

Epidemiological Study of Breast Lump Cases

Ankit Sahu¹, Abhinav Jauhari¹, Kalayansunda Suresh²

¹Assistant Professor, ²Associate Professor, Department of Surgery, School of Medical Sciences & Research (Sharda University), Greater Noida (U.P.)

ABSTRACT

Background: In the present era of increased awareness and fear about malignancy in the general population, and promotion of self breast examination, many patients are presenting to the clinic with history of breast lump. They expect proper guidance and effective treatment from the treating surgeon.

Lesions in the breast vary from the most common and benign condition, such as fibroadenoma, to various commoner carcinomas, like infiltrating ductal carcinomas, to rarer entities, such as malignant transformation of phyllodes tumor and carcinoid tumors.

Method: The aim was to study the epidemiology of breast lumps cases attending the surgery OPD and to study the distribution of various pathological entities presenting as breast lump.

The focus of this study was for a better understanding of the breast lump which will help to cure more and more patients at an earlier stage

Results: Patients presenting with the complaints of breast lump, most common age group affected was of 21-30 years. Incidence of the benign lumps was significantly higher than other lumps i.e. 44%, closely followed by malignant lumps i.e. 36% and inflammatory lumps i.e. 10%. Benign breast lump had peak incidence in the age group of 21-30 years, fibroadenoma being the most common entity (40.98%). The upper-outer quadrant was the most frequently involved (57%). There was no significant association between accuracy of FNAC in diagnosis of breast lump in malignancy and non-malignancy ($p>0.05$). The accuracy of diagnosing malignancy was 87.81%, whereas for benign lumps it was 83.33%.

Conclusions: Benign breast lesions were the commonest cause of the breast lump before the age of 40yrs. Among the benign lumps fibroadenoma was the most common cause (40.98%), and had a peak in the age group of 21-30yrs (age group of 16-45yrs) with varying number and size. The upper and outer quadrant was the most common site of primary tumor.

Keywords: Breast Lump, Fibroadenoma, Malignancy.

INTRODUCTION

The incidence of breast cancer is low in India as compared to developed countries, but the total number of cases and the net mortality is high probably because of the large population, inadequate screening programs, and lack of education. Cancers of uterine cervix and

breast are the two leading cancers sites among Indian women with 134,420 incident cases, 338,010 five yearly prevalence and 115,251 incident cases, 315,679 five yearly prevalence respectively¹ and premenopausal patients constituting about 50% of all patients. Breast cancer incidence peaks among women in forties in Asia and it peaks in sixties in the western world.

By 2020, breast cancer incidence will overtake cervical cancer as the most common cancer in women in India and 70% of the world's cancer cases will be in poor countries, with a fifth in India².

Corresponding author:

Dr. Abhinav Jauhari,

E-mail: abhinavjauhari05@gmail.com

Mobile Number: +919599751001

Non-malignant tumours of the breast are one of the most confusing areas of surgical practice resulting from undue but understandable preoccupation with malignancy. This confusion results from:

Incomplete appreciation of the normal process of development and involution.

Use of different terms for the same condition, e.g. Fibroadenosis/ Hyperplastic Cystic disease/Hormonal mastopathy/Chronic mastitis etc.³

Mixing of clinical and pathological/histological concepts.

Also a significant number of women having no recognizable disease have clinical irregularity to necessitate evaluation. Accurate history and clinical evaluation are still the most important methods of detecting breast disease. A number of investigations are also now a useful guide in this scenario. The prognosis of a breast lump is difficult to express, especially in malignancy where many factors influence the result, but the principal significance is to the stage malignancy and method of therapy. For this it is necessary to detect the breast lump at the earliest and give proper and prompt treatment to achieve a better outcome for the patient.

On this background, I am undertaking this study for a better understanding of the breast lump which will help us cure more and more patients at an earlier stage.

METHOD

This study was conducted on 100 female patients with breast lumps admitted in the wards or attending surgical outpatient department in the Sharda Hospital, Greater Noida. Each patient was studied in detail with relevant clinical history, examination, laboratory investigations and management.

Patients were assessed by gold standard way of triple assessment (clinical examination, imaging via USG/Mammogram, cytology) however women who were above 40 years of age and clinical suspicion of malignancy, were assessed via Mammography also. FNAC is the diagnostic investigation with accuracy but for confirmation of cases like granulomatous inflammation and duct ectasia biopsy was needed. The study was conducted from August 2016 to August 2018. The cases were classified as follows:

Inflammatory lumps

Benign lumps

Malignancy suspected in lumps

Malignant lumps

Other lumps

Inclusion criteria:

All patients presenting to surgery OPD with a palpable breast lump.

Exclusion criteria:

Patients in whom there was other breast related complaint but no palpable lump, Post operative patients of breast lump.

Method of collection of data:

Institutional ethical clearance was obtained. Detailed clinical history and thorough physical examination were done in each patient. Complete pre-operative work-up investigations and medical fitness for surgery were obtained. Each patient was informed about the procedure and informed consent was obtained. Primary diagnoses were obtained by fine-needle aspiration cytology, or other open biopsy procedures.

RESULTS

Amongst all the patients presenting with the complaints of breast lump, most common age group affected was of 21-30 years, closely followed by 31-40 years and 41-50 years respectively.

The breast lumps were divided into 5 categories. Incidence of the benign lumps was significantly higher (Value of $\chi^2 = 68.821$, $p < 0.001$) than other lumps i.e. 44%, closely followed by malignant lumps i.e. 36% and inflammatory lumps i.e. 10%.

Inflammatory lumps were most common in the age group of 21-30 years. Breast abscess were found in age group of 20-50yrs.

Benign breast lump had peak incidence in the age group of 21-30 years, fibroadenoma being the most common entity(40.98%) followed by Fibroadenosis (18.03%).

Malignant breast lump had the peak incidence in the age group of 41-50 years, followed by >70years and 61-70 years, IDC (Infiltrating Ductal Carcinoma) being the most common entity.

Inflammatory lumps were by far most common in married women, breast abscess only limited to married women in our study. Benign lumps were more common in married women. Malignant lumps were almost equally distributed among both groups.

By applying Chi-Square test there is no significant association between parity and various breast lump cases ($p>0.05$). menstrual status and various breast lump cases ($p>0.05$) marital status and various breast lump case s ($p>0.05$).

The upper-outer quadrant was the most frequently involved (57%), followed by equal distribution in Lower-outer, Upper-inner, and Lower-inner quadrants. Inflammatory lumps were most common in central quadrant.

There was no significant association between accuracy of FNAC in diagnosis of breast lump in malignancy and non-malignancy ($p>0.05$). The accuracy of diagnosing malignancy was 87.81%, whereas for benign lumps it was 83.33%. In 23.70% FNAC was not conclusive, and required biopsy for confirmation. Out of the 6 non-conclusive and 4 suspicious for malignancy, 4 turned out to be malignant, 5 benign and 1 inflammatory.

DISCUSSION

Through the present study a brief history on lump in breast, anatomy, physiology of breast, pathology of various breast lumps and breast cancer and different staging systems are highlighted. Different biopsy and cytology procedures their merits and disadvantages are written. Imaging modalities and interventional procedures are discussed. Treatment of carcinoma breast based on tumor staging is also discussed.

This study includes 100 cases of lump in breast during the period of two years August 2016 to August 2018 in our department.

A detailed workup was made according to Performa and based on the observations given in the previous tables the following conclusions were made:

In our study, Benign breast lumps peaked in age

group of 21-30 years similar to study by Sushila khanna et al⁴ with peak incidence of benign breast lumps in the 21-30 years age group. Breast lump were divided into 5 categories: inflammatory, benign, suspected malignant, malignant and others. Incidence of inflammatory lumps (abscess and mastitis) was 10%, amongst which breast abscesses were 6% and other inflammatory condition were 4%. Benign tumours were 44%, suspected malignant lumps were 4%, malignant lumps 36% and other lumps (chronic non-specific dermatitis, traumatic fat necrosis, prominent axillary tail) were 6%.

In a study conducted by Haque et al⁵ of 200 breast lump cases, 27.5% were benign and 48% were malignant. S.J.Baptist et al⁶, in their study of 164 breast lumps reported an incidence of 52 % benign lumps and 37% malignant lumps. The incidence of malignancy was comparable to Baptist et al.

In present study, fibroadenoma constituted 40.98 % of all benign lumps. Haque et al⁵ had an incidence 55.76 % of fibroadenoma whereas Gupta J.C. et al⁷ (1983) reported an incidence of 64% fibroadenoma .

Out of 100 cases taken 57% had lumps in the upper and outer quadrant. Next most commonly involved quadrant was the lower and outer with 9%. 24% malignant lumps and 24% benign lumps were seen in upper outer quadrant. 4% of inflammatory lumps were situated centrally. Haque⁵ et al showed 32.7% involvement of upper outer quadrant and 18% involvement of lower outer quadrant. Haagensen⁸ in 1980 showed 40 % involvement of upper outer quadrant and 10 % of lower outer quadrant. Tyagi et al⁹ showed 33.3 % involvement of upper outer and 17.7% of lower outer quadrant.

In this study, FNAC was a part of routine investigation procedure in all cases. Accuracy of diagnosing malignancy was 87.81 % whereas for benign lumps it was 83.33%. In 23.70% FNAC was not conclusive and required biopsy for confirmation. H.A.Wani¹⁰ et al 1975 had 82% accuracy in the diagnosis. Wollenberg et al¹¹ in 1989 had 91.3% accuracy in diagnosing breast lumps.

CONCLUSION

Benign breast lesions were the commonest cause of the breast lump before the age of 40yrs (38%).

Among the benign lumps fibroadenoma was the most common cause (40.98%), and had a peak in the age

group of 21-30yrs (age group of 16-45yrs) with varying number and size in all quadrants of breast.

The upper and outer quadrant was the most common site of primary tumor i.e. 64.10%.

We had an accuracy of 83.72% in diagnosing benign breast lumps by FNAC, and 11.62% were non-conclusive. Diagnosis by FNAC is reliable yet confirmation by biopsy is required in women >35yrs and with unusual presentation.

Ethical Clearance: Taken from Institutional ethical clearance committee.

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Conflict of Interest: None

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