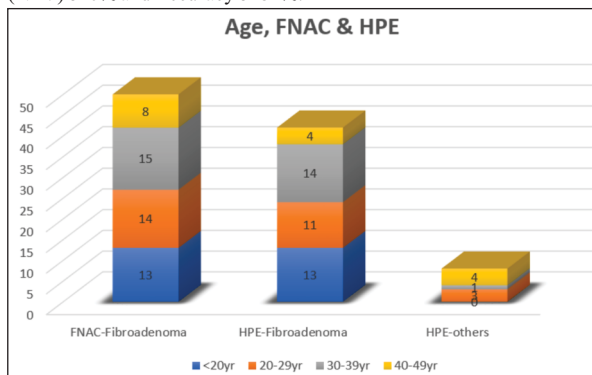
Chart 1: HPE Diagnosis

Diagnostic Accuracy Of Fnac

FNAC correlates with HPE in 84% of the cases.

5 cases of Fibroadenosis and total of 8 cases were incorrectly diagnosed as Fibroadenoma.

In this study FNAC shows sensitivity of 84% and specificity of 100%. Positive Predictive Value (PPV) of 100%, Negative Predictive Value (NPV) of 0% and Accuracy of 84%.



Graph 1: Diagnostic Accuracy

DISCUSSION

This is a prospective comparative study of 50 cases of Fibroadenoma of breast (as confirmed by FNAC) admitted to VIMS Bellary.

In a study by K. Geethamala et al out of 372 cases of Fibroadenoma of breast, 63.2% were in 2nd and 3rd decade with a mean age of 25.5 yrs^[5].

In a study of clinico- histopathological features of Fibroadenoma of breast by Brijesh Thakur et al in 188 cases with ages ranging from 11-50 yrs mean age was 22.5 yrs^[7].

In our study of 50 participants, mean age was 28.9yrs with standard deviation of 9.25 years. Youngest patient in our study was of 14 yrs of age.

In a study by Mima B et al out of 100 patients with benign breast diseases, the right breast was affected in 48% of cases, left breast alone in 40% cases and bilateral involvement in 12% of cases^[4].

In our study of 50 cases right breast alone is involved in 42% cases, left breast alone in 48% cases and bilateral involvement is seen in 10% cases. 60% of the study participants were married. Left breast was found to be involved at a rate slightly higher than the right breast. As expected upper outer quadrant was involved the most owing to the greater breast tissue in it.

In a study of 50 cases of benign breast diseases by Mallikarjuna et al out of 36 cases of Fibroadenoma maximum involvement was seen in upper outer quadrant (33.3) and lower outer quadrant (16.7%).

Our study correlates with the above study with maximum involvement in upper outer quadrant (32%) and lower outer quadrant (24%). This can be attributed to the presence of greater breast tissue in upper outer quadrant.

In a study by Mima B et al breast pain was associated with lumps in 33% cases. Predominant chief complaints in our study were lump and pain with 16 out of 50 cases (32%) complaining of pain associated with the lump.

Also, in our study ratio of patient complaining lump associated with pain compared to only lump increased significantly as the age of the patient advances. In our study out of 23 patients between age group of 30-49yrs, 13 patients have associated pain.

A study by Bojia.F et al concluded that FNAC as a routine investigation has a sensitivity of 94.3% and specificity of 78.6%. The positive and negative predictive values were 68.8% and 96.5% respectively with false positive and false negative cases^[3].

In our study out of 50 cases diagnosed as Fibroadenoma by FNAC, 42 cases were confirmed by HPE, so FNAC showed a sensitivity 84% and positive predictive value of 84%.

Specificity and negative predictive value were not calculated as all cases in our study were FNAC report positive for Fibroadenoma, as that was the requirement for inclusion into the study.

Also, in our study we found that the sensitivity and positive predictive value of FNAC decreases as age of the patient advances. Out of 8 patients in the age bracket 40-49yrs, in 4 cases HPE report was different from FNAC.

In our study though FNAC misdiagnosed 8 cases out of 50 cases it did not miss any case with proliferative changes with atypia or otherwise malignant features. Hence FNAC is still an effective screening tool for benign breast diseases

CONCLUSION

In our study we found that FNAC is only 84% sensitive in detecting Fibroadenoma of breast. We also found that the sensitivity varies with respect to patients with associated pain, implying that clinical examination should be correlated with FNAC to come to a final diagnosis rather than depending on FNAC alone. We also found that sensitivity of FNAC decreases as the age of the patient advances.

Not many studies, treatments and training programs are available in current set-up directed toward Fibroadenoma separately compared to benign breast diseases as a whole. Resources need to be directed to study these individual diseases separately when warranted.

In our study we found that the sensitivity and positive predictive value of FNAC decreases as age of the patient advances. Hence as the age of patient advances it is better to go for a repeat FNAC or if necessary, core needle biopsy whenever there is a clinical suspicion.

FNAC in majority of the cases (80-90%) correlates with HPE diagnosis and FNAC is still an effective screening tool for benign breast diseases. For the remaining few cases where there is clinical suspicion, a thorough clinical examination and repeat FNAC or if necessary, core needle biopsy is needed, to lessen the discrepancies between FNAC and final HPE report.

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