ORIGINAL RESEARCH PAPER

Pathology

"PROFILE OF BREAST LUMPS WITH FNAC AS A DIAGNOSTIC TOOL".

KEY WORDS: Breast lesions, FNAC, Fibroadenoma, Ductal carcinoma, Gynecomastia.

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ABSTRACT

Background: Most common breast diseases presents as breast lumps. FNAC should be used as a routine method to determine the nature of these lumps.

Aim: To study the common causes of breast lumps and to evaluate the diagnostic accuracy of FNAC in breast lesions.

Methods: A retrospective hospital based study was conducted at department of Pathology, Govt. Medical College, Jammu, India. Data was collected from the records of FNAC of breast lesions done in last 2 Years. Analytical Interpretation was done by SPSS software version 19, and Chi-square test was applied to find statistical significance.

Results: FNAC was done on 100 cases of breast lesions, of which 78 (78%) were benign, 19 (19%) malignant, 3 (3%) suspicious. Fibroadenoma was the most common benign lesion and ductal carcinoma was the common malignant lesion. There was significant association between benign and malignant breast lesions and age.

Conclusion: Fibroadenoma was the most common benign lesion followed by Ductal Carcinoma as malignant lesion in females. In males Gynecomastia was the predominant presentation followed by lipoma. FNAC is less traumatic, cost effective procedure that can be carried out in OPD department even in the less sophisticated centers in far flung and hilly areas. Its highly reliable & dependable procedure when histopathological correlation was done.

INTRODUCTION

Breasts are a distinguishing feature of mammals. From puberty to death the breast is subjected to constant physical & physiological stresses that relate to menses, pregnancy, gestation, Lactation & Menopause. This is unique because its development & growth are under the control of numerous hormones. [1,2] Breast passes through three separate stages during life developmental cyclical and involution. So, various abreactions of normal process of development leads to various spectrum of pathology in breast. [3] Benign Breast disease are common disorder up to 30% of women will suffer from Benign Lumps at some time in their lives.[4]However incidence of breast cancer in India is on the rise and is rapidly becoming the number one cancer in females pushing the cervical cancer to the second spot.[5] In India there is annual incidence of 75,000 cases per year. Mortality associated with breast cancer is 1.20/1,000,000 in males and 4.32/1,00,000 in females.[6]The rise is being documented mainly in the metros but it can be safely said that many cases in rural India go unnoticed.[5]In many centers FNAC is procedure of choice used determining the nature of breast lumps. It's simple, cost effective and less painful procedure. It can be done in outpatient department & requires no anaesthesia.[4,5] It also decreases the need for more painful procedure like open biopsy. In developing countries like India where financial restrictions & less awareness regarding the disease with patient presenting late, as sophisticated screening programme are out of reach for them, FNAC becomes almost the first choice as diagnostic tool. The present study was undertaken to study the various breast lump presentations and to evaluate diagnostic role of FNAC.

MATERIALS AND METHODS

A retrospective hospital based study was done in pathology department of Govt. Medical College, Jammu. Data was collected from the records of FNAC of breast lesions done in last 2 year duration from Jan 2015 to Jan 2017 which included 100 patients. All the fine needle aspiration was carried out with a 22 or 23-gauge needle attached to a 20-cc airtight disposable syringe which was fitted in a syringe holding FNA gun. Negative pressure to aspirate adequate sample. The sample was obtained by to and fro motion. Samples were smeared onto glass slides and fixed in 95% methanol along with one or two air dried smear for May Grunwald Giemsa (MGG) stain. In fluid filled lesions smears were made from the sediments after centrifugation. Wet-fixed smears were stained with Haematoxylin and Eosin (H&E), and Papanicolaou stain; while air dried smears were stained with May Grunwald Giemsa stain (MGG). FNAC results were studied to find out Benin breast lesions, malignant lesions. Data was entered in SPSS software and analysis was done. Chi-square test was applied to find statistical significance of findings.

RESULTS

Of 100 cases of breast lesions that underwent FNAC, 78 (78%) cases were benign, 19 (19%) malignant, 3 (3%) suspicious. Out of 100 cases of fibroadenoma constituted 49 (49%) as the most common diagnosis followed by malignancy mainly ductal carcinoma 14 (14%), lobular carcinoma 3 (3%), adenocarcinoma 2 (2%).Among the fibroadenoma cystic variety constituted 44% rest apocrine. Gynecomastia was seen in 10 (10%). Fibrocystic Diseases, Abscess and Inclusion cist were seen in 4 (4%) each. Galactocele and Granulomatous Lumps and Lipoma were seen in 2 (2%) each. Phylloid tumor was seen in 1 (1%) and Suspicious were seen in 3 (3%).

Table 1: DIFFERENT PRESENTATIONS OF BREAST LUMPS.

Fibroadenoma	49		49%
Apocrine		5	
Cystic		44	
Gynaecomastia	10		10%
Lipoma	2		2%
Abscess	4		4%
Galactocele	2		2%
Inclusion Cyst	4		4%
Phylloid tumor	1		1%
Granulomatous Lumps	2		2%
Cancer/ Malignancy	19		19%
(Infiltrating Type)		10	
Suspicious Maligrancy	3		3%
Fibrocystic Diseases	4		4%

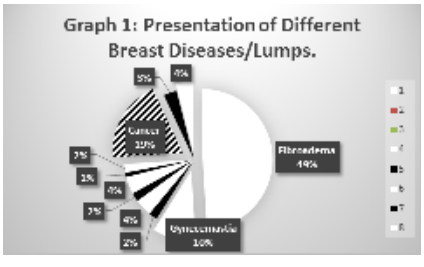
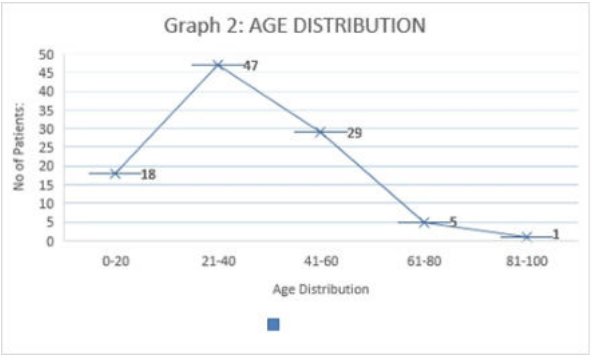


Table 2:

Author & Year	Ethnic Group	Fibroadenoma	Fibrocystic Disease
Rangabashyam[15] et al (1983)	Indian N-215	57.0%	16.3%
KHANNA[14] et al (1988)	Indian N-971	40.8%	13.8%
Present Study	Indian N=100	49.0%	4.0%

AGE DISTRIBUTION

Benign Breast Lesions were more common in younger age groups while malignant breast lesions were common in the age group of 40-60 years.



Youngest Age: 7 Years & Oldest Age: 81 Years, most of the patients were in the age group 21-40 years.

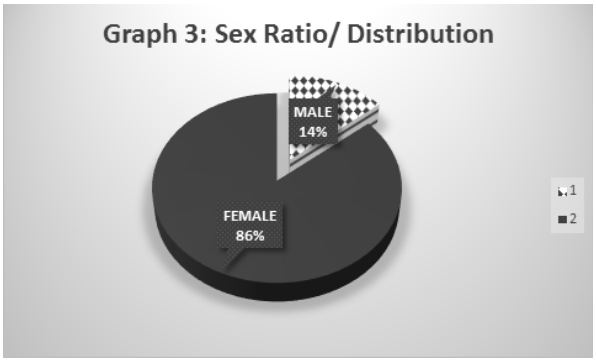
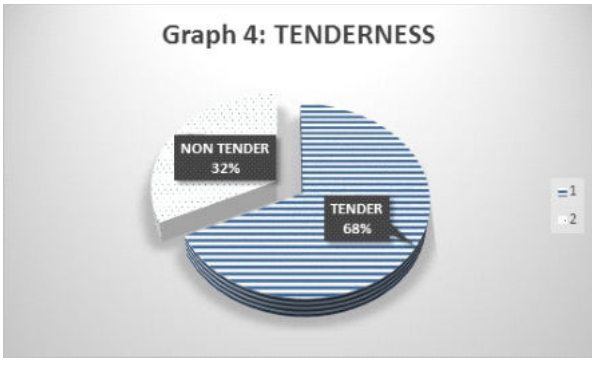


Table 3: Sex Distribution

SEX	PRESENT STUDY N=100	KHANNA[14] et al (1988) N=1031
FEMALE	86%	94%
MALE	14%	6%

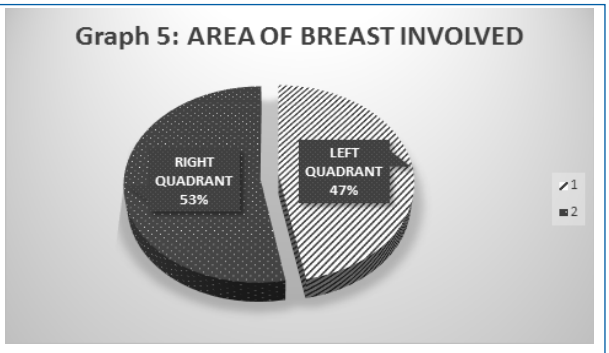
TENDERNESS

Out of the 100 cases, 68 (68%) had Tender Lumps and rest 32 (32%) Non Tender Leison.



INVOLVEMENT OF BREAST QUADRANT:

Analysis of the data collected showed the involvement of right quadrant of the breast which further included right upper outer quadrant showing maximum involvement and least in the right upper inner quadrant.



This was further confirmed by significant Chi-square Value P<0.0001, (Highly Significant)

DISCUSSION

After evaluating the pattern of breast lesions as diagnosed through FNAC we concluded that benign lesions constituted 78% of cases, and 19% were malignant. Fibroadenoma was the most common diagnosis in benign lesions and ductal carcinoma was the commonest among malingnst lesions. Similar observations were made by other studies by different researchers.[7,8,9] Gynacamostia was 2nd common diagnosis followed by fibrocystic changes. However, few studies have reported fibrocystic disease as the common diagnosis followed by fibroadenoma.[10,11] In our study malignant lesions formed 19% of the total FNAC cases. Similar incidence of carcinoma was found by different authors.[7,9] But a study done by Bdour M at al., had reported much higher incidence of carcinomas (41%).[12] High diagnostic accuracy of FNAC in differentiating different breast lesions were also being highlighted in these studies.[7,9,12] In our study Benin lesions were more common in 0-40 years while malignant breast lesions were common in the age group of >40 years. Statistical significant relationship between the two have also been reported earlier.[7,10,13.]

CONCLUSION

Fibroadenoma was the most common benign lesion followed by Ductal Carcinoma as malignant lesion in females. In males Gynecomastia was the predominant presentation followed by lipoma. FNAC is less traumatic, cost effective procedure that can be carried out in OPD department even in the less sophisticated centers in far flung and hilly areas. Its highly reliable & dependable procedure when histopathological correlation was done.

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