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A 3 Year Retrospective Cytological Analysis of All Breast Lesions in Peri-Menopausal and Post-Menopausal Women in Tertiary Health Care Center, Gwalior M.P

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Abstract: ***Objective: To investigate the prevalence of breast lesions in peri-menopausal and postmenopausal womens (40-80 year age group). Introduction: Breast cancer is the 2nd most common malignant tumor of womens between 40 and >44 year of age. Breast cancer account 32% of all pre and postmenopausal female cancer and is responsible for 19% of death which is second leading cause of cancer related mortality among females after lung cancer. Material and Method: A retrospective cytological analysis of breast lesions, encountered over 3 year (january2014 to December2016). Result: Study includes 322 cases of breast lesions. The cases were divided into 3 age groups (40-49, 50-59, >60 years). Most of the patients were in the age group of 40-49(53%) and the least number of patients were found in age group >60 (18.3%). The breast lesions were categorized on the basis of cytological analysis. The most frequent lesion was ductal cell carcinoma (46.5%) followed by fibroadenoma (14.5%). Conclusion: carcinoma is the most common lesion in the present study. The study confirms the view, that FNAC of breast is one the most valuable tool in early diagnosis and management of breast lump.***

Keywords: Breast lesions, FNAC, peri-menopausal women, post menopausal women

1. Introduction

Breast cancer is the 2nd most common malignant tumor of women between 40 and >44 year women. However, many benign condition of breast clinically resemble carcinoma. Breast cancer account for 32% of all premenopausal and postmenopausal female [8] cancer and is responsible for 19% of death which is second leading cause of cancer related mortality among female after lung cancer.

Early diagnosis has got great importance in breast cancer. Each year the no of patients is increasing .Due to social circumstances female patients are hesitant to be examined by clinicians for breast lump and hence are reporting in advanced stage of malignancy. The leading cause of delay in diagnosis is more commonly stated to be inappropriate physicians reassurance that a mass is benign without FNAC and biopsy.

Results from larger clinical trial indicate that screening can reduce breast cancer mortality. Three breast cancer screening methods are commonly employed-mammography, breast self examination, physical examination by trained personnel. Screening tests are recommended to women especially over the age of 40 years.

Prognosis of breast cancer differ according to age and menopausal status. Factors associated with lower breast cancer incidence include late menarche, younger age of 1st full term pregnancy, multiparity, earlier menopause where as increased risk is reported in women with higher urine and plasma estrogen level, postmenopausal obesity , family history of breast cancers , early menarche, late menopause, radiation to chest and history of benign proliferative lesion in breast.

2. Material and Method

We retrospectively reviewed all the cases in peri-menopausal and postmenopausal women (40-80 years age) who were referred for FNAC procedure from OPD and IPD services in a tertiary care hospital, Gwalior between 2014-2016 . All the breast lumps were included in the study. The clinical data was recorded regarding the age of patient , site of involvement ,size of the lesion, cytological diagnosis , presence of metastasis in the malignancies, mobility, axillary node were palpable or not . FNAC procedure was performed on the patient under manual guidance with aseptic precaution .The slides were immediately air dried fixed for giemsa stain. The various cyto-morphological features of the breast lesion was studied, analysed and placed in appropriate category and histopathological correlation done where ever available.

Table 1: Frequency distribution of different categories of lesion according to age group

Category of lesion	40-49 years	50-59 years	>60 years	total	%	P-value	Df
Inflammation	16	6	3	25	7.7	0.00	08
Non proliferative	62	15	3	80	24.8		
Proliferative without atypia	32	10	4	46	14.2		
Proliferative with atypia	8	8	5	21	6.5		
Carcinoma	53	53	44	150	46.5		
Total	171	92	59	322			

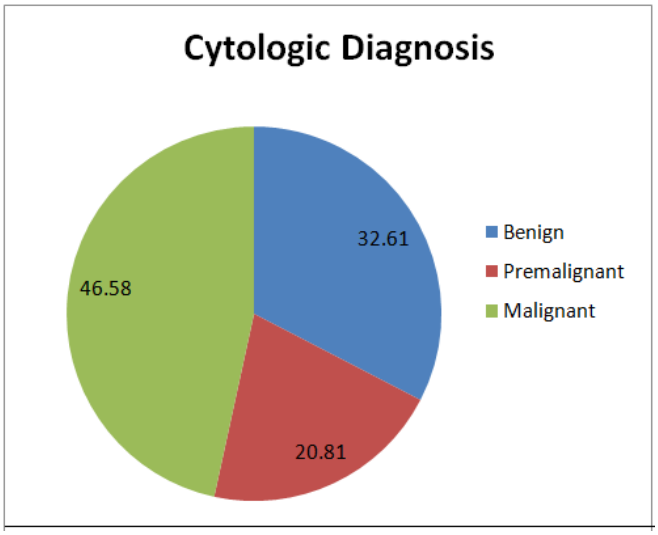
Chi square value =50.8
Df = degree of freedom
P (probability) =0.00

Table 2: Frequency distribution of different sub-categories of lesion according to age group

Category of lesion	Subtype	40-49year	50-59year	>60 year	Total
Inflammatory	Mastitis	3	2	3	8
	Abscess	12	4	-	16
	Fat necrosis	1	-	-	1
Non proliferative	Cyst	3	-	-	3
	Apocrine changes	10	4	3	17
	Adenosis	12	1	-	13
	Fibroadenoma	37	10	-	47
Proliferative with out atypia	Moderate /florid hyperplasia	12	3	-	15
	Fibroadenoma with complex features	20	7	4	31
Proliferative lesion with atypia	Atypical ductal hyperplasia	8	8	5	21
Carcinoma	Ductal cell carcinoma	53	53	44	150

Table 3: Distribution of lesions based on pattern analysis.

Cytological diagnosis	Number cases
Benign	105
Premalignant	67
Malignancy	150
Total	322



3. Result

The patients were from 40-80 years of age. Among the type of the lesion carcinoma (150,46.5%) shows the highest incidence followed by non proliferative lesion (80, 24.8%) and proliferative without atypia (55, 14.2%) and inflammatory lesion (25,7.7%) .Among inflammatory lesion highest number was seen in 40-49 year age group. Highest number of fibroadenoma (37, 78.7%) was in the age group of 40-49 year and 50-59 year was second (10, 21.2%) . maximum number of carcinoma cases were in the age group of 40-49(53) year and 50-59 year(53) respectively. The P-value in our study is 0.00 (P-value=0.05) which is highly significant. Regarding the side of involvement ,almost in all cases either right or left, left side was most commonly involved in 40-49 year and 50-59 year age group while in >60 year age group right side was most commonly involved.

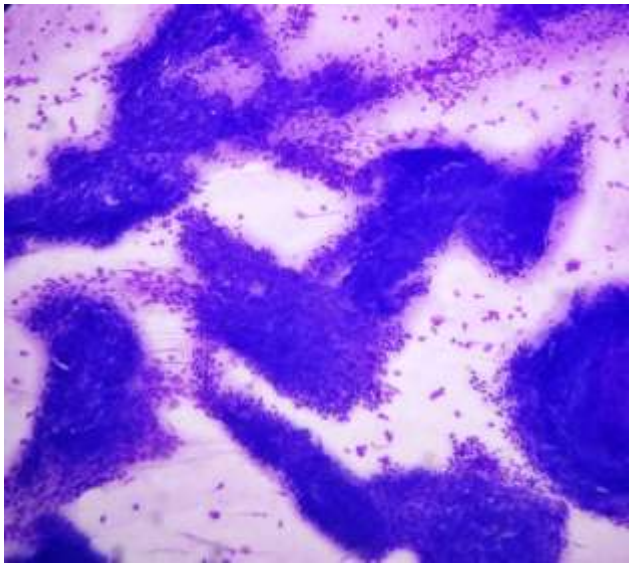


Figure 1: Fibroadenoma breast (10x magnification)

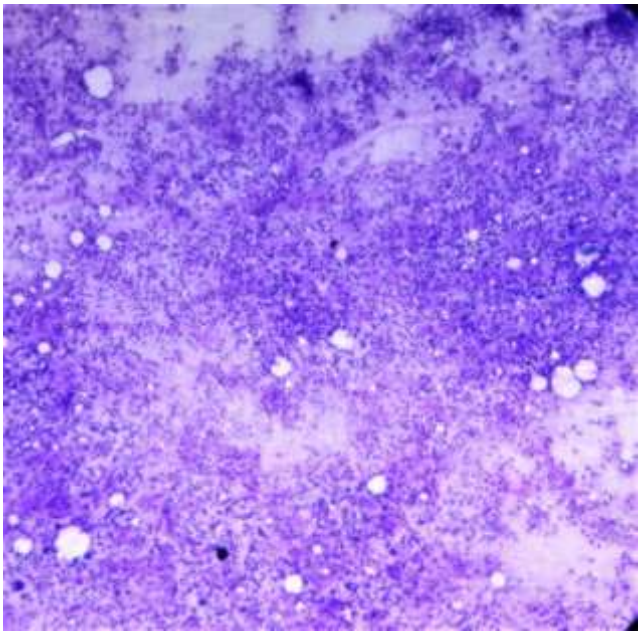


Figure 2: Abscess of breast (40x magnification)

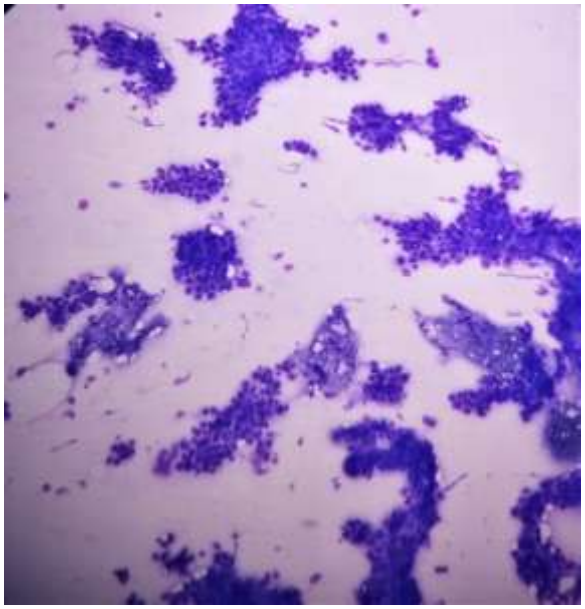


Figure 3: Ductal cell carcinoma breast (10x magnification)

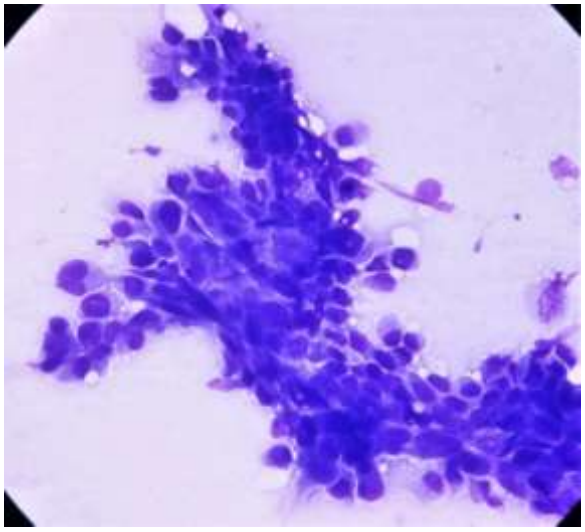


Figure 4: Ductal cell carcinoma breast (40x magnification)

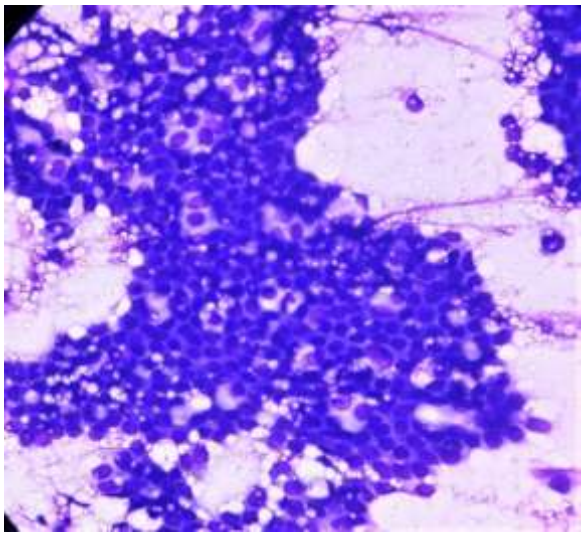


Figure 5: Ductal epithelial hyperplasia (40x magnification)

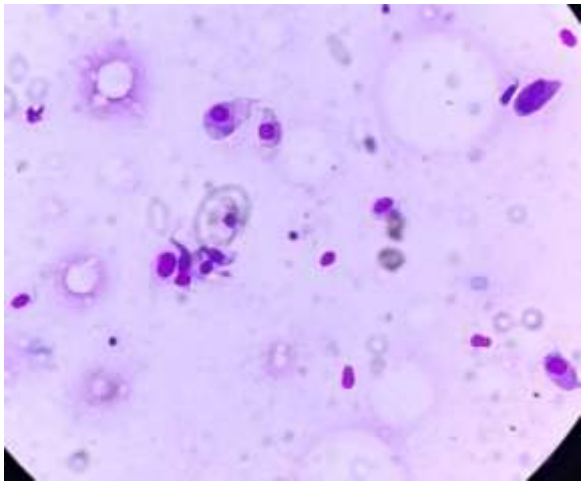


Figure 6: Apocrine changes in ductal cell (40x magnification)

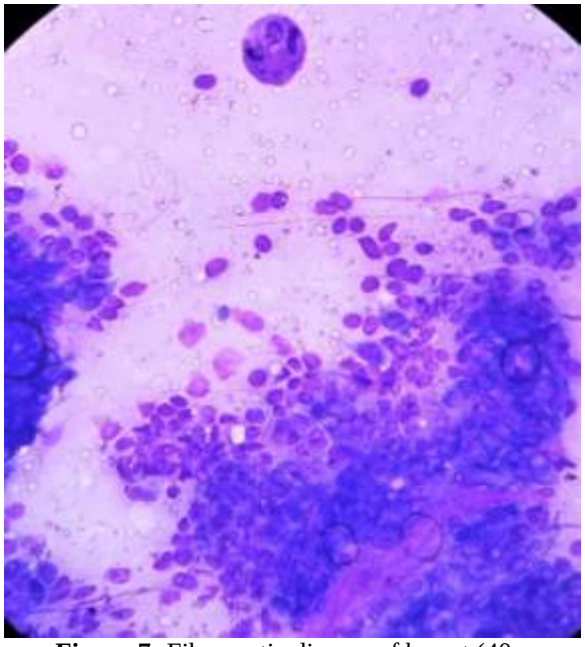


Figure 7: Fibrocystic disease of breast (40x magnification)

4. Discussion

FNAC is routinely used investigation for rapid diagnosis of breast cancer. Now-a-days, FNAC is being performed as a pre operative test to evaluate the breast lump. FNAC can prevent unnecessary surgery also. FNAC could provide a diagnosis with only 10-30% of the cost of surgical biopsy. 95%accuracy in pre-operative diagnosis of mammary cancer by clinico-pathological combination was reported in a study.

In this study the lesion presented in right breast was 43.1% and left breast was 52.7% and 4.3%cases involve both breast. Kumar [4] observed a deviation from our results with a little predominance of right breast (51.4%).

Inflammatory lesion comprises 25(7.7%) cases. We also found 2 cases of galactocele and revealed milk during aspiration and microscopically histiocytes in the background of milk. Fibrocystic disease (FCD) comprises 80 (24.8%) cases. Their incidence is highest in 40-49 year

age group and second highest in 50-59 year age group. In the study of Kumar [4] we can see FCD comprises 41.2% cases and most of the cases in the age group of 30-40 year. FCD also consist the highest number of FNAC cases (49%) in the other study from Nepal by Pradhan and Dhakal [7]. Bukhari et al. [3] found 21.7% FCD in their study. Our study showed lesser number of cases. The possible reason may be that, since it is not a population based study ,we may not get the exact scenario. Besides, fibrocystic disease present with ill defined mass with no pain or less complaint. Female may feel reluctant to seek consultation for the type of lesion. In this study we found 21 (6.5%) cases of Atypical ductal cell hyperplasia

Ductal cell carcinoma comprises 150 (46.5%) cases and was the major cause of breast lump in this study . 53 (35.3%)cases were in the age group of 40-49 year and 53(35.3%) cases in 50-59 year age group and 44 (29.3%) cases in the >60 year age group respectively. Rahman et al. [1] found (14.17%) carcinoma cases. Pradhan and Dhakad [7] also reported 15.5% malignant cases in their study . Ahmed et al. [2] in sudan, Mayun et al. [8] in Nigeria and Bukhari et al. [3] in Pakistan reported 30.5%, 40%and 31% malignant cases which are close to our study.

In our study 46.5 % malignant cases reflects less awareness of women to attend health facilities with smaller breast lump but an ugly looking or painful lesion.

In our study we found same number of carcinoma cases in 40-49 year and 50-59 years age group. However reports from western world show that female breast carcinoma is predominantly seen in 5^{th} and 6^{th} decade. Breast cancer patients of this region are at the lower age of one decade than that of western women.

5. Conclusion

The present study confirms the view, that FNAC of breast is one the most valuable tool in assessment and management of palpable breast lump on account of its low cost, minimal morbidity, rapid turnaround time. Carcinoma is the commonest lesion in this study.

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