

Original Article

DIAGNOSTIC OUTCOMES OF THE FEMALES PRESENTING WITH BREAST LUMP IN SURGICAL DEPARTMENT SERVICES HOSPITAL LAHORE

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Objective: To identify the possible diagnostic outcomes of a breast lump in females.

Methods: It was a case series study design. It was carried out in the surgical departments of the Services Hospital Lahore from August 2017 to June 2018. Female patients aged above 15 years presenting to surgical outdoors with a breast lump were included in this study. Patients with a previous history of breast surgery, concurrent skin disease involving the breast, and non-cooperative patients were excluded from the study. Patients with a breast lump were then assessed through triple assessment, which included history and clinical examination, radiology and cytology or histopathology as required. All the data collected was entered and compiled using SPSS software. All the descriptive variables were analyzed in terms of frequency tables and percentages.

Results: The age of the patients ranged from 15 to 75 years with 60% of the patients were of 40 years or above and 40% were below 40 years of age. 40% of the patients were illiterate and 60% were literate while 88% were married and 12% were unmarried. Out of 200 patients, 104 (52%) had a mobile lump while 96 (48%) had a fixed lump, 186 (93%) had a hard lump whereas 14 (7%) had a soft lump, 134 (67%) had a painless lump while 66 (33%) had a painful lump, 32 (16%) patients with breast lump had a nipple discharge while 168 (84%) patients had no nipple discharge, and 45 (22.5%) patients with breast lump had skin changes while 155 (77.5%) had normal skin texture. Out of 200 patients, 84 (42%) were diagnosed with fibroadenoma, 106 (53%) were diagnosed with carcinoma, 4 (2%) with phyllodes tumor, 4 (2%) with simple breast cyst, 1 (0.5%) with sarcoma and 1 (0.5%) with tuberculosis of breast.

Conclusions: It was concluded that 57% of the patients presenting with breast lump had a malignant disease with breast carcinoma being the most common lesion and 43% of patients had a benign disease with fibroadenoma being the most prevalent disease.

Keywords: breast lump, breast cancer, benign, malignant.

Introduction

Patient's complaints of breast lumps are common, ranging from 40% to 70% in women seeking advice. A breast lump is usually a localized swelling, protuberance or mass in the breast. It is one of the prime indicators of breast disorders. Fortunately, most of the breast lumps are benign, but this does not deny the need for evaluation of any palpable breast lesion. Failure to diagnose breast cancer accounts for the most frequent and expensive claims brought against the physicians.¹ There are many causes of breast lumps, some of these causes are harmless while others can be painful or dangerous. Etiologies of breast lumps include infections, injuries, non-cancerous growths, and finally carcinoma. Most lumps are not cancerous as approximately 10% of breast lumps ultimately lead to a diagnosis of breast cancer.³ There are several types of a benign breast lump, most of which are harmless and are caused by hormonal changes that

occur during different times in a woman's life, such as during the menstrual cycle. There are several types of a benign breast lump. Fibroadenoma is a firm lump that moves around easily in the breast and is more common in younger women. Breast cyst is a smooth, firm fluid-filled lump most commonly seen in women aged 30 to 60. Breast abscess is a painful collection of pus that forms under the skin of the breast, usually as a result of bacterial infection. Other conditions include mastitis, fat necrosis, duct ectasia and lipoma. Most lumps of breast are benign, but breast cancer is the most common cancer and the second leading cause of cancer deaths in women. Malignant breast disease encompasses many histologic types that include infiltrating ductal or lobular carcinoma, in situ ductal or lobular carcinoma and inflammatory carcinoma.^{4,5}

Researches on breast cancer risks have implicated hormonal status, both natural and by hormone Acement therapy (HRT). Increased breast density

being associated with an increased risk of breast cancer. Studies point the age of menarche and menopause, age of first pregnancy and number of full-term pregnancies as influential factors in the breast cancer risk. Other general risk factors include obesity, and excessive alcohol consumption. Ethnic and environmental factors may also play a role in breast cancer development.⁶ A patient presenting with a breast lump is evaluated with triple assessment with clinical, radiological and histological components. Radiological component included mammography or ultrasonography. Mammography is the first diagnostic test ordered in a woman over the age of 35 with a new breast complaint. Mammographic features suggestive of malignancy are asymmetry, clustered pleomorphic calcifications, increasing density of the breast tissue, or a new mass with irregular borders or spiculations. However, ultrasound is the first line of imaging in patient who is pregnant or less than 30 years old with focal breast symptoms. In addition, ultrasonography is also used to provide guidance for biopsies and other interventions.⁷ Breast magnetic resonance imaging (MRI) is not indicated for the work-up of an undiagnosed mass. MRI is reserved for diagnostic dilemmas or to detect recurrence in patients with a breast implant.⁸ Masses that are solid on radiology will require biopsy to exclude cancer and to provide a histological diagnosis. Fine needle aspiration and cytology or biopsy is the main stay of diagnosis in a suspicious breast mass.⁹ Pakistan has peak incidence of breast carcinoma in Asia. Breast cancer is the most prevalent cancer in Pakistan as different studies show it kills nearly 40,000 women every year. According to the World Health Organization, breast cancer rates are getting worse and it is not even sparing younger age groups.¹⁰ The goal of this study was to evaluate the prevalence of different pathologies of breast lumps in female patients and its characteristics in our setup.

Methods

It was a case series study, which was conducted in the surgical units (I-IV) of the Services Hospital Lahore from Aug 2017 to June 2018. Services hospital is a tertiary level hospital with 31 departments, 27 major and 8 minor operation theatres and an outpatient attendance of 700 patients on average per day. An approval was taken from the ethical committee of the hospital. Sample size was estimated using WHO S-Size software by using the formula "Estimation of Population

Proportion with specified relative precision at a confidence level of 90% and an anticipated population proportion of 0.65 with relative precision 0.15". The minimum sample size was 65. Total of 200 patients were recruited in the study which were fulfilling the inclusion criteria. Sampling technique was purposive sampling technique. Female patients aged above 15 years presenting to surgical outdoors with a breast lump were included in this study. Patients with previous history of breast surgery, concurrent skin disease involving the breast and non-cooperative patients were excluded from study. Patients with breast lump were then assessed through triple assessment which included history and clinical examination by the surgeon, radiological investigations and cytology or histopathology as required. After history and clinical examination, patients with age more than 35 years were subjected to mammogram and patients with 35 years or younger underwent ultrasonography of breast. Patients diagnosed with fibroadenoma (based on clinical examination and radiology) underwent excisional biopsy and patients suspected with malignant lesions underwent core needle biopsy. Patients diagnosed with breast cyst through ultrasound underwent aspiration and cytology of fluid. All the data collected was entered and compiled using SPSS software. All the descriptive variables were analyzed in terms of frequency tables and percentages. Questionnaires were filled after taking face to face interviews of the patients who came for evaluation. All the work performed in this study was in line with the PROCESS guidelines.¹¹

Results

In this study, the age of patients ranged from 15 to 75 years with 60% of patients were of 40 years or above and 40% were below 40 years age. 40% of the patients were illiterate and 60% were literate while 88% were married and 12% were unmarried. Out of 200 patients, 104 (52%) had a mobile lump while 96 (48%) had a fixed lump with most fixed lumps being carcinoma. In this study out of 200 patients, 186 (93%) had a hard lump whereas 14 (7%) had a soft lump. This study showed that out of 200 patients 134 (67%) had a painless lump while 66 (33%) had a painful lump with the fibroadenoma being the most prevalent disease in painful lumps. In this study, 32 (16%) patients with breast lump had nipple discharge while 168 (84%) patients had no nipple discharge. Out of 200 patients, 45 (22.5%) patients with a breast lump had skin changes while 155 (77.5%) had normal skin texture (**Table-1**). Out of 200 patients, 84 (42%) were diagnosed with fibroadenoma, 106 (53%) were

diagnosed with carcinoma, 4 (2%) with phyllodes tumor, 4 (2%) with simple breast cyst, 1 (0.5%) with sarcoma and 1 (0.5%) with the tuberculosis of breast (**Table-2**).

Table-1: Breast lump characteristics in benign and malignant breast diseases.

	Characteristics of breast lump	Frequencies (%)		Total (%)
		benign	Malignant	
Mobility of lump	Mobile	55 (27.5)	49 (24.5)	104 (52)
	Fixed	31 (15.5)	65 (32.5)	96 (48)
Consistency of lump	Soft	10 (5)	4 (2)	14 (7)
	Hard	76 (38)	110 (55)	186 (93)
Pain in lump	Painful	46 (23)	20 (10)	66 (33)
	Painless	40 (20)	94 (47)	134(67)
Nipple discharge	Present	1 (1)	30 (15)	32 (16)
	Absent	84 (42)	84 (42)	168 (84)
Skin nodules or ulcers	Present	1 (0.5)	44 (22)	45 (22.5)
	Absent	85 (42.5)	70 (35)	155(77.5)

Table-2: Diagnostic outcomes according to the age groups.

Diagnosis	Frequencies (%)		Total (%)
	40 years and above	Below 40 years	
Fibroadenoma	37 (18.5)	43 (21.5)	80 (40)
Carcinoma	74 (37)	36 (18)	110 (55)
Phyllodestumour	3 (1.5)	1 (0.5)	4 (2)
Simple breast cyst	4 (2)	0	4 (2)
Carcoma	1 (0.5)	0	1 (0.5)
Tuberculous mastitis	1 (0.5)	0	1 (0.5)
Total	120 (60)	80 (40)	200 (100)

Discussion

This study was conducted to find out the diagnostic outcomes of a breast lump and the possible risk factors that result in breast conditions among female patients. A sample of 200 patients was selected for that purpose and study was conducted in the surgical departments of the Services Hospital Lahore.

In the present study, the age of patients ranged from 15 to 75 years with 60% of patients were of 40 years or above and 40% were below 40 years age. The age of the patients ranged from 6-72 years in the study on breast lumps conducted by Kumar R and between 17-56 years in the study carried out by Tiwari et. al.^{12,13} In addition, fibroadenoma was a common lesion in age below 40 years of age and breast carcinoma was common in age 40 years or above. These results were in concordance with the study conducted by Walia BS et. al in 2017 which showed that the most common age group in patients with fibroadenoma was 21-30 years and in

patients with breast carcinoma was 41 to 50 years.¹⁴ Similar results were also found in a study carried out by Yeole B et. Al.¹⁵ In the study out of 200 patients, breast carcinoma was the most common lesion accounting for 53% (106) while fibroadenoma being the second common disease of breast involving 42% (84) of the total patients. Sadik AZ et. al in 2014 also illustrated that the breast carcinoma was the leading disease of the breast lump accounting for 46.15% of total cases and fibroadenoma being the second common lesion involving 40.16% of cases.¹⁶ Similarly, Ahmed HG et. al in his study demonstrated that 34% of breast lesion to be carcinoma and 28% of cases to be fibroadenoma.¹⁷ In the current study it was found that out 200 patients, 2% (4) patients had phyllodes tumor. In addition, 3 cases were benign and 1 case of phyllodes was malignant. In a study, Ahmed HG et. al showed that phyllodes tumor accounted for 1% of the total breast lump cases.¹⁷ Similarly, Sadik AZ et also evinced that phyllodes tumor constituted only 1% of breast diseases.¹⁶ In the study, 2% of the cases of breast lump were simple breast cysts. Ahmed HG et.al in their study found that 6% of cases of total patients presenting with breast lump had simple breast cyst.¹⁷

Breast sarcoma is an extremely rare and heterogeneous group of malignancies and constituting less than 1% of total breast malignancies.¹⁸ In the present study, only 1 (0.5%) case of breast lump was diagnosed with the sarcoma of breast. Finally, Tuberculous Mastitis (TM) is a rare extrapulmonary presentation of tuberculosis accounting for less than 1% of all diseases of the breast in the industrialized world.¹⁹ Incidence of this disease is higher in countries endemic for tuberculosis, like the Indian subcontinent, where it may be as high as 4%.²⁰ In the Arabian Gulf, the frequency of the disease is reported to be between 0.4% and 0.5%.²¹ In this study, only 1 (0.5%) case of breast disease was discovered with tuberculous mastitis.

Conclusion

This study was conducted on female patients presenting with a breast lump to find out the possible diagnostic outcomes. The results indicated that 57% of the patients presenting with the breast lump had a malignant disease with breast carcinoma being the most common lesion and 43% of patients had a benign disease with fibroadenoma being the most prevalent condition.

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