Original Article

THE FREQUENCY OF MALIGNANCY IN BREAST LUMPS ON FNAC IN FEMALES UNDER 35 YEARS OF AGE.

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ABSTRACT:

INTRODUCTION:

Breast carcinoma is one of the common malignancies in females and its incidence is increasing in younger age. Diagnosis of carcinoma breast includes clinical evaluation, imaging and pathology. Fine Needle Aspiration Cytology is the first line pathological investigation in the diagnosis with excellent results.

OBJECTIVE:

To determine the frequency of malignancy in breast lumps on FNAC in females under 35 years of age.

STUDY DESIGN:

Descriptive cross sectional study.

SETTING:

Department of pathology Fatima Jinnah Medical College (FJMC), Lahore.

DURATION:

Six months from 20th July, 2011 till 20th January, 2012.

METHODS:

150 female patients 35 years of age or less, presenting to the OPD and Indoor of Sir Ganga Ram Hospital Lahore, an affiliated hospital of FJMC Lahore, with breast lumps were included in the study. Demographic features and consent of the patients were noted. FNAC of the patients was performed as per advice of the consultant. Diagnosis of malignant cases was further confirmed on histology.

RESULTS:

Out of all, 124 lumps (82.7%) were benign and 26 lumps (17.3%) were malignant. Amongst the benign lumps, 77(62.1%) were fibroadenomas, 28(22.6%) were fibrocystic changes, 08(06.5%) were inflammatory lesions, 07(05.6%) showed pyogenic abscess and 04 lumps (03.2%) were galactoceles. Amongst the malignant lumps, 22(84.6%) were ductal carcinoma, 02(07.7%) colloid carcinoma and 02(07.7%) were malignant phylloides.

CONCLUSIONS:

The frequency of malignancy in breast lumps in Pakistan is significantly high in females under 35 years of age. Appropriate measures are needed for prevention and early diagnosis and treatment in young females.

KEY WORDS:

Breast lumps, Malignant, Fine needle aspiration cytology.

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INTRODUCTION:

Carcinoma of breast (CA breast) is the commonest malignancy in females all over the world and the 2nd leading cause of death in females[1]. It accounts for 22% of all female cancers worldwide and approximately 42% in the developing countries[2]. Data for the last decade from Armed Forces Institute of Pathology (AFIP) tumor registry showed 26% of all malignancies to be breast cancer[2]. Approximately 1 in every 9 Pakistani women is likely to have breast cancer[3]. Most known breast cancer risk factors include genetics, nulliparity, late age at first full-term pregnancy, early menarche, family history of breast or ovarian carcinoma, use of oral contraceptive pills, prolonged hormone replacement therapy, in utero exposure, breast radiation, dietary habits, alcohol intake, and lack of physical activity[1,4]. Approximately 7% of all breast cancers are diagnosed in women <40 years of age and less than 4% below the age of 35 years [5].

Diagnosis of breast carcinoma includes clinical evaluation, radiological investigations[6,7] and FNAC of the lump[8]. The cytopathological findings can further be confirmed by histopathology[9,10].

The women <35 years, with normally a long life expectancy, will have an absolute risk of 25%, dying from their cancer in such a short follow-up period of 5 years. Studies of long-term survival in young women have also shown an increased mortality continuously for up to 40 years after diagnosis[5].

Since carcinoma breast is associated with an inferior prognosis in young females, this study was conducted to find out the frequency of carcinoma breast occurring in young females so as to recognize the magnitude of the disease, to emphasize its early diagnosis and treatment.

PATIENTS AND METHODS:

Descriptive cross sectional study was conducted on 150 female patients of age 35 years or less presenting with lump/s in one or both breasts referred from OPD and Indoor of Sir Ganga Ram Hospital Lahore, an affiliated hospital of FJMC Lahore to the pathology department of Fatima Jinnah Medical College, Lahore. It was conducted in six months from 20th July, 2011 till 20th January, 2012. Non probability consecutive sampling technique was used. Patients already diagnosed with carcinoma of breast and patients who refused to give consent for FNAC due to various reasons were not included in the study.

Demographic features of the patients i.e. name, age, marital status and address were noted. The demographic features and findings of FNAC were recorded on the proforma to determine the frequency of patients with malignant disease. Diagnosis of malignancy was further confirmed on histology. Data was analyzed using SPSS Version 17. Descriptive analysis was performed that included frequency and percentages for categorical variables like malignancy and mean $\pm$ standard deviation for continuous variables like age.

RESULTS:

Age range of 150 female subjects of lump breast, under study in a period of six months in Pathology department of FJMC, Lahore, was 08 to 34 years with mean age 33.04 ± 12.29 years. Forty six subjects, the highest number of patients was between 26-30 years (30.7%). Two patients (01.3%) were of the age less than 10 years. Thirty eight patients (25.3%) aged between 10-19 years, 24(16%) between 20-25 years and 46(30.7%) between 30-34 years (Table I).

Out of 150 breast lumps, 124 lumps (82.7%) were benign and 26(17.3%) malignant (Table II).

Amongst malignant group 17 subjects (65.4%) occurred in age group 31-34 years, 07 subjects (26.9%) in age group of 26-30 years and 02 (07.7%) were of 25 years or less (Table III).

Regarding type of malignancy 22 (84.6%) were ductal carcinoma, 02 (07.7%) colloid carcinoma, and 2 (07.7%) malignant phylloides (Table IV).

Amongst the benign lumps, 77(62.1%) were fibroadenomas, 28(22.6%) fibrocystic changes, 08(06.5%) inflammatory lesions, 07(05.6%) pyogenic abscess and 04(03.2%) galactoceles (Table V).

TABLE-I
DISTRIBUTION OF PATIENTS BY AGE
N = 150

AGE	NUMBER/N	PERCENTAGE
Less than 10 yrs	02	1.3
10-19 yrs	38	25.3
20-25 yrs	24	16
26-30 yrs	46	30.7
31-34 yrs	40	26.7
Total	150	100

TABLE-II
NUMBER OF BENIGN AND MALIGNANT LUMPS
DIAGNOSED ON FNAC

BREAST LUMPS	NUMBER	PERCENTAGE
TOTAL	150	100
BENIGN	124	82.7
MALIGNANT	26	17.3

TABLE-III
DISTRIBUTION OF PATIENTS WITH MALIGNANT LUMPS BY AGE
N = 26

AGE	NUMBER	PERCENTAGE
Less than 20 yrs	0	0
20-25 yrs	02	7.7
26-30 yrs	07	26.9
31-34 yrs	17	65.4
Total	26	100

TABLE IV
TYPES OF MALIGNANCIES DIAGNOSED ON FNAC

TYPE	NUMBER	PERCENTAGE
Ductal Carcinoma	22	84.6
Colloid Carcinoma	02	7.7
Malignant Phylloides	02	7.7

TABLE V
TYPES OF BENIGN LUMPS DIAGNOSED ON FNAC

TYPES OF BENIGN LUMPS	NUMBER	PERCENTAGE
Fibroadenoma	77	62.1
Fibrocystic Disease	28	22.6
Pyogenic Abscess	07	05.6
Inflammatory lesions	08	06.5
Galactocele	04	03.2

DISCUSSION:

Breast cancer is the leading cause of cancer related deaths worldwide and in recent years is emerging as the commonest female malignancy in the developing Asian countries[11]. Many studies have been carried out worldwide on different aspects of breast carcinoma reflecting its increasing trend in young age[12,14,16].

The results of the present study showed that the maximum number of patients under 35 years of age with breast lumps fell in age groups 26-30 and 31-34 years. The maximum number of malignant breast lumps also fell in these age groups. The results of our study showed that 17.3% of patients with breast lumps under 35 years of age had malignancy. This is quite a high proportion.

In a retrospective study at the Armed Forces Institute of Pathology, Rawalpindi, 2009, from Jan 2005 - Dec 2008. The mean age of all breast cancers was 28±2.7 years. Most frequent age group was 26-30 years (78.6%)[12].

In a retrospective study at Agha Khan University, Karachi, histological analysis of 3279 breast specimens over a period of 4 years (1993-1996) showed that the most commonly encountered lesion was carcinoma of breast in younger age group[13].In another study carried out at Banaras Hindu University, India, in 1991, 1315 breast lesions in women up to 40 years of age were analyzed and out of these 508 lesions were malignant (38.6%)[14].

The results of our study are further strengthened by a cross sectional study carried out in Tehran from 1996 to 2000, wherein Hirarchi et al showed that the highest frequency (31.8%) of

malignancies was in the 40-49 age group. 23% of breast cancers in women younger than 40 years. [15].

In a study carried out in China by Kwong et al, published in 2008, 17.6% of the Chinese women with breast cancer were younger than 40 years of age[16]. Similarly a study carried out in Yemen in 1998 showed that age groups mostly affected by ductal carcinoma were 30-39 years and 40-49 years[17].

The results of our study are similar to a multinational, collaborative, retrospective survey aimed at studying the overall picture of breast cancer in three Asian regions, Lucknow and Mumbai in India, Kaula Lampur in Malaysia and HongKong, with an emphasis on the picture in young women (<35years of age). In that study, 26% of the patients at Lucknow were younger than 35 years of age with peak incidence in the age group 35-40. Data from Mumbai and Kaula Lampur showed 11% and 7.6% of patients with breast carcinoma amongst younger than 35 years of age, respectively. Data from other countries showed that 7.4% of American patients, 29.3% of Taiwanese, 12.6% of Singaporean and 8% of Australian with carcinoma breast were under 35 years of age[11].

There is a general trend of rising incidence of carcinoma breast in younger age worldwide. The results of this study are closer to the Indian study as compared to those carried out in the far east and western countries. This study showed that 84.6% of the malignant lumps were ductal carcinoma, 07.7% colloid carcinoma and 07.7% malignant phylloides. The study at Agha Khan University showed that out of all the malignancies, 91% were ductal carcinoma, 0.74% mucinous carcinoma and 0.9% malignant phylloides. The rest were of other types[13]. In the study carried out in Armed Forces Institute of Pathology Rawalpindi the most common histological tumor type was invasive ductal carcinoma (88.7%), followed by invasive lobular carcinoma (5.4%)[12]. HongKong study showed 83.6% ductal carcinoma.

On comparison the present study showed that the percentage of ductal carcinoma is compatible with the above mentioned studies. However the percentage of colloid carcinoma and malignant phylloides is significantly higher in our study. This high percentage of both the tumors is not a true reflection of their incidences as the sample size being small and the percentages of colloid carcinoma and malignant phylloides may show significant decrease if a large sample size is taken.

Our study showed that amongst the benign cases, fibroadenoma was the commonest (62.1%), followed by fibrocystic disease (22.6%), pyogenic abscess (05.6%) and inflammatory lesions (06.5%). Siddiqui et al[13] showed that in their results fibroadenoma was 48.3%, fibrocystic disease 16% , abscess 20% and granulomatous mastitis 4%. Our findings are also close to Khanna et al[14] and Agarwal et al[11], who found fibroadenoma to be the commonest benign tumor. The study at Banaras Hindu University in India also showed fibroadenoma being the highest benign tumor of breast[14].

CONCLUSION:

The frequency of breast cancer being diagnosed in younger age group is significantly high in Pakistan. Need of the hour is to bring attention of the Government, health authorities and the civilized society to this emerging situation. Effective measures must be taken by the Government to provide better health facilities for the early detection, diagnosis and treatment of breast cancer. The electronic and print media should create public awareness. The Government and people from all walks of life should contribute collectively to this noble cause and save our coming generations from a night mare called **BREAST CANCER.**

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