



FNAC OF BREAST LESIONS IN MIDDLE AGED AND ELDERLY FEMALES WITH CLINICO-RADIOLOGICAL CORRELATION IN JHALAWAR MEDICAL COLLEGE

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ABSTRACT

Background: The biggest cause of cancer related fatalities in women globally is breast cancer. Most common clinical presentation of breast cancer is breast lump. Clinical examination along with sono-mammography are very much essential for comparing different breast lesions with fine needle aspiration cytology smear examination. **Objectives:** To analyze spectrum of breast lesions in middle aged (31 to 50 yrs) and elderly (>50yrs) females. **Materials And Methods:** Prospective study of one year from May 2021 to April 2022 in Department of Pathology, Jhalawar Medical College with 131 middle aged and elderly females having different breast lesions on cytological examination were evaluated for clinical features along with radiological findings. Technique of FNAC along with clinical examination and sonomammography were used and compared finally. **Results:** Among benign lesions fibroadenoma is the most common lesion having incidence of 42.50% among 80 cases reported under benign category. In malignant lesions of 51 cases, ductal carcinoma is the most common having percentage of 45.09%. It is having good correlation with clinical examination along with BIRADS grading of sono-mammography. **Conclusion:** In present study, there is good correlation of FNAC findings with clinical examination and sono-mammography which has quietly reduced number of open biopsies.

KEYWORDS : Fibroadenoma, Ductal Carcinoma, Sono-Mammography, FNAC

INTRODUCTION

The biggest cause of cancer related fatalities in women globally is breast cancer. Most common clinical presentation is breast lump. The pathologies of breast show various spectrum, ranging from inflammatory lesions, developmental abnormalities, benign stromal and epithelial proliferations to different kinds of malignant neoplasms. Globally, about 2.3 million women were diagnosed with breast cancer and caused about 6,85,000 deaths in year 2020, being most common cause of cancer death in women. While in India around 178,361 new cases and 90,408 deaths were reported with breast cancer in year 2020 with Mortality rate to be 10.6%. So, to improve the rate of survival, early diagnosis of the pathology is needed.⁽¹⁾

Precise diagnosis of breast lesions depend upon "Triple Evaluation" approach; Clinical examination along with sono-mammography are very much essential for comparing different breast lesions with FNAC smear examination. FNAC has good diagnostic accuracy and has reduced the rate of excision biopsy and factors like ease of use, affordability and accuracy make FNAC an important part for preoperative management of breast lesions and efficient method for principal classification of palpable breast lumps into various categories like unsatisfactory, suspicious, benign, atypical and malignant. Our study is focusing on comparing diagnostic efficacy of clinical examination and radiological features by BI-RADS with FNAC results.⁽⁹⁾

MATERIAL AND METHODS

After obtaining approval and clearance from the institutional ethical committee, Prospective study of one year from May 2021 to April 2022 in Department of Pathology, Jhalawar Medical College with 131 middle aged and elderly females having different breast lesions on cytological examination were evaluated for clinical features along with radiological findings. Technique of FNAC along with clinical examination and sono-mammography were used and the efficacy was compared finally.

Inclusion Criteria:

Females more than 30 years with complaints of

pain/lump/induration/hardness in the breast along with history of nipple discharge may also having past history of operation on same / contralateral breast.

Exclusion Criteria:

Patients who are below 31 years. Male patients.

Methodology

The patients were enrolled in the study after applying the inclusion and the exclusion criteria. A detailed history regarding the complaints, the mode of presentation, site of lump and associated symptoms was obtained, a complete physical examination and examination of the breast and the mass was made.

Each patient underwent a triple test which included a complete clinical examination, next was the sono-mammography of the breast mass and finally fine needle aspiration of the breast lump was made.

The triple test was introduced by Johansen in 1975 for the diagnostic evaluation of breast lump in elderly woman (more than 50 years). This test was introduced to avoid unnecessary open biopsy or frozen section.

All patient included were examined clinically, sono-mammography was done in radiology department following which FNAC was done.

OBSERVATION AND RESULTS

In our study, we observed that among 80 cases reported under benign category lesions, Fibroadenoma is the most common lesion having incidence of 42.50% , with most common chief complaints of Left sided Lump (53.75%) in Upper Outer Quadrant (45.0%) with pain in 46.25% cases and Nipple discharge in only 6.25% cases.

Duration of 15-30 days and 7-12 months was equally highest (23.75%). Most common Benign lump findings were Unilateral lump (98.75%) with firm consistency (76.25%) and as mobile lump (73.75%). While on Sono-mammogram, most benign lesions have Grade-2 BIRADS grading (71.25%) cases.

Table 1 - Spectrum Of Benign Breast Lesion On Cytopathological Examination.

BENIGN LESIONS	Frequency	Incidence
Acute inflammatory lesion	18	22.50%
Simple cyst	1	1.25%
Fat necrosis	1	1.25%
Granulomatous lesions	5	6.25%
Fibrocystic disease	17	21.25%
Inspissated cyst	1	1.25%
Papilloma	1	1.25%
Fibroadenoma	34	42.50%
Benign phyllodes tumor	2	2.50%
TOTAL	80	100%

Among 51 cases reported under malignant category, Ductal carcinoma is most common lesion in 45.09% cases, with lymph node metastasis in 1 case only. The most common chief complaints were Right sided Lump (50.99%) in Upper Outer Quadrant (35.29%) with pain in 64.70% cases and Nipple discharge in only 7.84% cases. Duration of 3-6 months was highest (33.33%).

Table 2 - Spectrum Of Malignant Breast Lesion On Cytopathological Examination With Nodal Status.

Malignant Lesion	Frequency	Incidence
Suspicious for malignancy	3	5.90%
Proliferative breast disease with atypia	5	9.80%
Malignant lesion	19	37.25%
Medullary carcinoma	0	0%
Papillary carcinoma	1	1.96%
Duct carcinoma	23	45.09%
Lobular carcinoma	0	0%

Table 3 - Incidence of Benign and Malignant Breast Lesions on Cyto-pathology Examination.

Lesion	Frequency	Incidence
Benign	80	61.06%
Malignant	51	38.94%
Total	131	100%

Most common malignant lump findings were, All Unilateral lump (100.0 %) with firm consistency (52.94%) and as Fixed lump (84.31%). Overlying skin & Nipple/areola involvement was in 28.40% cases. While on Sono-mammogram,

In present study, upon report of 131 cases of sono-mammography, BIRADS Grade I and BIRADS Grade II lesions were found to be 75 cases (57.25%) in total of 131 cases reported followed by BIRADS Grade IV and BIRADS Grade V lesions were found to be 48 cases (36.64%) and BIRADS Grade III lesions were found to be 8 cases(6.1%). Most malignant lesions have Grade-5 BIRADS grading (70.50% n = 51) cases.

DISCUSSION

The present study was conducted at the Department of Pathology, Jhalawar Medical College, Jhalawar, India. The present study was conducted from May 2021 to April 2022 with total of 131 female patients of age group more than 31 years presented with palpable breast lump in cytology section having sono-mammography report was enrolled for the study. The study was carried out post permission from institutional ethical committee. An informed and written consent was obtained from all the patients.

In present study, the most common benign lesion of breast is found to be Fibroadenoma with 34 cases having incidence of 42.50% followed by acute inflammatory lesions with 18 cases having incidence of 22.50%. In **Nirmal Kumar Sinha, et al.**^[22] among benign lesions, Fibroadenoma is the commonest lesion with 53.3% incidence rate. In **Bangaru H, et al.**^[21] also fibroadenoma among benign cases is the commonest with incidence of 72.77% cases.

The most common malignant lesion in breast is found to be duct carcinoma with 23 cases having incidence of 45.09% in total of 51 cases reported as malignant category. In study of **Prakash Sharma, et al.**^[23] duct carcinoma is the commonest with incidence of 60% among total cases reported under malignant category. In study of **Pradeep Kumar, et al.**^[24] among total cases reported, duct carcinoma is the commonest malignant lesion having incidence of 20%.

Upon clinical examination of breast, in present study painful swelling was found in 70 cases in total of 131 cases having incidence of 53.44%, nipple discharge was found in 9 cases with incidence of 6.87%, lymph node metastasis was seen in 2 cases having incidence of 1.53%. In **Ashraf, et al.**^[30] on examination of breast lump, painful swelling was found in 40% of cases and nipple discharge was found in 6% of cases. In **Maryam Ishrat, et al.**^[25] painful lump was seen in 30% of cases whereas nipple discharge was seen in 25% of cases.

On clinical examination, the most common location of breast lesion is found to be upper outer quadrant with incidence of 53.44% followed by lower outer quadrant with incidence of 14.50%. In **Masooda J, et al.**^[28] the location of breast lesion is found to be in upper outer quadrant with incidence of 60%. In **Kapoor B, et al.**^[31] upper outer quadrant is the most common area where breast lesion was found having incidence of 60%.

Table 4 - Comparison Of Studies In Incidence Of Benign And Malignant Breast Lesions.

STUDY	BENIGN	MALIGNANT
Nirmal Kumar Sinha, et al.	60%	40%
Richie, et al.	57.59%	42.41%
Neha Aggarwal, et al.	65.3%	34.7%
Masooda J, et al.	93%	7%
Present Study	61.07%	38.93%

In case of laterality, right sided breast lump was seen in 47.33% of cases, left sided lump was seen in 51.91% of cases and bilateral lump was seen in 0.764% in total of 131 cases studied. In study of **Masooda J, et al.**^[28] right sided breast lump seen in 58.5%, left sided breast lump was seen in 40% and bilateral lump was seen in 1.5% of total cases studied. In **Neha Agrawal, et al.**^[27] 51.2% of cases were found to be of left sided breast lesions whereas right sided lesions were found to be 45.2% and bilateral lesions were seen in 3.5% of cases.

Upon report of sono-mammography, BIRADS Grade I and BIRADS Grade II lesions were found to be 75 cases (57.25%) in total of 131 cases reported followed by BIRADS Grade IV and BIRADS Grade V lesions were found to be 48 cases (36.64%) and BIRADS Grade III lesions were found to be 8 cases(6.1%). In study of **Satyajit Samal, et al.**^[26] radiologically BIRADS Grade I and BIRADS Grade II lesions were found to be 138 cases (55.2%) out of 250 cases studied. In **Richie, et al.**^[29] BIRADS Grade II and BIRADS Grade III were found to be 98 cases (62.03%) and BIRADS Grade IV and BIRADS Grade V lesions were seen in 60 cases (37.97%) out of 158 cases studied total.

The findings of our study were in concordance of most of

studies done by other authors/researcher regarding most frequent variants and FNAC of Breast Lesions in middle aged and elderly women with clinical examination along with BIRADS grading of sono-mammography is having good, efficient, Positive correlation.

CONCLUSION

When their particular cytologic features are clear, benign breast tumours are typically easy to recognize. It is customary to discover hypocellularity, necrosis, damaged apocrine cells, and epithelial hyperplasia when examining difficult smears that mimic malignant or atypical lesions. Despite FNAC's high degree of accuracy, it has a number of shortcomings that could cause confusion and inaccurate breast lesion identification. As a result, the accuracy of the diagnosis increases when radiological testing and clinical correlation are implemented to enhance it. In order to make an early and accurate diagnosis, the study led to the conclusion that FNAC should be regularly used in conjunction with radiographic analysis and complete clinical examination.

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