Pattern of Emergency Presentation of Patients with Breast Cancer at the University of Benin Teaching Hospital

Abstract

Background: Breast cancer is the most common malignancy affecting women in Nigeria. Presentation is usually elective. However, some patients present as an emergency with complications of the disease and its treatment. This study aimed to capture the features of this population of patients with breast cancer presenting as an emergency. **Materials and Methods:** The study was a prospective cross-sectional study conducted between March 2021 and February 2022. All the patients with histologically diagnosed breast cancer presenting as an emergency were recruited into the study. Relevant information was retrieved and analysed. **Results:** Over the study period, 34 patients were recruited. They were all females and ages ranged between 27 and 74 years of age (mean: 45.56 ± 11.71 years), and the highest incidence was in the fifth decade of life. The first symptom in all patients was a breast lump, and the duration of disease ranged between 3 and 84 months (mean: 29.21 ± 22.38 months). The right breast was most commonly involved, and invasive ductal carcinoma (no specific type) was the commonest histologic type in 88.24% of cases. Over half of the patients seen had received no treatment after establishing the diagnosis of breast cancer. For those who received treatment, radiotherapy was the least accessed form of treatment. The most common symptoms were difficulty breathing and jaundice (29.41% each), and metastatic disease was the most common diagnosis. The duration of admission ranged between 1 and 35 days, and a mortality rate of 45.45% was recorded. **Conclusion:** The most common indication for emergency presentation in patients with breast cancer was metastatic disease.

Keywords: *Breast cancer, emergency, metastatic disease*

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Introduction

Breast cancer is the most common malignancy affecting women in Nigeria.[1] Men are not immune, and studies show up to 2.8% of breast cancer occurs in males.[2-4]

The most common presenting feature is a breast lump.[3,5] Breast cancer has been found in about 33.3% of patients presenting to the surgeon with complains of breast symptoms.[6]

Though patients typically present electively in the surgical outpatient clinic, a number of them (old and new cases) still present in emergency with complications of the disease or treatment.

There is currently a paucity of data on the pattern of emergency presentation of patients with breast cancer in this environment.

The aim of this study was to describe the demographics, clinical features, treatment, and outcome of breast cancer patients presenting as an emergency.

Materials and Methods

The study was a prospective cross-sectional study conducted between March 2021 and February 2022.

The study involved all patients with new or previously histologically diagnosed breast cancer, presenting to the emergency room requiring urgent treatment of complications.

Relevant clinical information concerning each patient was entered in a predesigned data collection form.

Data were analysed using the IBM statistical package for social sciences (SPSS) statistics for Windows version 22.0.

Results

Over the study period, 92 female patients with breast cancer were seen, of which 34 (36.96%) presented with emergent symptoms. Half of the patients presenting as emergency

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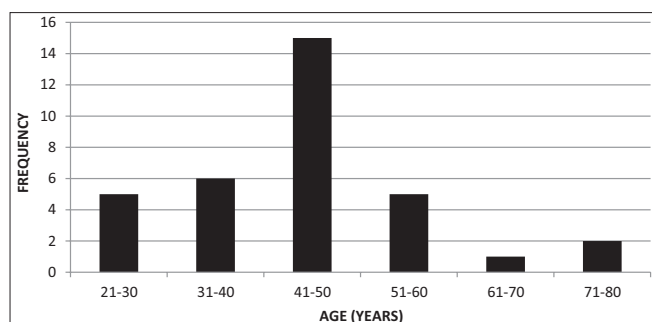
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Figure 1: Age distribution

were old patients of the hospital, whereas the other half were new patients, some of whom had either received care at other hospitals and others no treatment at all prior to the presentation.

The age range was between 27 and 74 years with a mean age of 45.56 ± 11.71 years, and the highest incidence was in the fifth decade of life [Figure 1].

The first symptom identified in all patients was a breast lump, and the duration of disease ranged between 3 and 84 months with a mean of 29.21 ± 22.38 months. All the patients presented with unilateral breast cancer.

The left breast was involved in 54 (58.70%) of all patients presenting with breast cancer during the study period. However, of the 34 patients presenting as an emergency, the right breast was more commonly involved [Figure 2].

A majority of the patients (79.41%) presented to the hospital within the first year of noticing the lump [Figure 3]. Of this number, 44% (12 of 27 patients) had received no treatment after the diagnosis of breast cancer.

Delay in the first presentation (greater than 3 months from time the lump was noticed) was observed in 26 of the patients (76.47%).

A total of 19 patients (55.9%) had received no definitive treatment following the histologic diagnosis of breast cancer. New patients made up 73.68% of these patients.

Cytotoxic chemotherapy (neoadjuvant and/or adjuvant) was received by all 15 patients who got any treatment prior to emergency presentation as a component of multimodal therapy. This was in addition to mastectomy performed in 11 of these patients (73.33%). Following surgery and chemotherapy, four patients (26.67%) went on to receive radiotherapy. Of the patients who had received care, 10 (66.67%) experienced interruptions during the period of treatment [Table 1].

Family influence comprised of advice from family members prompting patients to resort to traditional and religious therapy following the diagnosis of breast cancer.

During the study period, 23 patients (67.75%) presented with more than one symptom [Table 2]. These symptoms were a direct consequence of the disease or complications of treatment.
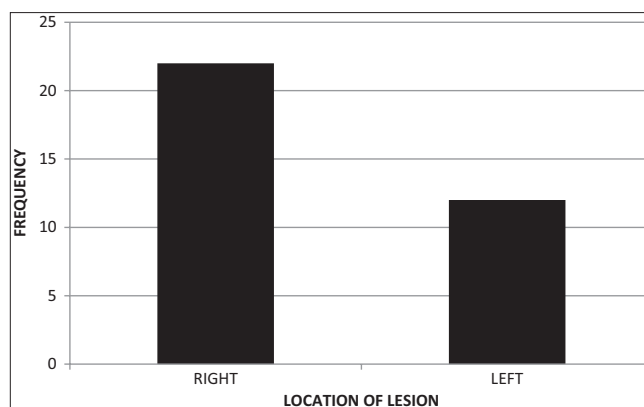

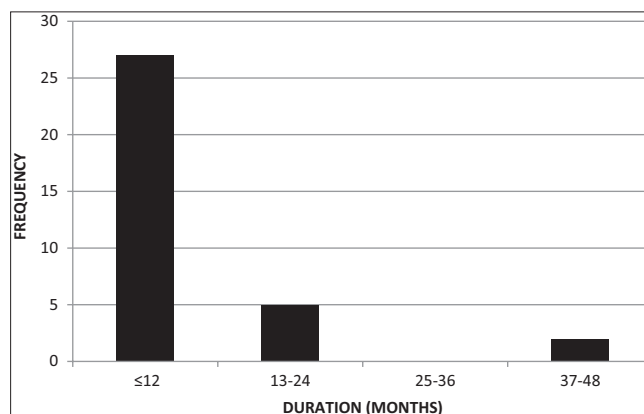**Figure 2: Site of breast cancer in emergency**

Figure 3: Duration before the first presentation

Table 1: Reasons for the interruption of treatment

Reason	Frequency (%)
Finance	4 (40%)
Fear of surgery	3 (30%)
Family influence	2 (20%)
Flap necrosis	1 (10%)
Total	10 (100%)

Table 2: Presenting complaints

Symptoms	Frequency (%)
Dyspnea	10 (29.41%)
Jaundice	10 (29.41%)
Back pain	8 (23.53%)
Paraplegia	8 (23.53%)
Seizures	6 (17.65%)
Weakness	4 (11.76%)
Vomiting	3 (8.82%)
Cough	3 (8.82%)
Fever	3 (8.82%)
Bone pain	1 (2.94%)
Fractures	1 (2.94%)
Retrosternal pain (postradiation)	1 (2.94%)
Bleeding from the breast ulcer	1 (2.94%)
Pus drainage via CTTD* port	1 (2.94%)
Excess crying	1 (2.94%)

*Closed thoracostomy tube drainage

Table 3: Clinical diagnosis

Diagnosis	Frequency (%)
Liver metastasis	10 (29.41%)
Spine metastasis	8 (23.53%)
Lung metastasis	8 (23.53%)
Brain metastasis	5 (14.71%)
Malignant pleural effusion	4 (11.76%)
Febrile neutropenia	3 (8.82%)
Anemia	3 (8.82%)
Bone metastasis	2 (5.88%)
Depression	1 (2.94%)
Empyema thoracis	1 (2.94%)
Radiation-induced esophagitis	1 (2.94%)

Table 4: Histologic type

Histology	Frequency (%)
Invasive ductal (NST*)	30 (88.24%)
Invasive lobular	1 (2.94%)
Mucinous	2 (5.88%)
Clear cell	1 (2.94%)
Total	34 (100.00%)

*No specific type

Metastatic disease was the diagnosis in 26 (76.47%) of patients, with 11 (42.31%) of these patients having metastases in more than one organ system [Table 3].

All but one of the patients was admitted for in-patient care. The sole exception declined admission.

The duration of the hospital admission ranged from 1 to 35 days with a mean hospital stay of 11.55 ± 8.98 days.

Of the mortalities recorded, eight patients (53.33%) had metastases in more than one organ, and the liver was the most commonly involved organ (53.33%) either in isolation or in combination with other organs.

Discussion

The age range and mean age were similar to findings by Ezeome[7] and Ebughe *et al.*[8] The fifth decade of life had the highest number of subjects during the study period. This is similar to findings by Ebughe *et al.*[8] and Ikeri *et al.*,[9] where the incidence of breast cancer was found to be highest in the fifth decade of life (especially between 40 and 44 years of age). This highlights the essence of commencement of screening patients for breast cancer in this age group in average-risk individuals.[10]

The entire population in this study was female. However, incidence studies with larger patient numbers had a small proportion of males.[7,8] Males are thus not immune to developing breast cancer and its complications.

Previous studies identified the left breast as the more common site of unilateral breast cancer. Theories include a greater amount of breast tissue in the left breast, genetic predisposition, and examination bias (most right-handed patients tend to examine the left breast with greater ease and identify more lesions).[11-13] This study had similar finding when the total population of patients presenting with breast cancer (elective and emergency) was considered. In contrast, the right breast was more commonly involved in patients presenting as an emergency. The reason for this difference could not be ascertained.

All the patients first detected a palpable lump in the affected breast, and there were no screen detected cases. A similar finding was reported by Olaogun *et al.*, where all 82 patients seen during the course of their study had a breast lump as the initial complaint.[14] These findings may be due to the lack of a routine screening programme for breast cancer in Nigeria.[15]

Invasive ductal carcinoma (no specific type) was the most common histologic type identified, making up 88.24% of histologic diagnoses [Table 4]. This is similar to findings by other researchers.[12,15]

Over 70% of patients in this study presented to the hospital within a year of development of symptoms; however only 55.9% of all patients had received any form of treatment. This delay in commencing the treatment is a common finding in studies on breast and other types of cancer in Nigeria. It may be patients' delay, system's delay, or a combination of both.[7,16] The delay in presentation and treatment may account for the preponderance of advanced disease. The tumour biology is however also important in the progression of disease.

Various combinations of cytotoxic chemotherapy were used in all patients who had received treatment. The use of neoadjuvant chemotherapy points to the presence of advanced disease at the time of commencement of treatment. Mastectomy was the surgery of choice where surgery was performed. This may be due to advanced disease that precluded the use of breast-conserving surgery. Breast-conserving surgery is also challenging in this environment because of the unavailability radiotherapy in most treatment facilities. Where radiotherapy is available, treatment is hampered by the cost, breakdown of equipment, epileptic power supply, and industrial actions.[17] Further buttressing this point are the findings in this study and that of Wichendu *et al.*,[18] where 11.76% and 4.9% of patients, respectively, were exposed to radiotherapy during the course of treatment. It is important that the challenges facing access to radiotherapy be addressed so as to improve the quality of care.

During the course of treatment, there were delays most commonly due to financial constraints. Aside the delays due to the complications of treatment such as flap necrosis, others are similar to the factors resulting in the pretreatment delay.[7]

Table 5: Outcome of admission

Outcome	Frequency (%)
Discharge	13 (39.39%)
Referral	3 (9.10%)
Mortality	15 (45.45%)
DAMA*	2 (6.06%)
Total	33 (100%)

*Discharged against medical advice

Most of the patients were diagnosed with metastatic disease, and more than 40% located in more than one organ system. The most common site of metastasis was to the liver followed by the lungs. This order of metastasis is similar to findings by Adisa *et al.*[3] with up to two-thirds of patients presenting with metastasis to more than one site. In contrast, Wichendu *et al.* and Adejumo *et al.* reported the chest as the most common site of metastasis from the breast cancer followed by the liver.[18,19]

Worthy of note was the presentation of a patient with features of depression requiring referral to the psychiatrist. She had no prior psychiatric symptoms, and all her concerns centred on the diagnosis of breast cancer. She also had a cranial computed tomogram, which ruled out intracranial metastasis.

In a study by Akin-Odanye *et al.* in Lagos, 33 patients with breast cancer were evaluated for features of depression using the Beck's Depression Inventory II (BDI-II). All subjects were found to have some degree of depression, and their findings underscored the need for psychological care as a part of treatment in patients with breast cancer.[20] Psychological care should therefore be an integral part of multidisciplinary care for all patients with breast cancer.

There was a mortality rate of 45.45% in this study [Table 5]. Two-thirds of these mortalities occurred in patients with more than one metastatic site. Metastasis to more than one organ is thus a marker of severity of advanced breast cancer.

Febrile neutropenia was the diagnosis in three (8.82%) patients and resulted in one mortality (6.67% of all mortalities). Salako *et al.* reported an incidence of febrile neutropenia of 5.3%.[21] It was also observed that the incidence of neutropenia decreased with successive courses of chemotherapy from 14.2% after the first course to 4.9% after the last course. Despite this finding, continuous vigilance is critical as it is a preventable cause of death from the treatment rather than the disease.

The limitation of this study was the small size of patients studied, and it requires a multicentre prospective study to test its generalisability.

Conclusion

The most common reason for emergency presentation in patients with breast cancer is metastasis with over 40% of patients having metastases in more than one organ system.

Early detection and prompt and effective treatment would lead to a better outcome.

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Conflicts of interest

There are no conflicts of interest.

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