



ORIGINAL ARTICLE

Frequency of Breast Carcinoma in the Patients Presenting to Allama Iqbal Memorial Teaching Hospital, Sialkot with a Breast Lump while Taking Ultrasound as a Gold Standard.

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<p>Affiliations</p> <p>1. Assistant Professor of Radiology, Govt. Khawaja M. Safdar Medical College, Sialkot 0321-3344335</p> <p>2. Dr. Javeria Awais, Radiologist, Commissioner Road, Sialkot</p> <p>Corresponding Author: Dr. Sarfraz Ahmad, Assistant Professor of Radiology, Govt. Khawaja M. Safdar Medical College, Sialkot Contact #.0321-3344335</p>	<p>Abstract</p> <p>Objective: To assess the frequency of Breast Carcinoma in Patients with Breast Lump taking Ultrasonography as a Gold standard.</p> <p>Methodology: retrospective observational study was conducted from December 2023 to May 2024 with sample size of 115 patients of both genders.</p> <p>Result: A total of 115 patients were included in this study. Out of the patients, 111 are females and 4 are males. all patients with breast lump had ultrasound performed. Out of the total patients around 33% of the patients (38 patients) were positive for breast carcinoma.</p> <p>Conclusion: 33% of patients with breast lump where positive for breast carcinoma when underwent ultrasonography.</p> <p>Keywords: Breast Lump, Breast Carcinoma, Ultrasound.</p> <p>Cite this Article as: Ahmad S.,: Frequency of Breast Carcinoma in the Patients Presenting to Allama Iqbal Memorial Teaching Hospital, Sialkot with a Breast Lump while Taking Ultrasound as a Gold Standard. <i>SIAL J Med. Sci. Dec-2024 V-3 (Issue-10):42-46</i></p> <p>Author contribution: SA; conceptualization of project, writing manuscript, drafting and final approval. SA; data collection, statistical analysis, revision</p>
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Introduction

Carcinoma of the breast is the most common malignancy in women and the second leading cause of death by carcinomas in women¹. There are two types of Carcinomas: benign and malignant. The gross and microscopic characteristics of benign carcinoma are relatively innocent and are localized bearing good prognosis. Malignant Carcinomas can invade and destroy adjacent structures. They can metastases to different sites to cause death.²

The swelling present in the breast is known as breast lump and it is the most common early presentation of the breast carcinoma. The breast lump is considered concerning finding for the patients as well as for the doctor.³ Ultrasound is

considered an important tool for diagnostic purposes of breast carcinoma in patients with breast lump. Ultrasonography can easily distinguish between benign and malignant lesion with high degree of accuracy.⁴

Prognosis can be improved by triple assessment (physical examination, Mammography, FNA Cytology, Core needle biopsy) along with tru-cut biopsy that can diagnose the lump histologically. In clinical setup, radiological findings such as ultrasound have the highest diagnostic yields and are considered more reliable and economical.⁵ The treatment depends upon the stage of carcinoma and usually include surgery, radiations, and medications such as

Frequency of Breast Carcinoma in the Patients Presenting to Allama Iqbal Memorial Teaching Hospital, Sialkot with a Breast Lump while Taking Ultrasound as a Gold Standard.



chemotherapeutic agents to kill cancerous cells. Thus, preventing the spread of carcinoma⁶.

Incidence increases rapidly after 30 years of age. After 50 years of the age, there are almost 80% of the cases of breast lump with breast carcinomas with the incidence being maximum in women aged 50-69 years. Incidence has increased in both the developed and developing countries. In Pakistan, the incidence of breast carcinomas is highest where every 1 out of 9 Pakistani women suffer from it.^{7,8}

Breast Lump has been a common finding in both gender with females having a higher ratio as compared to the males and affecting different age groups with early thirties being the most common; throughout the world mainly in the developed countries. However, only about 10% of the patients complaining of the Breast Lump are diagnosed with Breast Carcinomas while others have various degrees of benign pathology.⁹

Mammography is considered a better imaging technique for detecting breast carcinomas; however, Ultrasound increases the sensitivity of breast cancer detection by 97.3% with only 2.4% chances of false positive.¹⁰

Objective:

This current study is being conducted to determine the frequency of breast carcinoma in patients presenting with palpable breast lump to the Allama Iqbal Memorial Teaching Hospital and the pathology related to the underlying cause taking Ultrasonography as a standard that shall help in planning the treatment plan and improve the prognosis.

Methodology:

A retrospective observational study was conducted from December, 2023 till May, 2024 on patients with chief complaints of breast lump after approval from ethical committee. The sample size of the collected data was 115 in total out of which 111 were females and 4 were males having a random age group. The patients less

than 10 years of age and those who were referred for the biopsy were excluded.

Results:

A total of 115 cases with the mean age of about 33 years were managed. There were 38 (33%) cases of patients presenting with breast lump who were diagnosed with the Breast Carcinoma while the remaining 77% cases turned out to be inflammatory in the origin. Details are mentioned in the underlying charts and tables.

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	111	96.5	96.5	96.5
	Male	4	3.5	3.5	100.0
	Total	115	100.0	100.0	

Table No 1:

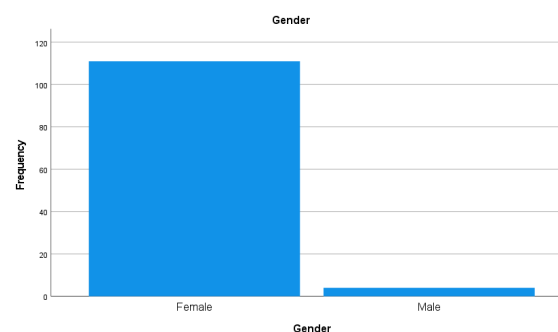


Figure No 1:

Of the total 115 patients 111 were females while only 4 were males. This frequency amplifies the correlation of female gender being at the higher risk of developing breast carcinomas. According to the analysis, the highest frequency of patients presenting with the breast lump is between the age group of 25-45 years with the peak seen at the age 33.

Frequency of Breast Carcinoma in the Patients Presenting to Allama Iqbal Memorial Teaching Hospital, Sialkot with a Breast Lump while Taking Ultrasound as a Gold Standard.



Age					
		F	%	Valid %	Cumulative %
Valid	12.00	1	.9	.9	.9
	13.00	2	1.7	1.7	2.6
	14.00	1	.9	.9	3.5
	15.00	2	1.7	1.7	5.2
	16.00	4	3.5	3.5	8.7
	17.00	1	.9	.9	9.6
	18.00	1	.9	.9	10.4
	20.00	4	3.5	3.5	13.9
	21.00	2	1.7	1.7	15.7
	22.00	5	4.3	4.3	20.0
	23.00	2	1.7	1.7	21.7
	24.00	2	1.7	1.7	23.5
	25.00	4	3.5	3.5	27.0
	26.00	7	6.1	6.1	33.0
	27.00	1	.9	.9	33.9
	28.00	3	2.6	2.6	36.5
	29.00	2	1.7	1.7	38.3
	30.00	4	3.5	3.5	41.7
	31.00	2	1.7	1.7	43.5
	32.00	4	3.5	3.5	47.0
	33.00	11	9.6	9.6	56.5
	35.00	3	2.6	2.6	59.1

36.00	3	2.6	2.6	61.7
37.00	4	3.5	3.5	65.2
38.00	1	.9	.9	66.1
39.00	2	1.7	1.7	67.8
40.00	6	5.2	5.2	73.0
42.00	2	1.7	1.7	74.8
43.00	2	1.7	1.7	76.5
44.00	3	2.6	2.6	79.1
45.00	1	.9	.9	80.0
46.00	3	2.6	2.6	82.6
47.00	3	2.6	2.6	85.2
49.00	2	1.7	1.7	87.0
50.00	2	1.7	1.7	88.7
51.00	2	1.7	1.7	90.4
53.00	2	1.7	1.7	92.2
54.00	1	.9	.9	93.0
55.00	3	2.6	2.6	95.7
58.00	1	.9	.9	96.5
59.00	1	.9	.9	97.4
62.00	1	.9	.9	98.3
71.00	1	.9	.9	99.1
74.00	1	.9	.9	100.0
Total	115	100.0	100.0	

Table No 2:

Frequency of Breast Carcinoma in the Patients Presenting to Allama Iqbal Memorial Teaching Hospital, Sialkot with a Breast Lump while Taking Ultrasound as a Gold Standard.

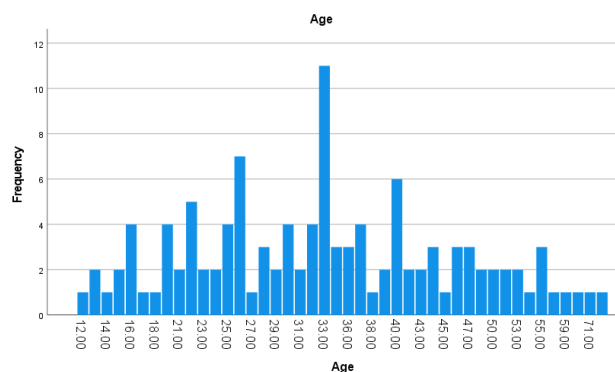


Figure No 2:

Breast Carcinoma					
		F	%	Valid %	Cumulative %
Valid	0	77	67.0	67.0	67.0
	1	38	33.0	33.0	100.0
	Total	115	100.0	100.0	

Table No 3:

All of the above data was collected using Ultrasound as the Gold Standard Screening. The collected data was further analyzed using SPSS (Statistical package for social science version 2024).

Discussions:

In 2022, 2.3 million patients were diagnosed with breast carcinoma globally and resulted in about 6,70,000 deaths. Developed countries have higher incidence as compared to the under developed countries. In a study conducted by A. Nafees, M. Ghayasuddin, S. Shabbier et al, it was found that carcinoma is most common in women of age group 32-42 years as compared to our study which analyzed the highest incidence between 25-45 years indicating increased incidence among younger population.¹¹

The youngest verified case of carcinoma in our study is 21 years. Physical examination of lump fails to give definitive diagnosis making imaging techniques important. Radiographic analysis of lump with such indistinct physical qualities revealed that 33% of these were malignant. This

warrants the use of imaging techniques in all breast lump to rule out malignancy. Family history, obesity, smoking, drinking and oral contraceptive use are several factors associated with breast carcinoma according to a study by Zohre et al.¹²

An International Study conducted by American College of Radiology in collaboration with the Radiology Society of North America, which stated that the breast ultrasound can be used as a method of screening in women who are either at the risk for breast cancer and cannot undergo an MRI exam, for those women who are pregnant so x-ray is contraindicated, or for the women who have dense breasts characterized by high glandular and connective tissue, and low fatty tissue.¹³

According to international studies, breastfeeding for at least two years postnatally plays a significant role in minimizing the incidence of breast carcinoma in females. WHO also states that breast carcinoma occurs in all countries and is the most common carcinoma in 157 countries with almost half of patients having no risk factors other than sex and age. However, in accordance with Human Development Index (HDI), 1 in 12 women will be diagnosed with breast carcinoma in their life.¹⁴

The main drawback of our research was that it was conducted at a local level covering a short duration of time and the data analyzed was only from a single Hospital (Allama Iqbal Memorial Teaching Hospital). If the data would've been gathered from multiple hospitals, then the research would have been at a large scale with more variables and having a large sample size which would have made it better to assess the results and bring out the ultimate conclusion.

Conclusion: It was concluded that 33% of the patients presenting with breast lump to the Allama Iqbal Memorial Teaching Hospital were positive for the breast carcinoma when the Ultrasound was performed.

Frequency of Breast Carcinoma in the Patients Presenting to Allama Iqbal Memorial Teaching Hospital, Sialkot with a Breast Lump while Taking Ultrasound as a Gold Standard.



It implies the importance of Screening programs such as Ultrasound for the early detection and treatment of the Breast Carcinoma.

Recommendations:

This research recommends that everyone should self-examine and palpate the breast on regular basis and if a breast lump is felt they should immediately consider visiting a physician and having a screening test such as an Ultrasound to confirm the nature of the lump in order to have a better prognosis.

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