



A STUDY ON FNAC FINDINGS OF BREAST LESIONS IN A TERTIARY CARE HOSPITAL OF JHARKHAND.

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ABSTRACT

INTRODUCTION: A palpable breast lump is a common clinical problem that presents to the surgeons, gynaecologists and general practitioners.FNAC is indicated in almost all the palpable breast lesions and mammographically abnormal non-palpable breast lesions.Thus serving as a rapid pre operative diagnostic procedure especially in cases of breast cancers.

MATERIALS AND METHODS: A one year retrospective study was done from January 2017 to December 2017 in all patients who presented with palpable breast lump in pathology department, RIMS, Ranchi. Fine needle aspiration cytology was done, Smears were made and stained using Leishman/Giemsa and Haematoxylin/Eosin and they were examined under microscope for cytological diagnosis.

RESULTS: Among 471 patients 25 cases were of males and 446 cases of female. 307 cases were benign lesions, 20 cases were suspicious of malignancy and 144 cases turned out to be of malignancy.The most common age group that presented with breast lump was 21-30yrs of age i.e. 253 cases(53.71%) who mostly presented with fibroadenoma.The most common age group of Carcinoma Breast was 41-50 yrs of age:There were 50 cases(34.72%) among the 144 cases in this age group and were significantly associated with each other (P<.05).Total number of bilateral cases of breast cancer was 11 among which 8 belonged to age group of >50yrs (p = .002).As compared to the study conducted in 2015-2016, there has been increase in the incidence of breast cancer from 28.5% to 30.57%. Among the benign conditions the most common condition is fibroadenoma i.e. 180 cases of 307(58.61%) and phylloides is 3 out of 307 cases all of which were benign.Among 25 cases of male breast lesion one was diagnosed suspicious of malignancy and one case of carcinoma breast.

CONCLUSION: The patients who presented with breast lump were mostly poor and of rural background.There was lack of education and awareness among them.Now increase in incidence of breast cancer is seen which is attributable to increased awareness and change in lifestyle habits.Presently FNAC is a popular technique being a part of triple test for the diagnosis of breast cancer lesions, particularly breast carcinomas.It has good diagnostic accuracy and it has reduced the rate of excision biopsy.

KEYWORDS : FNAC,breast, Malignancy, lump, fibroadenoma.

I INTRODUCTION:

A palpable breast lump is a common clinical problem that presents to the surgeons, gynaecologists and general practitioners.FNAC is indicated in almost all the palpable breast lesions and mammographically abnormal non-palpable breast lesions.[1] The advantages of FNAC in breast lesions are of : rapid diagnosis, cost effectiveness, high diagnostic accuracy, multiple sampling from multiple areas, avoids open surgery in non operable cases, performing ancillary techniques and pre operative planning in cases of malignancy.[2] According to data from various national cancer registries, breast cancer ranks first in Indian females with age adjusted rate as high as 25.8 per 100,000 women and mortality 12.7 per 100,000 women .[3] Breast cancer accounts for 27% of all the cancers in women.

According to the NICPR statistics[4] breast cancer starts at early 30s and peaks in 50-64 years of age.Overall 1 in 28 patients have life time risk to develop breast cancer in which 1 in 22 in urban population and 1 in 60 of rural population.The risk factors are germline mutations, First degree relative with breast cancers, race/ethnicity, Age, Age at menarche, Age at first live birth, Benign breast disease, Estrogen exposure, Breast density, Radiation exposure, Carcinoma in the contralateral breast or endometrium, diet, obesity, exercise, breast feeding, and environmental toxins.[5] Clinical presentation of a breast lesion is painless/painful palpable mass with or without nipple discharge with certain mammographic findings.[6]

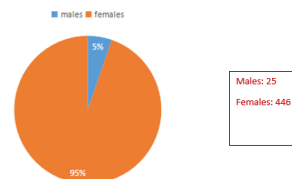
II MATERIALS AND METHOD:

A one year retrospective study was done from January 2017 to December 2017 in all patients (both males and females) who presented with a palpable breast lump, in pathology department of RIMS, Ranchi.Detailed medical history along with thorough physical examination and relevant biochemical and radiological

investigations were taken into consideration. FNAC was performed using a 23 Gauge needle along with 10ml syringe. About 5 to 7 passes were made in each case with application of a constant suction to obtain a desired aspirate. Smears were made from the obtained material which were stained using Leishmann/Giemsa and Haematoxylin/Eosin stains. The smears were observed under the microscope and the cytological diagnosis was given.

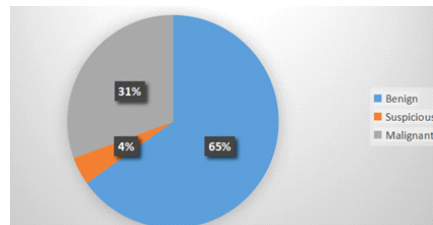
III RESULTS:

Total number of cases were 471 among which among which male breast lumps were 25.(5.3%)In these 25 cases, 23 were of gynaecomastia, one was suspicious of malignancy and one case of malignancy.



Male to female ratio of breast lesions.

Including both males and females cases 307 were of benign lesions, 20 were suspicious of malignancy and 144 were the malignant cases



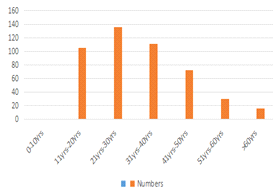
RELATIVE FREQUENCY OF VARIOUS BREAST LESIONS(Total 471:1) Benign: 307(65%)

- 2) Suspicious of malignancy: 20(4%)**
- 3) Malignant: 144.(31%).**

The most common age group that presented with a breast lump was 21-30 years of age i.e 136 of 471(28.87%) in which fibroadenomas dominated the picture. Overall there were 180 cases of fibroadenomas including all the age groups.

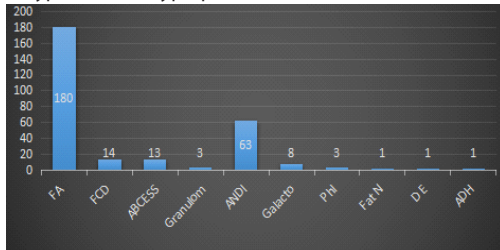
The table and bar diagram given below shows the age wise distribution of the breast lesions:

Age groups	Numbers
0-10yrs	0
11yrs-20yrs	105
21yrs-30yrs	136
31yrs-40yrs	111
41yrs-50yrs	73
51yrs-60yrs	30
>60yrs	16



The following bar diagram shows the relative frequency of the various benign lesions of breast:

- FA - Fibroadenoma : 180
- FCD - Fibrocystic diseases of Breast : 14
- ABCESS - Breast Abcess : 13
- GRANULOM - Granulomatous lesion : 3
- ANDI - Aberrations in normal development and involution : 63
- GALACTO - galactocoele : 8
- PHI - Phylloides : 3
- FAT N - Fat Necrosis : 1
- DE - Duct Ectasia : 1
- ADH - Atypical ductal hyperplasia : 1.



Among the malignant cases which was 144 out of total 471 cases, 50 cases were in the age group of 41 -50 years. there was a significant association between the two with p value <.05.

Total recurrence was recorded in 8 cases. 6 cases were of metastasis from other organs..Breast cancers which also presented with lymph node metastasis were 24 among which 20 cases were of axillary lymph node metastasis and 4 of supraclavicular metastasis.

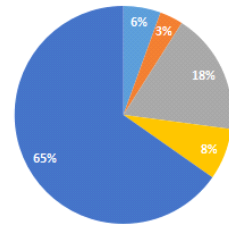
Bilaterality was seen in altogether 11 cases among which 8 cases was in age group >50 with p value of .002. We came across only one case of male breast cancer.

As compared to the data of year 2015-2016 there has been increase in the number of patients presenting with breast lump (av 313 cases in one year to 471 cases) as well as increase in the incidence of breast cancer from 28.75% to 30.57%.

The following figures show the relative frequency of various presentations of malignancy:

- Among 144 cases of malignancy**
- Recurrence: 8 (6%)**
- Metastasis from other organs : 5(3%)**
- Lymph node involvement : 26 (18%)**
- Bilateral breast cancers : 11 (8%)**
- Rest : 94(65%).**

recurrence Mets LN inv B/L others



IV DISCUSSION:

Invasive Breast cancer is one of the most common cancer in women accounting 23% of all the cancers in women globally and 27% in the affluent countries[7]. Its the leading cause of cancer deaths all over the world..Early breast cancers are asymptomatic and are mostly discovered during the breast screening programmes[8].A large tumor may present as a painless breast mass, thus pain is not a usual symptom of breast cancer[9].However mostly benign, the main concern of women with breast masses is the probability of breast cancer.The evaluation of the breast masses begins with investigating the symptoms and learning the general clinical history followed by clinical examination, imaging studies and Fine Needle aspiration.

FNAC is relevant and important for pre operative pathological evaluation in the management of breast cancers. With FNAC procedure the diagnosis is simple, quick, cost effective and relatively painless[10].The diagnostic accuracy is to some extent operator dependent. The sensitivity ranges from 68%-99% and specificity being as high as 99%. [11]. The diagnostic accuracy of FNAC breast increases if the cytopathologist performs FNAC and reports the same case. False negative is generally 3-5% reported as high as 30% .These false negative cases can easily be avoided if the FNAC is done by a experienced cytologist along with multiple sampling .False positive rates are about 4%[11].In many centres definitive surgery is done on the basis of FNAC reports . Therefore extreme care should be taken to avoid a false positive diagnosis.Medicolegal cases of false positive breast lesion are serious issues and they mostly result due to overdiagnosis.

Women who have first degree relatives with breast cancer have a risk of two to three times that of a general population . The risk further increases if the relative is affected at an early age or had a bilateral disease.Increased risk is also seen in early menarche, nulliparity, late onset of first life birth and early menopause[12]. Women having first child before 18 years of age have 1/3rd the risk of women having first child at 30 years of age.[13]. An increase in breast cancer has been documented with increase in exposure to ionizing radiation particularly if the radiation occurs at the time of breast development[14].5-10% of all breast cancers are familial[15]. Mutations in BRCA 1, BRCA2, TP53, PTEN, and CHEK2 play role in breast cancers. Martis and Ellis in 1930 were first to introduce the application of FNAC in the breast lesions[16].In our study we have examined 471 cases. As compared to the previous study conducted by Dr Abhishek et al Fibroadenoma remains the most common finding and the incidence of breast cancer has increased from 28.75% to 30.9%.

V CONCLUSION

Patients presenting with breast lesions are mostly poorly and from rural background.This is attributed to lack of awareness and education and also poor accessibility to the health care resources.But a certain increase in breast cancer incidence is seen which is probably due to better resources in terms of knowledge, funds and life style modifications.Thus, presently FNAC is a popular technique being a part of triple test for the diagnosis of breast lesions, particularly breast carcinomas.It has good diagnostic accuracy and it has reduced the rate of excision biopsy.

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