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ORIGINAL ARTICLE

Frequency of Breast Cancer in Palpable Breast Lump

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ABSTRACT

Background: Breast cancer is one of the most common types of cancer in women. In the past few decades, its prevalence has increased exponentially.
Aim: To evaluate the frequency of breast cancer in our setup.
Method: A descriptive cross-sectional study was conducted at K.V.S.S. SITE Hospital, Karachi for the period of 6 months from January 2022 to June 2022. The sample size for this study was 95 patients.The tru-cut biopsy was performed, using a tru-cut gun on patients with BI-RADS 3 clinically suspicious and family history positive.The data obtained was analyzed on the latest version of the SPSS Statistics version 26 (IBM Corp., Armonk, NY, USA). The frequency and percentages of the categorical variables were calculated.
Result: A total of 95 female patients presented with palpable breast lumps. The age group presented most commonly with the lump was 32-42 years (40%).The variables like smoking, drinking, raised BMI, history of any cancer, family history of breast or any other cancer, and oral contraceptive use were found to be statistically significantly associated with the malignancy related to the breast ($p < 0.001$).
Practical implicaion: This study provides the incidence of the breast cancer which will help the doctors assess every women presenting with the breast lump and provide the required treatment early so that worst outcomes can be avoided.
Conclusion: The palpable breast lump should be assessed on an immediate basis and further workup should be conducted in such patients for early diagnosis and improved treatment of the breast cancer.
Keywords: Breast lump, Breast cancer, Breast biospy, frequency of breast lump, young women, family history

INTRODUCTION

Breast cancer is one of the most common types of cancer in women. In the past few decades, its prevalence has increased exponentially. However, the survival rate is higher in developed countries as compared to developing nations[1-3]. In 2016, 1.7 million cases of breast cancer have been reported making it the major cause of mortality and morbidity in women[3].

The incidence of breast cancer is increasing in both, developed countries and developing countries[4] but the differences in the survival rates in different countries are mainly due to financial constraints in managing the treatment regimens, early-stage detection of cancer, and lack of screening facilities[5]. In Asian countries, the highest incidence of breast cancer is seen in Pakistan where every 1 in 9 Pakistani women has the chance of suffering from breast cancer[6,7].

To detect it in the early stages, it is important to correctly examine and diagnose any palpable breast lumps. A breast lump is any sort of swelling present in the breast[8]. Different types of breast diseases both, malignant and benign, manifest themselves as breast lump in the initial stages[9]. Therefore, any palpable breast lump is concerning for the patients as well as for the doctors. The physicians need to take a complete history and perform relevant examinations to correctly make a diagnosis. The use of radiological facilities including mammograms and ultrasound is an equally important tool for screening and diagnosis purposes[10]. Additionally, tru-cut biopsy can be used to diagnose the lump histologically. In clinical setup, radiological findings and clinical examination have the highest diagnostic yield and are considered the most reliable, rapid, and economical in diagnosing breast lumps[10].

This study is being conducted to evaluate the women presenting with palpable breast lumps and determine the frequency of these lumps being breast cancers in our setup. Its

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main objective is to find out the prevalence of breast cancer and the types of pathology commonly found among women presenting with a palpable breast lump.

MATERIAL AND METHOD

A descriptive cross-sectional study was conducted at K.V.S.S. SITE Hospital,Karachi for the period of 6 months from January 2022 to June 2022.The sample size for this study was 95 patients. It was calculated using the Raosoft sample size calculator using the margin of error to be 5%, the confidence level to be 95%, and the incidence in our setup to be 125[11]. The data was collected through non-probability, convenience sampling. The inclusion criteria of our study included**:** Females above the age of 13, who presented with a new palpable breast lump**,** all the breast masses should be clinically palpable**,** and has no previous history of breast cancer. The exclusion criteria included women with a history of breast cancer, women with painful tender lumps (abscesses) women who do not give consent for this study, and females who did not continue the follow-ups.

Data Collection Procedure: For this study, a total number of 95 females who present to our hospital and fulfilled the inclusion and exclusion criteria were selected. After taking the informed consent, the tru-cut biopsy was performed, using a tru-cut gun on patients withBI-RADS 3 clinically suspicious and family history positive. It was done under local anesthesia after manually localizing and immobilizing the lesion. A biopsy specimen was taken with different angulations of the needle to obtain 8-10 samples to be examined for histopathological features. On patients with small swelling not suitable for tru-cut biopsy, an excision biopsy was done.

Data analysis Procedure: The data obtained was analyzed on the latest version of the SPSS Statistics version 26 (IBM Corp., Armonk, NY, USA). The frequency and percentages of the categorical variables were calculated including the age groups, histopathological features, duration of the lump, marital status,

history of any cancer,family history of breast cancer or any other cancer, the number of parity, smoking, and drinking history, oral contraceptives, etc. The chi-square test was used to evaluate the association between the biopsy results of the breast lump and the risk factors of breast cancer. Thep-value of <0.05 was considered significant.

RESULTS

A total of 95 female patients presented with palpable breast lumps. The age group presented most commonly with the lump was 32-42 years (40%). Married women were found to have a higher number of 57(60%) cases. 57(60%) women had a BMI of 25 or more. Among all the patients, 44(46.3) patients were breastfeeding, 42(44.2%) had a history of contraceptive use, 32(33.7%) patients has a family history of breast cancer while 37(38.9%) patients have a family history of any cancer and 30(31.6%) patients has a history of other cancer. Demographic-data is shown in Table 1.

Table-1: Demographics

Variables	Category	Frequency	%age
Age	≥13 - <22	5	5.3
	≥22 - <32	19	20.0
	≥32 - <42	38	40.0
	≥42	33	34.7
Marital status	single	23	24.2
	married	57	60.0
	divorcee	15	15.8
parity	0	22	23.2
	1	6	6.3
	2	33	34.7
	3	34	35.8
education	school level	36	37.9
	college level	38	40.0
	graduate	8	8.4
	Post-graduation	13	13.7
residence	Rural	42	44.2
	Urban	53	55.8
Body mass index (BMI)	less than 25	38	40.0
	25 or more	57	60.0
Breastfeeding	Yes	44	46.3
	No	51	53.7
Oral contraceptives	Yes	42	44.2
	No	53	55.8
Family history of breast cancer	Yes	32	33.7
	No	63	66.3
History of any other cancer	Yes	30	31.6
	No	65	68.4
Menopausal status	Premenopausal	68	71.6
	post menopause	27	28.4
Previous surgery	Yes	36	37.9
	No	59	62.1
Family history of any cancer	Yes	37	38.9
	No	58	61.1

Table 2 shows the prevalence of different breast pathologies found in our study. 33(34.7%) of the women with breast lumps were found to have breast cancer while 62(65.3%) women were benign.

Table 2: Frequency of breast pathologies

Histopathology	Frequency	Percentage
Fibroadenoma	11	11.6
Lipoma	3	3.2
Malignancy	33	34.7
Fibrocystic Disease	4	4.2
Inflammatory lesions	6	6.3
Phyllodes tumor	9	9.5
Tuberculosis	7	7.4
Duct Ectasia	9	9.5
Benign Cyst	6	6.3

53(55.8%) patients havehad a history of a palpable breast lump for more than a month while 34(35.8%) patients were found to have a lump in the left breast. The biopsy results were malignant for only 33(34.75) of the patients. 64(67.4%) patients were found to have the size of t1 tumor size while 75(78.9%) patients had N0 stage of lymph node involvement as shown in table-3

Table-3: Features of the breast lump

Variables	Categories	Frequency	%age
Duration of lump	more than 1 month	53	55.8
	less than 1 month	42	44.2
Lesion site	left breast	34	35.8
	right breast	29	30.5
	both	32	33.7
Tumor size	t1 (<2cm)	64	67.4
	t2 (2-5 cm)	19	20.0
	t3 (>5 cm)	8	8.4
	t4	4	4.2
Biopsy result	malignant	33	34.7
	benign	62	65.3
Distant metastasis	yes	14	14.7
	no	81	85.3

The variables like smoking, drinking, raised BMI, history of any cancer, family history of breast or any other cancer and oral contraceptive use were found to be statistically significantly associated with the malignancy related to the breast (p<0.001) (Table-4)

Table 4: Association between the risk factors and the biopsy results

Variables	Categories	Biopsy results		P-value
		Malignant	Benign	
Age	≥13 - <22	0 (0)	5(100)	0.018
	≥22 - <32	2(10.5)	17(89.5)	
	≥32 - <42	17(44.7)	21(55.3)	
	≥42	14 (42.4)	19(57.6)	
parity	0	0 (0)	22 (100)	0.001
	1	2 (33.3)	4 (66.7)	
	2	15 (45.5)	18 (54.5)	
	3 or more	16 (47.1)	18(52.9)	
Marital status	Single	1 (4.3)	22 (95.7)	0.002
	Married	26 (45.6)	31 (54.4)	
	divorcee	6 (40)	9 (60)	
Residence	Rural	10 (23.8)	32 (76.2)	0.046
	Urban	23 (43.8)	30 (56.6)	
smoking	Yes	31 (100)	0(0)	0.000
	No	2(3.1)	62 (96.9)	
Drinking	Yes	14 (100)	0 (0)	0.000
	No	19 (23.5)	62 (76.5)	
BMI	less than 25	4 (10.5)	34 (89.5)	0.000
	25 or more	29 (50.9)	28 (49.1)	
History of any cancer	Yes	30 (100)	0(0)	0.000
	No	3 (4.6)	62 (95.4)	
Menopausal status	premenopausal	27 (39.7)	41 (60.3)	0.106
	post menopause	6 (22.2)	21 (77.8)	
Breastfeeding	Yes	7 (15.9)	37 (84.1)	0.000
	No	26 (51)	25 (49)	
Oral contraceptives	Yes	25 (59.5)	17 (40.5)	0.000
	No	8 (15.1)	45 (84.9)	
Family history of cancer	Yes	24 (64.9)	13 (35.1)	0.000
	No	9 (15.5)	49 (84.5)	
Family history of breast Cancer	Yes	31 (96.9)	1 (3.1)	0.000
	No	2 (3.2)	61 (96.8)	

DISCUSSION

Breast cancers are reported to be responsible for over 0.5 million deaths with 2 million patients being diagnosed with them globally in 2018. It was found to be highest in the developed countries which include Belgium and Luxembourg and lowest in the developing or underdeveloped countries like Bhutan and Mozambique. Along with the high prevalence in developed countries, the incidence is increasing in the low-middle income countries in Africa and Asia leading to a substantial part of cases (estimated to be 52% cases) and approximately 61% deaths alone in 2018[12].

In this study, we determine the incidence of breast cancer in women presenting with the complaint of a breast lump. In a study conducted by Gulzar et al, it was found that 93.7% of women with breast cancer have a history of painless lumps in their breasts[11]. It was further revealed in the same study that the lack of knowledge and awareness about the symptoms and the screening programs for breast disease is quiteprevalent. Clinically the palpable breast lumps fail to exhibit distinctive physical findings which makes it necessary to utilize imaging evaluation to characterize the palpable lesion[13,14]. In our study, the diagnosis of breast cancer was 34.7% which is quite high and warrants a thorough checkup for women presenting with a palpable breast lump.

The majority of the patients who reported malignant breast disease in our study were of age group ≥32 - <42 presented with 44.7% cases which are significantly raised compared to the prevalence of breast cancer to be 7% in women less than 40 years of age in a study conducted by Anders et al[15].

Smoking, drinking, raised BMI, history of cancer, personal history of any cancer, family history of any cancer or breast cancer, and the use of oral contraceptives were found to be significantly associated with the detection of breast cancer. These risk factors were found to be associated with breast cancer in the study conducted by Zohre et al[16]. Breastfeeding plays a protective role against breast carcinoma according to several studies[17,18] therefore in our study as well, it is shown to be significantly associated with decreased breast cancer as compared to the women who were not breastfeeding. There needs to be the length of breastfeeding included in our study as well which is used to determine the association with breast cancer as well[19,20].

The major limitation of our study was the short duration of time and the collected data was from a single institution. Including more institutions could lead to a larger sample size and more variables could be assessed that would have enhanced the results.

CONCLUSION

The palpable breast lump should be assessed on an immediate basis and further workup should be conducted in such patients for early diagnosis and improved treatment of the breast cancer.

Recommendation: This study suggests the recommendation of awareness programs, screening programs should be introduced in the population, and self-examination as well.

Conflict of interest: Nil

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