

Brief Communication

Clinical and histological characteristics of breast lumps: A 20-year single private sector tertiary care center experience

Vasitha Abeysuriya¹, Lal Chandrasena²

¹University of Kelaniya, ²Nawaloka Hospitals PLC, Colombo, Sri Lanka.

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Abstract

Background and objective: The presence of a breast lump is an alarming experience. This is because of the growing awareness of breast cancer among the public. Therefore, a comprehensive diagnosis of breast lumps is vital. This study aims to identify the clinical and histological characteristics of breast lumps of patients presenting to a tertiary care center in Colombo, Sri Lanka.

Methods: This 20 year, retrospective study analyzed the clinical and histological characteristics of all patients with breast lumps who were admitted only to Nawaloka Hospital, Colombo from 2003 to 2023. Data were retrieved through past medical records and a computer-based health information system from Nawaloka Hospital. A general surgeon analyzed all the records. The records were analyzed with relation to demographics, presenting symptoms, presence of a lump or mass, and histological diagnosis. This study was aimed to determine the characteristics of breast lumps in a selected sample of patients who were admitted with breast lumps to a single private sector tertiary care hospital. Ethical clearance was granted. No conflict of interest.

Results: Total of 352 patients had breast lumps [female-342 (97.1%); male-10(2.9%)]. Data from 342 female and 10 male patients who were admitted with breast lumps or masses were analyzed. There were 252 /352 self-referrals, 60 / 352 referrals were from general practitioners and 40 / 352 were referred following screening. Most females were 21 to 50 years (n=219, 64%). Ninety-seven per cent of the female patients had palpable breast lumps. Most males with breast lumps were in the age group of 51-60 years. Males had relatively larger lumps (> 2cm, 80%) at the time of their presentation. In both genders, the most common quadrant for occurrence of breast lumps was the upper outer quadrant (F: 55% & M: 60%). Fibroadenoma was the commonest variety of lump in both sexes (F: 49% & M: 60%). However, most males who presented with breast lumps were found to have breast cancer (M: 40% vs. F: 10%). Histologically, invasive carcinoma of no specific type (NST) was the most common type (M: 75% & F: 63%). Thirty-five female patients had carcinoma, ten were below the age of 50 years, and two were in their early 30s.

Conclusion: Our study sample showed that most of the patients were females. The most common benign breast lump was fibroadenoma and the malignant variant was invasive carcinoma of no specific type (NST). Furthermore, it showed that at the time of presentations males had larger breast lumps with and raised percentage of malignant breast lumps.

Corresponding Author: Vasitha Abeysuriya, E-mail:< : vasithaabey@hotmail.com>  <https://orcid.org/0000-0002-0986-7917>

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Introduction

The presence of a breast lump is a terrifying experience. This is because of the growing awareness of breast cancer among the public. Most of these breast-related complaints consist of cyclical mastalgia, nodularity, or asymmetry. However, the focus needs to be vigilant on the patients who present with breast lumps. Of these lumps, the most necessary workup is to diagnose breast cancer. [1, 2] Most literature shows that breast lumps are mostly benign. However, in recent years, there is a growing concern about the risk of developing cancer from various premalignant lesions and the appearance of cancer earlier than the traditionally thought higher age groups. This may be due to present lifestyles, dietary habits, environmental pollution and increased risk of exposure to various injurious agents [3-5]. Therefore, a comprehensive diagnosis of breast lumps is paramount. Furthermore, identifying the patterns of breast lumps in a geographical locality is important as well. This retrospective study analyses the clinical and histological characteristics of breast lumps of patients attending Nawaloka Hospitals, a tertiary care-providing hospital in Colombo, Sri Lanka for 20 years, from 2003 to 2023,.

Methods

This 20 year retrospective study analyzed the clinical and histological characteristics of all patients with breast lumps who were admitted only to Nawaloka Hospital, Colombo from 2003 to 2023. Data were retrieved through past medical records and a computer-based health information system from Nawaloka Hospital. In our setup, all our patients were informed and self-consented to retrieve and analyze data later, while maintaining strict confidentiality, during their admission. There were 252 /352 self-referrals, 60 / 352 referrals were from general practitioners and 40 / 352 were referred following screening. The admissions done for further investigation of breast lumps were by surgeons; 301/352, gynecologists; 30 / 352 and physicians; 21/352 admissions. All biopsies were done under radiological guidance by the consultant radiologists and the assessment of histopathology was done by consultant pathologists. A general surgeon analyzed all the retrieved records of the patients. This study aimed to determine the characteristics of breast lumps in a selected sample of patients who were admitted with breast lumps to a single private sector tertiary care hospital. The records were analyzed with relation to demographics, presenting symptoms, presence of a lump or mass and characteristics, and histological diagnosis. Ethical clearance was granted. No conflict of interest.

Social Science Statistical Package (SPSS Inc., Chicago, IL, USA) computer software was used for the statistical analysis. The descriptive data were presented as mean, standard deviation and range.

Results

During the 20 years, 352 patients had breast lumps [female-342 (97.1%); male-10 (2.9%)]. Data from 342 female patients aged 11 to 80 who presented with breast lumps or masses were analyzed. The majority were 21 to 50 years (64%). Ninety-seven per cent of the female patients had palpable breast lumps, whereas 2% presented with breast pain with underlying breast lumps. Only four patients had nipple discharges with lumps underneath the nipple-areolar complex. Among the female patients most of the breast lumps were 1-2 cm in size (69%). In contrast, males had relatively larger lumps at the time of their presentation. There were ten male patients presented with breast lumps. Most

males with breast lumps were in the age group of 51-60 years. None of the male patients had breast pain or nipple discharge. (Table 1) In both females and males, the commonest quadrant of occurrence of breast lumps was the upper outer quadrant (Table 2).

Table 1: The characteristics of the study population.

Age categories (years)	Females (n = 342) N(%)	Males (n =10) N(%)
11-20	74(22)	-
21-30	102(30)	-
31-40	64(18)	2(20)
41-50	56(16)	3(30)
51-60	30(9)	5(50)
61-70	10(3)	-
71 – 80	06(2)	-
Presenting complaint		
Palpable lump	330(97)	10(100)
Breast pain	8(2)	-
Nipple discharge	04(1)	-

Table 2: The size and site of the breast lump in female and male patients.

Variable	Females (n=342) N (%)	Males (n=10) N (%)
Size		
1 -2 cm	235(69%)	2(20%)
2 – 5cm	82(24%)	8(80%)
More than 5cm	25(7%)	-
Site		
Outer upper quadrant	189(55%)	6(60%)
Outer lower quadrant	34(10%)	4(40%)
Inner upper quadrant	68(20%)	-
Inner lower quadrant	17(5%)	-
Nipple areolar complex	34(10%)	-

Three hundred and forty patients had biopsies under local anaesthesia, and 12 had biopsy procedures under general anaesthesia. Fibroadenoma was found to be the most common in both sexes. However, most males who presented with breast lumps were found to have breast cancer. Histologically invasive carcinoma of no specific type (NST) was the commonest type (Table 3)

Table 3: Histological findings of the breast lumps in both genders.

Type of histology	Female N (%)	Male N (%)
Fibroadenoma	169(49%)	6(60%)
Fibrocystic disease	102(30%)	-
Carcinoma	35(10%)	4(40%)
Cyst	17(5%)	-
Mastitis	7(2%)	-
Adenoma	7(2%)	-
Phyllodes	2(0.6%)	-
Tuberculosis	1(0.3%)	-
Galactocoele	1(0.3%)	-
Lipoma	1(0.3%)	-
Subgroup analysis of carcinoma (Female: n =35; Male: n =4)		
Histological type of carcinoma	Female N (%)	Male N (%)
Invasive carcinoma of no specific type (NST)	22(63%)	3(75%)
Invasive carcinoma with medullary like features	3(10%)	1(25%)
Metaplastic carcinoma	2(6%)	-
Papillary carcinoma	2(6%)	-
Invasive lobular carcinoma	2(6%)	-
Ductal carcinoma in situ	1(3%)	-
Mucinous adenocarcinoma	1(3%)	-
Inflammatory carcinoma	1(3%)	-

In both genders, the ages of patients with fibroadenoma ranged from 11 to 42 years, with a mean of 24 ± 3.5 years. Among the female patients, fibrocystic disease accounted for 30% of cases, with a mean age of 26.7 ± 4.3 years and an age range of 18-68 years. Five per cent of the female patients had breast cysts, with a mean age of 38.8 ± 3.4 years and an age range of 16-60 years. Of the 35 female patients who had had carcinoma, ten were below the age of 50 years, and two out of them were in their early 30s. Among the male patients who had breast cancer, all were in the 51–60-year age group.

Discussion

Even though breast lumps mostly present as palpable breast masses or lumps, the presence of breast pain or nipple discharge with underlying breast mass or a lump is not infrequent. Patients with breast lumps have a considerable fear of breast cancer, irrespective of their gender and age. In our study, most of the patients were females who presented with breast lumps and had palpable breast lumps. [6, 7] As shown in the literature, breast cancer is strongly age-related; however, a considerable number of patients in our study were under the age of 50 years [6,7]. According to the literature, most of the benign and malignant breast lumps are detected in the upper outer quadrant of the breast, and mostly they are less than 5cm at the time of the diagnosis; this may be due to the growing concern regarding breast cancer among the public. These findings were in line with our study results as well. [8-11]

Most of the literature supports that benign breast lumps are commoner. [9-11] The results of histopathology showed that 307 patients (87%) with a mean age of 28 years had benign breast disease, while forty-five patients (13%) had breast cancer. In our study, most breast lesions occurred in young patients, especially those aged 21-30 years, and most were fibroadenomas (Table 1). These results were compatible with the available studies. [9, 12-21] As was stated in the previous studies, fibro cystic disease, in which the breast is lumpy and may be tender was the second most common breast lesion encountered in our research as well. [10, 13, 22-25] It accounted for 30% of our patients and occurred in young patients with a mean age of 27.7 years. Among our patients, cysts, mastitis, adenoma, phyllodes, tuberculosis, and galactoceles were uncommon. [26, 27] Phyllodes tumours account for about 1% of all breast neoplasms. [26-28] We had only two patients. In our study, 13% of breast biopsies were cancerous, and the majority were invasive carcinoma of no special type [Table 3]. A considerable number of our patients were less than 50 years of age. Similar findings were seen in most of the literature. [27-28] Male breast cancer is rare, and the incidence varies. We had four male patients with breast cancer, and breast lumps among the males tended to be more cancerous than that of females. This should be confirmed by further studies. [27-28]

Conclusion

Our study showed that most patients with breast lumps were females. The commonest benign breast lump was fibroadenoma and the malignant variant was NST. Furthermore, it showed that at the time of presentations males had larger breast lumps and a raised percentage of malignant breast lumps.

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Authors contributions

VA and LG formulated the concept and design of the study, acquisition of data and analysis, and drafted the article. All authors reviewed the manuscript.

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