

Diagnosis Of Breast Carcinoma on Fine Needle Aspiration Cytology – An Institutional Based Study

Dr. Abhishek verma¹, Dr. Kirtijit chakma², Dr. Ramesh kumar shrivastava³,
Dr. Sunil kumar mahto⁴, Dr. Saurav banerjee⁵

¹Tutor, Department Of Pathology, Rims, Ranchi, Jharkhand, India

²Postgraduate Student, Department Of Pathology, Rims, Ranchi, Jharkhand, India

³Professor And Head, Department Of Pathology, Rims, Ranchi, Jharkhand, India

⁴Associate Professor, Department Of Pathology, Rims, Ranchi, Jharkhand, India

⁵Tutor, Department Of Pathology, Rims, Ranchi, Jharkhand, India

Corresponding Author: Dr. Abhishek verma¹

Abstract

Introduction: Breast carcinoma is most common malignant tumor and leading cause of carcinoma death in women with more than 1000000 cases occurring worldwide annually[1]. Fine needle aspiration cytology(FNAC) is a convenient and rapid preoperative diagnostic procedure.

Materials and Method: Retrospective study done in department of pathology, RIMS, Ranchi from January 2015 to December 2016. It included all patients who presented with breast lump and whose FNAC was performed.

Results: Total 626 case presented with breast lump in 2 years out of which 180 cases were carcinoma breast. All age group are included. Breast lump most commonly seen in 21-30years age group comprising of benign lesion. Highest prevalence of Breast carcinoma seen in 41-50 years age group (35.5%).

Conclusion: Study was observe mostly in females with rural background. Due to poor breast carcinoma awareness and reluctance to obtain health care facility breast carcinoma early detection is the major barrier in these region.

Keywords: FNAC, Breast carcinoma

Date of Submission: 16-12-2017

Date of acceptance: 22-12-2017

I. Introduction

Breast carcinoma is most common malignant tumor and leading cause of carcinoma death in women with more than 1000000 cases occurring worldwide annually. The large majority of breast cancers are detected during the reproductive years. [2] The most common risk factors of Breast carcinoma are obesity, lack of exercise, alcohol consumption, smoking and use of contraceptive pills. Genetics though plays an important role. According to American Cancer Society, any of the following unusual changes in the breast can be a symptom of breast cancer e.g. swelling of all or part of breast, skin, irritation or dimpling, breast pain, nipple pain or the nipple turning inward, redness, scaliness, or thickening of nipple or breast skin, a nipple discharge other than breast milk or a lump in under arm area.

Fine needle aspiration cytology(FNAC) is a simple and minimally invasive, rapid, cost effective outpatient based diagnostic for palpable breast lump. It gives accurate result with proper technique and interpretation.

II. Materials And Method

This Retrospective study is done in department of pathology, RIMS, Ranchi from January 2015 to December 2016. It included all patients who presented with breast lump and whose FNAC was performed. Total of 626 case are studied. The patient were evaluated by detailed history and thorough physical examination were done. The Fine needle aspiration cytology(FNAC) was performed using a 23G needle and 10ml syringe with average of four to six passes with constant suction. The smears are then stained with leishman and giemsa and pap stain.

III. Results

A Total of 626 case presented with breast lump in 2 years out of which 180 cases were diagnosed carcinoma breast. Among the patients 71.3% were diagnosed to have benign breast disease and 28.7% had carcinoma breast. All age group are included. Breast lump most commonly seen in 21-30years age group comprising of benign lesion. Among benign lesion fibroadenoma was most common. Highest prevalence of

Breast carcinoma seen in 41-50 years age group (35.5%). The least prevalence of breast carcinoma was seen in more than 70 years age group(2.2%). Unilateral breast carcinoma was more common than bilateral involvement. Metastasis to axillary group of lymph node was seen.

Table 1: The prevalence of breast carcinoma according to the study

Age group	No. of cases	Percentage(%)
<10 years	Nil	Nil
11-20 years	Nil	Nil
21-30 years	16	9%
31-40 years	38	21.1%
41-50 years	64	35.5%
51-60 years	36	20%
61-70 years	22	12.2%
>70 years	4	2.2%

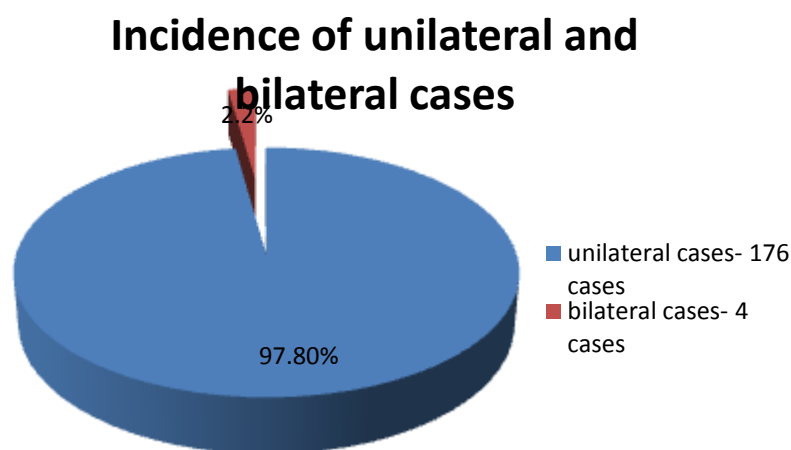


Figure 1: Incidence of unilateral and bilateral cases

IV. Discussions

The large majority of breast cancer are detected during reproductive years. The incidence curve starts rising at puberty, increases steeply upto menopausal age , and levels off afterwards. However , breast cancer can develop at any age from childhood to old age. The incidence is high in north America and northern Europe, intermediate in southern European and latin American countries and low in most asian and African countries(but rising rapidly in recent years with increased affluence of some of these countries). several risk factors for development of breast carcinoma have been established. Women who have a first degree relative with breast carcinoma have a risk of two or three times that of the general population, a risk further increased if the relative was affected at an early age /or had bilateral disease. Increased risk also seen in early menarch, nulliparity, late age at first birth and late menopause.[3] Women who have their first child before the age of 18 years have only one-third the risk of those whose first child is delayed until 30.[4] An increase risk of breast carcinomas has been documented with exposure to ionizing radiation, particularly if these exposure occurred at the time of breast development.[5] Approximately 5-10% of all breast carcinoma are familial.[6] Mutation of BRCA1, BRCA2, TP53, PTEN and CHEK2 plays role in carcinoma breast.

FNAC of breast lumps is an accepted and established method for determining the nature of breast lumps with high degree of accuracy.[7] Martin and Ellis in 1930 first introduced the application of FNAC for diagnosis of palpable breast masses. FNAC is a rapid, cost effective , easy and a safe procedure with only a few reported complications. It has been reported in the literature that the incidence of tumour transplanted along the needle track by FNA procedure is only about 0.0045% In our study, we have examined 626 patients presented with breast lumps who underwent FNA procedure. FNAC findings in our study benign and malignant are similar to the other studies done by Dr. Shib Shankar Kuiri et al and Pudasaini et al.[8,9] Among the benign breast disease fibroadenoma was most common as seen in other studies Punam Prasad Bhadani et al and Rahman MZ et al.

V. Conclusion

Study was observe mostly in females with rural background. Due to poor breast carcinoma awareness and reluctance to obtain health care facility breast carcinoma early detection is the major barrier in these region. The utility of FNAC in diagnosing and evaluating the breast lumps is quite established and well proven with high degree of accuracy. FNAC with detailed history and proper physical examination is an accurate diagnostic tool and should be used commonly as a screening procedure to diagnose breast carcinoma at early stage. Breast carcinoma awareness including common risk factors that can be prevented and health camps to be organized often to screen women of reproductive age group for breast carcinoma.

References

- [1]. Parkin DM, Bray F, Ferlay J, Pisani P: Estimating the world cancer burden. *Globocan 2000*. *Int J Cancer* 2001; 94:153-156.
- [2]. Tse GM, Tan PH, Lau KM, de Andrade VP, Lui PC, Vong JS, Chaiwun B, Lam CC, Yu AM, Moriya T: Breast cancer in the elderly: a histological assessment. *Histopathology* 2009; 55:441-451.
- [3]. Kelsey JL, Gammon MD, John EM: Reproductive factors and breast cancer. *Epidemiol Rev* 1993; 15:36-47. Pathak DR, Osuch JR, He J: Breast carcinoma etiology: current knowledge and new insight into the effects of reproductive and hormonal risk factors in black and white populations. *Cancer* 2000; 88:1230-1238.
- [4]. Wang DY, Rubens RD, Allen DS, Millis RR, Bulbrook RD, Chaudary MA, Hayward JL: Influence of reproductive history of age at diagnosis of breast cancer and prognosis. *Int J Cancer* 1985; 36:427-432.
- [5]. Goss PE, Sierra S: Current perspectives on radiation-induced breast cancer. *J Clin Oncol* 1998; 16:338-347. Hildreth NG, Shore RE, Hempelmann LH: Risk of breast cancer among women receiving radiation treatment in infancy for thymic enlargement. *Lancet* 1983; 2:273. Shore RE, Hempelmann LH, Kowaluk E, Mansur PS, Pasternack BS, Albert RE, Haughie GE: Breast neoplasms in women treated with x-rays for acute postpartum mastitis. *J Natl Cancer Inst* 1977; 59:813-822. Simon N, Silverstone SM: Radiation as a cause of breast cancer. *Bull N Y Acad Sci* 1976; 52:741-751.
- [6]. Tan DS, Marchio C, Reis-Filho JS: Hereditary breast cancer: from molecular pathology to tailored therapies. *J Clin Pathol* 2008; 61:1073-1082.
- [7]. Purasiri P, Abdalla M, Heys SD, Ah-See AK, Mckean ME, Gilbert FJ, et al. A novel diagnostic index for use in the breast clinic. *J R Coll Surg Edinb*.1996;41:30-34.
- [8]. Punam Prasad Bhadani , Shuchi Smita et al: Reliability of fine needle aspiration cytology in the evaluation of palpable breast lumps – An institutional based study.
- [9]. Pudasaini S , Talwar OP: Study of fine needle aspiration cytology of breast lumps and its
- [10]. histopathological correlation in Pokhara Valley. *Nepal Med Coll J*. 2011 Sep;13(3):208-12.

Dr. Abhishek verma. "Diagnosis Of Breast Carcinoma on Fine Needle Aspiration Cytology – An Institutional Based Study." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)* 16.12 (2017): 21-23