

FREQUENCY OF FIBROADENOMA IN PATIENTS PRESENTING WITH BREAST LUMP

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ABSTRACT

Objective: To determine the frequency of fibroadenoma in patients presenting with breast lumps.

Methodology: This descriptive cross sectional study was conducted in the Department of Surgery, Hayatabad Medical Complex, Peshawar (from 1st March 2016 to 30th May 2017) recruiting a total of 165 patients who presented with breast lump. These patients were subjected to ultrasonography, fine needle aspiration cytology and tru-cut biopsy to detect fibroadenoma. Data was analyzed with SPSS 17 and presented as tables.

Results: The mean age was 23.2 ±4.6 years. Maximum patients were between 15 to 25 years of age (66.7%). Left side was involved in 58.8% while right side breast lumps were present in 41.2% of patients. Breast lumps in the superior-medial quadrant were in 26.7% of patients, superolateral quadrant 32.7%, inferomedial quadrant 13.3% and inferolateral quadrant 27.3% patients. Fibroadenoma was detected in 33.3% of women.

Conclusion: Fibroadenoma was a common benign breast disorder among women who presented with breast lump.

Key Words: Breast lumps, Fibroadenoma, Benign breast disorders, Fine needle aspiration cytology

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INTRODUCTION

A breast lump is any discrete mass noticed by the patient or by their physicians that prompts them to seek medical advice and treatment¹. The presence of a lump in the breast is a great cause of anxiety and apprehension in females. Public awareness has contributed largely to this and the consequence is a steady flow of frightened females attending outpatient clinics. Many of them have cyclical mastalgia, nodularity, or asymmetry but a small proportion will indeed present with breast lump². Fibroadenoma is a common benign breast lesion that typically occurs in young patients between ages of 20 and 35 years³. The palpable lump is the first most common presentation and pain being the second symptom⁴. About 5-10% of these lumps are ultimately diagnosed as tumors in young adolescents⁵. Among these invasive ductal cell carcinoma is more common^{6,7}.

Benign breast disorders include benign tumors, trauma, breast abscess, granulomatous mastitis, mastitis, cysts, duct papilloma etc.^{8,9}. The evaluation of breast disease is very important as early as possible and triple assessment is very important tool for evaluation because certain benign breast diseases have increased risk of malignancy in the long run^{10,11}.

Fibroadenoma are usually small and can be managed conservatively; 0.5–2% of these lesions will grow rapidly³. Giant fibroadenoma, greater than 5cm or 500gm can be associated with significant deformity, raising suspicion for malignancy and requiring surgical excision¹². There are reports of in situ ductal carcinoma and neoplasm in a Fibroadenoma⁴. Distinction between fibroadenoma and phyllodes tumour is challenging on core needle biopsy^{13,14}.

Benign tumors in breast have been reported in up to 85.69% cases. Among these benign tumors, fibroadenoma is reported as the commonest breast lesion (85%) followed by fibrocystic disease (10.36%)¹⁵. In a study done in Pakistan, benign tumors were reported in up to 82.2% cases and malignant tumors in up to 17.3% cases. Among benign tumors, 62.1% were fibroadenoma, 22.6% were fibrocystic change while 6.5% were inflammatory lesions and 5.6% were pyogenic abscesses¹⁶.

The rationale of our study was to determine the exact statistics of benign breast disorders especially fibroadenoma in our region as patients presenting with breast lumps are very anxious and “assume the worst” as it has been reported that every 9th Pakistani woman is suffering from carcinoma presenting with breast dis-

order¹⁷. Counseling such patients with fresh statistics of our local setup will help greatly in relieving their anxiety. Breast is simply modified sweat gland in female^{18,19}. The hormonal variations during menarche, menstruation, lactation and menopause influence the complex structure of breast and make many changes.

METHODOLOGY

This cross sectional descriptive study of 15 months duration from 1st March 2016 to 30th May 2017 was conducted at Department of Surgery, Hayatabad Medical Complex, Peshawar. Sample size was calculated by WHO software to be 165 patients, using 19% fibroadenoma in breast lump¹, 5% margin of error and 95 % confidence interval. These patients were recruited by non-probability consecutive sampling technique. All females having clinically palpable breast lump of age between 15 and 35 years were included in this study. Patients having breast lump associated with menstrual cycle or ulcerated breast lump or recurrent breast lump or lump formed due to breast trauma were excluded from the study. All patients meeting the inclusion criteria were admitted through OPD of general surgery department.

The purpose and benefits of the study were explained to all patients and written informed consent was taken. A detailed history was taken from all patients included in the study followed by routine physical examination and baseline investigations. Initial diagnosis of lump was based on triple assessment. Definitive diagnosis was based on true cut biopsy and histopathology of specimen.

The tru-cut biopsy procedures was conducted by single expert general surgeon under local anaesthesia in operation theatre with full aseptic measures in the presence of a female charge nurse and specimen was

sent to histopathology laboratory. All histopathological studies of incisional biopsy of breast lump were done by a single histopathological laboratory. All the above mentioned information including name, age, site of breast, quadrant of breast, date of admission and hospital admission number and address were recorded in a pre-designed proforma. Strictly exclusion criteria were followed to control confounder variables and bias in the study.

All data were entered in SPSS version 17. Mean and standard were calculated for age. Frequencies and percentages were calculated for categorical variables like fibroadenoma, breast site and quadrant of breast. Fibroadenoma was stratified among age, breast site and quadrant of breast to see the effect modification. Post stratification was done through chi-square test keeping $p < 0.05$ as significant. All the results were presented in tables.

RESULTS

The mean age of the women was 23.2 ± 4.6 years with a range of 15.5-31 years. We divided the age in 4 different groups. In age group up to 20 years we had 42 (25.5%) of women, in 20.01 to 25 years we had 68 (41.2%) women, in 25.01 to 30 years we had 32 (19.4%) women and in the age group 30.01 to 35 years we had 23 (13.9%) of women.

Looking at the side of the breast involved in our group of patients, we recorded that left side was involved in 97 (58.8%) of patients and 54 (32.7%) of patients had breast lump in the superolateral quadrant (Table 1).

On tru-cut biopsy, fibroadenoma was confirmed in 55 (33.3%) of women. Others were fibrocystic disease in 50 (30.30%), tubular adenoma in 23 (13.94%), acute

Table 1: Side and quadrant involvement in breast lump

Side Of Breast	Quadrant of Breast				Total
	Superomedial	Superolateral	Inferomedial	Inferolateral	
Right	18 (10.9%)	30 (18.2%)	10 (6.0%)	10 (6.0%)	68 (41.2%)
Left	26 (15.8%)	24 (14.5%)	12 (7.3%)	35 (21.3%)	97 (58.8%)
Total	44(26.7%)	54(32.7%)	22(13.3%)	45 (27.3%)	165 (100%)

Table 2: Age wise stratification of fibroadenoma (n =55)

Age Groups	Fibroadenoma		P value
	Yes	No	
15-20	20 (12.1%)	22 (13.3%)	0.001
21-25	24 (14.5%)	44 (26.7%)	
26-30	11 (6.7%)	21 (12.7%)	
31-35	0 (0.0%)	23 (13.9%)	

Table 3: Side wise stratification of fibroadenoma (n =55)

Side of Breast	Fibroadenoma		P value
	Yes	No	
Right	12 (7.3%)	56 (32.7%)	0.000
Left	43 (26.1%)	54 (32.7%)	

Table 4: Quadrant wise stratification of fibroadenoma (n =55)

Quadrant Involved	Fibroadenoma		P value
	Yes	No	
Superomedial	31(18.8%)	13 (7.9%)	0.0000
Superolateral	0 (0.0%)	54 (32.7%)	
Inferomedial	12 (7.3%)	10 (6.1%)	
Inferolateral	12 (7.3%)	33 (20.0%)	

mastitis in 20 (12.12%) and invasive ductal carcinoma in 17 (10.30%) patients. Frequency of fibroadenoma was high in age group of 21 to 25 years i.e. 24 (14.5%) while no patient was having fibroadenoma in the age group of 31 to 35 years (Table 2). Fibroadenoma was most common on left side i.e. 43 (26.1%) patients (Table 3) and most common quadrants were inferolateral in 35 (21.3%) and superolateral in 30 (18.2%) patients (Table 4).

DISCUSSION

Fibroadenomas are benign and well demarcated tumors from the surrounding tissue²⁰ composed of combined proliferation of epithelial and connective tissue elements with a good histologic evidence of lobular origin²¹. The mean age of patients in our study was 23.2 ± 4.6 years with the age range of 15.5 to 31 years which is in contrast with reports of Isaac and colleagues elsewhere in Pakistan^{22,23}. It may be due to the fact that we studied patients aged 35 years or less. The mean age in our study remains consistent with other reports like Cheung et al²⁴. Literature has reported that fibroadenoma being the most common benign breast disorder with peak incidence in 2nd and 3rd decade of life⁷⁻¹⁰. The left breast was involved in the majority of patients i.e. 58.8%. This finding was also noted by Isaac and colleagues²³. Talpur et al²⁵ has also reported left side involvement more than the right side i.e. 53.33%. In our study, 26.7% of patients had breast lump in the superomedial quadrant and 32.7% had in superolateral quadrant. This finding has been supported by other studies^{22,26}.

The frequency of fibro-adenoma in our study was found to be 33.3%. In Karachi, Talpur and colleagues²⁵ also reported that fibroadenoma was the most common benign breast lump among their patients i.e. 30.66%. Rashid et al²⁷ showed that 42.1% patients had fibroadenoma breast in their study which was conducted

at PIMS in 2005. Internationally, Jamal²⁸ has reported that fibroadenoma was the most common breast lesion (47%) in the population in Jeddah, Saudi Arabia. On the other hand, in Nepal, fibroadenoma was the least common lesion, present in 21.6% of the female patients²⁹. However, this is higher than reported frequency from USA (8.5%). No significant difference has been noted in recent literature regarding the age group of fibroadenoma which was twice (16.8%) as reported by Rashid et al²⁷, however it was almost similar to the results shown by Ali et al³⁰ (36%) and Choudhary et al³¹.

It was a pilot study and we recommend further research on breast lumps in incorporating other variables in the study to detect a range of breast disorders in women who are presenting with breast lumps.

CONCLUSION

Fibroadenoma was a common benign breast disorder among women who presented with breast lump.

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CONTRIBUTORS

MK conceived the idea, planned the study did data collection and analysis. SA, FOS and MY did data collection, statistical analysis and drafted the manuscript. H did literature search and critically revised the manuscript. All authors contributed significantly to the submitted manuscript.