

## Review Article

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## Treatment Pattern of Patients with Breast Cancer in a Tertiary Hospital: a Retrospective Medical Record Review

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### SUMMARY

Breast cancer patients must have a triple evaluation that includes clinical assessment, imaging, and tissue biopsy. When tumors lack estrogen, progesterone, and ERBB2 receptors, preoperative chemotherapy is the only choice and may even be utilized. If the tumor can be entirely removed with favorable cosmetic outcomes, a lumpectomy with radiation therapy or a mastectomy are the two alternatives for the surgical phase. The present study was a retrospective study that included a review of the medical records of female patients who visited the oncology department in a tertiary hospital in Egypt to describe breast cancer treatment patterns among these patients. The study included 150 patients, the age of more than 50% of them was more than 49 years (57.3) and about 33% of them had a family history of cancer. Only 14% of the patients had metastatic cancer and 50% of them had chronic diseases. More than 61% of the patients had breast surgeries. The most used surgery was breast-conserving surgery (60.9%). The most prescribed chemotherapeutic agents for breast cancer patients were cyclophosphamide (96.4%), doxorubicin (54.5%), docetaxel (54.5%), fluorouracil (10.9%), epirubicin (10.9%), and paclitaxel (10.9%). For patients with breast cancer, drug monitoring is crucial for confirming the potency and quality of the medications they are prescribed. The use of pharmaceuticals should be examined on a regular basis and should be in line with evidence-based practices.

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### Introduction

The most frequent cancer among women is breast cancer. It is the main reason for cancer-related deaths globally [1]. Over the past few decades, the incidence rates have risen for the majority of countries in transition<sup>1</sup>. A cure for metastatic breast cancer has not yet been developed, despite a notable rise in overall survival as a result of advancements in treatment approaches in recent years [2-5].

Breast cancer patients must have a triple evaluation that includes clinical assessment, imaging, and tissue biopsy. The most used method for detecting breast cancer is mammography [6]. The

majority of patients with no symptoms are identified through screening mammography. Breast cancer always manifests as thick lumps, calcifications, and architecture deformation. However, breast ultrasound can be utilized on young women for whom mammography is not sensitive [6].

Reducing the likelihood of local recurrence and the danger of metastatic spread are the two guiding concepts of treatment. Local cancer control is achieved through surgery, either with or without radiotherapy. Systemic therapy, which can take the form of hormone therapy, chemotherapy, targeted therapy, or any combination of these, is advised when there is a chance of metastatic relapse. Systemic therapy is utilized as a palliative treatment for locally advanced disease, with little to no surgical

intervention [7-9].

When tumors lack estrogen, progesterone, and ERBB2 receptors, preoperative chemotherapy is the only choice and may even be utilized. If the tumor can be entirely removed with favorable cosmetic outcomes, a lumpectomy with radiation therapy or a mastectomy are the two alternatives for the surgical phase. Both have comparable survival rates. When there is a suspicion of nodal illness, a sentinel lymph node biopsy is additionally carried out. Radiation, endocrine therapy, immunotherapy, and chemotherapy are all part of the postoperative phase [10]. The aim of the present study was to describe breast cancer treatment patterns among females who visited the oncology department in a tertiary hospital in Egypt.

**Methodology**

The present study was a retrospective study that included a review of the medical records of female patients who visited the oncology department in a tertiary hospital in Egypt to describe breast cancer treatment patterns among these patients.

The study included patients who had breast cancer who visited the hospital during the study period from January 2023 to December 2023. Patients who had other types of cancer were excluded from the study.

The collected data included the demographic data of the patients, the health status of the patients, the surgery, and the medications that were used to manage breast cancer. The data were represented as numbers and percentages.

**Results and Discussion**

The study included 150 patients, the age of more than 50% of them was more than 49 years (57.3) and about 33% of them had a family history of cancer. Only 8% of the patients said that they are smokers (Table 1).

**Table 1: Demographic Data of the Patients**

Variable	Category	Number	Percentage
Patient age	20-29	6	4.0
	30-39	30	20.0
	40-49	28	18.7
	50-59	46	30.7
	60-69	30	20.0
	More than 69	10	6.6
Family history of cancer	Yes	49	32.7
	No	101	67.3
Smoking	Yes	12	8.0
	No	138	92.0

About 55.3 % of the women were postmenopausal women. Only 14% of the patients had metastatic cancer and 50% of them had chronic diseases. About 52% of the patients had cancer in the left breast (Table 2).

**Table 2: The Health Status of the Patients**

Variable	Category	Number	Percentage
Menopausal Status	Perimenopause	5	3.3
	Pre-menopause	62	41.4
	Post-menopause	83	55.3
Metastatic cancer	Yes	21	14.0
	No	129	86.0
Comorbidities	Yes	75	50.0
	No	75	50.0
Breast Side	Left	78	52.0
	Right	68	45.3
	Bilateral	4	2.7

Table 3 showed the types of breast surgeries that were conducted. More than 61% of the patients had breast surgeries. The most used surgery was breast-conserving surgery (60.9%).

**Table 3: The types of Breast Surgeries that were Conducted**

Variable	Category	Number	Percentage
Breast Surgery	Yes	92	61.3
	No	58	38.7
Type of Breast Surgery (n=92)	Breast-conserving surgery	56	60.9
	Modified radical mastectomy	32	34.8
	Other	4	4.3

The most prescribed chemotherapeutic agents for breast cancer patients were cyclophosphamide (96.4%), doxorubicin (54.5%), docetaxel (54.5%), fluorouracil (10.9%), epirubicin (10.9%), and paclitaxel (10.9%).

**Table 4: The Use of Adjuvant Systemic Chemotherapy**

Variable	Category	Number	Percentage
Adjuvant systemic Chemotherapy	Yes	55	36.7
	No	95	63.3
The chemotherapeutic agents that were used (n=55)	Cyclophosphamide	53	96.4
	Doxorubicin	30	54.5
	Docetaxel	30	54.5
	Fluorouracil	6	10.9
	Epirubicin	6	10.9
	Paclitaxel	6	10.9
	Methotrexate	1	1.8
	Gemcitabine	1	1.8
	Carboplatin	1	1.8

**Discussion**

Treatment for breast cancer can be quite successful, especially if the disease is discovered early. In order to treat microscopic cancer that has spread from the breast tumor through the blood, breast cancer is frequently treated with a combination of surgical removal, radiation therapy, and medication (hormonal therapy, chemotherapy, and/or targeted biological therapy). Such treatment can stop the growth and spread of cancer in addition to saving lives [11].

More than 61% of the patients had breast surgeries. The most used surgery was breast-conserving surgery. According to the American Cancer Society, breast-conserving surgery (BCS) or mastectomy are the two main forms of treatment for early-stage breast cancer, which are frequently combined with radiation, chemotherapy, and/or endocrine therapy [12]. According to Maughan et al., radiation therapy and breast-conserving surgery are typically used to treat stage I and stage II breast cancers. Induction chemotherapy is frequently needed for Stage III breast cancer to shrink the tumor and enable breast-conserving surgery [13]. According to Czajka and Pfeifer, surgery has been the primary method of treatment for breast cancer for many years [14].

The most prescribed chemotherapeutic agents for breast cancer patients were cyclophosphamide, doxorubicin, docetaxel, fluorouracil, epirubicin, and paclitaxel. Patients with breast cancer take a variety of medications, such as hormonal agents, cytotoxic chemotherapy treatments, and supportive medications [15]. Nagini reported that tamoxifen and trastuzumab, which target the Human Epidermal Growth Factor Receptor 2 and the Estrogen Receptor, have been the most widely utilized therapies for breast cancer [16]. Fluorouracil, epirubicin, and cyclophosphamide (FEC) regimen was the most often recommended medicine for breast cancer patients, according to Balkhi et al. It was utilized by 81% of patients. They also reported that 43% and 23% of patients, respectively, got the FEC + docetaxel and FEC + docetaxel + trastuzumab combinations [17]. Iqbal and Miller reported that for the treatment of advanced breast cancer, aromatase inhibitors, taxanes, and herceptin have all shown promise as therapeutic agents. In individuals who are at high risk for breast cancer, tamoxifen now plays a new role in chemoprevention [18].

## Conclusion

The present study showed that several chemotherapeutic agents were commonly prescribed for breast cancer patients including cyclophosphamide, doxorubicin, docetaxel, fluorouracil, epirubicin, and paclitaxel. For patients with breast cancer, drug monitoring is crucial for confirming the potency and quality of the medications they are prescribed. The use of pharmaceuticals should be examined on a regular basis and should be in line with evidence-based practices.

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