



RETROSPECTIVE CYTOLOGICAL ANALYSIS OF BREAST LESIONS IN A TERTIARY CARE HOSPITAL OF CHANDRAPUR

Pathology

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ABSTRACT

Background: Breast cancer is one of the leading causes of cancer worldwide & in India. Aim of study is to determine the frequency of different breast lesions & some demographic factors in our tertiary care hospital. **Material&Methods:** A retrospective study of FNAC for a period of 2 years from medical records of January 2017 to December 2018. **Results:** Out of total 352 patients 339(96%) were females and 13(4%) were males. Most common age group was 21 to 30 years (41%) followed by 31 to 40 years (30%). Most common breast lesion was fibroadenoma (40%), ductal carcinoma (Not otherwise specified) (11%) followed by fibrocystic disease (10%). **Conclusion:** Number of newly diagnosed cases of breast diseases is increasing in spite of improvement in health facilities. FNAC of breast is cheap, safe, and highly accurate method for diagnosis of breast lump preoperatively to avoid undue surgery and inconvenience during biopsy. FNAC of breast lump should be used as preliminary investigation in OPD.

KEYWORDS

Retrospective, Fibroadenoma, Fnac, Ductal Carcinoma.

INTRODUCTION:

Breast diseases constitute heterogeneous group of lesions, and show variety of disease patterns ranging from inflammatory lesion, benign breast disease to invasive cancers⁽¹⁾. Approximately 200,000 cases of breast lesions are diagnosed annually⁽²⁾. Worldwide, there is about 2.1 million newly diagnosed breast cancer cases in 2018. It is the leading cause of cancer death across 100 countries⁽³⁾. In India, it forms the leading malignancy in both the sexes with incidence of 1,62,468 (14%) in all ages⁽⁵⁾. Fine needle aspiration method has remained an important tool in diagnosing various breast lesions. It has high sensitivity, specificity, negative predictive value, and positive predictive value^(4,5,9). Palpable breast lump, breast pain, and nipple discharge are common manifestations of benign, premalignant, or malignant lesions in the human mammary gland and surrounding tissues^(6,7). Techniques used to diagnose breast lesions include clinical breast examination, breast imaging, and breast cytology^(8,9). Fine-needle aspiration cytology (FNAC) is the most reliable component of this triple test assessment of breast lesions. The retrospective study was carried out in the Department of Pathology, Government Medical College Chandrapur, during the period of two years from January 2017 to December 2018. Aim of study was to determine the frequency of different breast lesions & some demographic factors in our tertiary care hospital.

MATERIAL AND METHODS

It was a retrospective record based study, performed in Central pathology laboratory, Government Medical College & Hospital, Chandrapur. Study Population included patients with breast lesion from medical records **January 2017 to December 2018**. By using universal sampling method 352 patients were included in the study from medical records of 2 years. Reports having major typographical errors were excluded from the study. Study Procedure involves case reports having patient age and sex, clinical summary, breast cytology sampling technique, and conclusive breast cytology diagnosis is included in the study. Consent was taken from patient before sample collection. Samples from the patients were collected by using 20-22 gauge needle. Aspirated material was expressed on a clean glass slide using 20 cc syringe. Another slide was placed on the material and spread by pulling apart to prepare a smear. The slide was immediately transferred to jar containing isopropyl alcohol. Staining was done with Haematoxyline and Eosin, Pap, May Grunwald Giemsa stain. All data was analysed using Microsoft Excel 2007 & SPSS.

RESULTS & DISCUSSION:

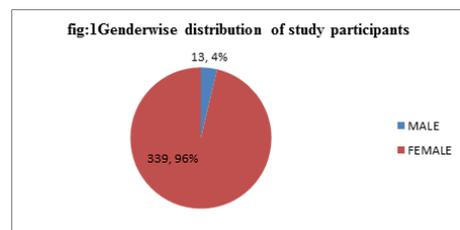


Fig:1 shows genderwise distribution of study population in which among total 352 participants, majority 339 (96%) were females and 13 (4%) were males showing female preponderance of breast lesions. **Kanpurwala S H** et al⁽¹⁰⁾ conducted a study in Mumbai 2016 in which Out of 210 breast lesions, 201 (95.7%) were found in females and 9 (4.3%) were found in males. **Vaanika Kaira** et al⁽¹¹⁾ conducted a study in Kanpur in which Out of 115 cases of all breast lesions, only 2 cases (1.7%) occurred in male patients. **Divyasree N** et al⁽¹²⁾ conducted a retrospective study in Andhrapradesh in which out of 185 patients, 9 (4.8%) were male and 176 (95.13%) were female. **Badge SA** et al⁽¹³⁾ conducted a study in Chattisgarh in which, males contributed 6 cases (2.73%) and females contributed 214 cases (97.27%). Our study result is consistent with above mentioned studies in India.

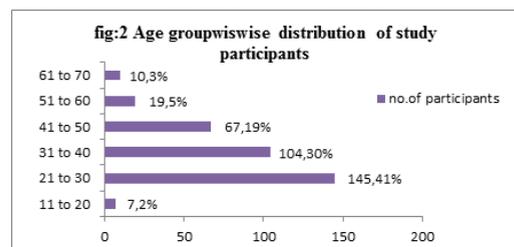


Fig:2 determines age group wise distribution of all the study participants in which out of total 352 participants majority of patients 145 (41%) belonged to age group of 21 to 30 years of age followed by 104 (30%) belonged to age group 31 to 40 years of age. 67 (19%) patients were from age group 41 to 50 years. 19 (5%), 10 (3%) and 7 (2%) patients were from age group 51 to 60 years, 61 to 70 years and 11 to 20 years respectively. **Hatim KS** et al⁽¹⁰⁾ conducted a study in Mumbai 2016 in which Out of 210 breast lesions, majority of breast lesions were found in 21 to 30 years of age 90 (43%) followed by 11 to 20 years (67%) followed by 31 to 40 years (18%). **Divyasree N** et al⁽¹²⁾

conducted a retrospective study in Andhrapradesh in which maximum number of patients, 106 cases (57.2%), were between 21 - 40 years of age group. **Deepika D et al**⁽¹⁵⁾ conducted a study in Bastar in which out of total 200 cases 148 cases were benign lesions and 52 cases were of malignant lesions. Most of the benign lesions belonged to age group 11-20 years followed by 21-30 years. Malignant lesions were in the age group of 31-60 years. **Sarate et al** (9) conducted a study in Akola in which mean age of the evaluated patients was 36.23 (range, 10–90) years. Most of the patients with breast lesions were between age group 11-30 years. **Vijayalakshmi M et al**⁽¹⁴⁾ conducted a study at Telangana on breast diseases in which majority of patients were from age group 21 to 30 years (35%) followed by 31 to 40 years (30%). Our study findings are similar to above mentioned studies.

Fig:3 frequency of various breast lesion

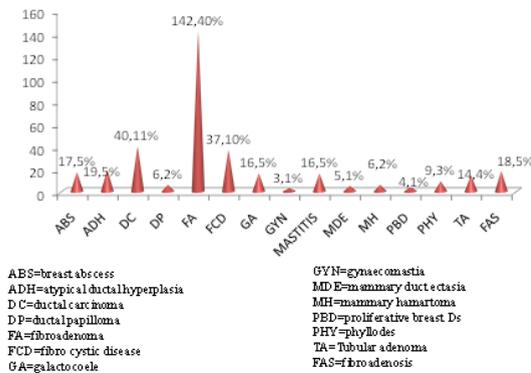


Fig:3 depicts frequency of various breast lesions in present study. Out of total 352 cases majority of breast lesions were found to be fibroadenoma 142(40%) followed by 40(11%) cases of ductal carcinoma followed by 37(10%) cases of fibrocystic diseases of breast. There were 5% cases of breast abscess, atypical ductal hyperplasia, galactocoele, mastitis and fibroadenosis. 4% cases of tubular adenoma 3% were phyllodes tumour 2% were duct papilloma and mammary hamartoma and 1% cases were of mammary duct ectasia and proliferative breast diseases. **Sarate et al**⁽⁹⁾ conducted a study in Akola in which Fibroadenoma ($n = 124$) and benign breast lesion ($n = 44$) were the most frequently diagnosed benign breast lesions whereas ductal carcinoma ($n = 39$) was the most frequently diagnosed malignant breast lesion. Other frequently diagnosed breast lesions included benign proliferative breast disease ($n = 38$), proliferative breast disease with atypia ($n = 16$), fibrocystic disease ($n = 9$). **Deepika D et al**⁽¹⁵⁾ conducted a study in Bastar in which in benign disease, Fibroadenoma was the commonest i.e. 60.8%, followed by Fibrocystic Disease (12.8%), Amongst the malignant group, Infiltrating Ductal Carcinoma- Not Otherwise Specified, the commonest lesion constituting 80.8%, followed by Invasive Lobular Carcinoma (5.7%). **Vijayalakshmi M et al**⁽¹⁴⁾ conducted a study at Telangana on breast diseases in which most of the cases 70% were of fibro adenomas, followed by 20% fibrocystic diseases and 8% phyllodes tumour and 1% adenomyoepithelioma and 1% plasma cell mastitis. **Hatim KS et al**⁽¹⁰⁾ conducted a study in Mumbai 2016 in which Out of total breast lesions commonest benign breast lesion was fibroadenoma (77.62%), followed by fibrocystic disease (4.3%) and gynaecomastia (4.3%). **Divyasree N et al**⁽¹²⁾ conducted a retrospective study in Andhrapradesh in which Out of 151 cases of nonmalignant lesions, majority of the lesions were diagnosed as fibroadenoma 46.35%, followed by fibroadenosis & fibrocystic disease comprising of 23.84% and 15.23% respectively. Out of 34 malignant breast lesions, 79.41% cases were diagnosed as Infiltrating duct cell carcinoma. **Badge SA et al**⁽¹³⁾ conducted a study in Chattisgarh in which Benign tumors contributed to 162 cases (73.64%) and malignant tumors to 58 cases (26.36%). Among benign tumor, fibroadenoma was the most common tumor which constituted 121 cases (55%). Infiltrating duct carcinoma was the most common malignant breast tumour in the that study comprising 53 cases (24.09%). Our study results are similar to most of the above mentioned studies across the country.

CONCLUSION:

Breast cancer has been one of the major public health problems in

India. The number of newly diagnosed cases is increasing in spite of improvement in health facilities. The FNAC of breast is cheap, safe, and highly accurate method for diagnosis of breast lump preoperatively to avoid undue surgery and inconvenience during biopsy. FNAC of breast lump should be used as preliminary investigation in outdoor patient department. The most common benign tumour in the present study was fibroadenoma and the most common malignant tumour was ductal(Not otherwise specified) carcinoma. In order to reduce the burden of the disease multi sectoral approach and strategies aiming at early detection and effective management of the disease is needed. Thus effective public health programs that ensure mass awareness campaign, access to appropriate, affordable diagnostic tests and treatment should be implemented vigorously.

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