



RESEARCH ARTICLE

CLINICAL AND HORMONAL PROFILE OF PATIENTS WITH BREAST CANCER ATTENDING
RADIOTHERAPY OPD: AN EXPERIENCE FROM EASTERN INDIA

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ABSTRACT

Introduction: Breast cancer is one of the most common cancer in India especially in women. Chemotherapy with or without radiotherapy or hormonal therapy following surgery is the most important treatment modality. This study explored clinical & hormonal profile of the patients along with their treatment outcomes.

Materials and Methods: Socio-demographic and clinical profile as well as treatment outcome of the study subjects were obtained from the records. They were analyzed and results are mentioned with the help of tables and diagrams.

Results: Most of the breast cancer patients were of the age 40-60 years. Most of the patients had locally advanced carcinoma. Most of the patients received chemotherapy with or without radiotherapy or hormonal therapy following surgery. External beam radiotherapy was the most commonly used. More than 90% of the patients received chemotherapy. Most of the patients completed their treatment.

Discussion: Most of our results were in concordance with other international findings. Thus most of breast cancer patients are middle-aged female with locally advanced carcinoma receiving chemotherapy with or without radiotherapy/hormonal therapy following surgery.

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INTRODUCTION

Breast cancer is the most common cancer in women worldwide. breast cancer represents 12% of all new cases diagnosed and 25% of all cases in women (Breast Cancer Statistics, 2007). Breast cancer is now the most common cancer in most cities in India, and 2nd most common in the rural areas. Risk factors for developing breast cancer are mostly hyperestrogenism, family history, hormonal therapy and obesity. Symptoms and signs of breast cancers include breast and or axillary mass, ulcerations, bleeding and features of metastasis (Halperin et al., 2015; DeVita et al., 2011). Combined modality treatment is usually the preferred mode with surgery being the mainstay of treatment. Hormonal therapy forms an integral part of treatment in case of hormone receptor positive cancers. Targeted therapy is also an important part of the treatment in selected patients. Although preoperative irradiation may reduce the tumor size and theoretically facilitate the surgery, postoperative irradiation is nearly always preferable because the extent of tumor has been determined and

tissue healing is less impaired (Halperin et al., 2015; DeVita et al., 2011). The current study was conducted with an aim to determine the clinical and hormonal profile and outcomes of patient suffering from breast cancer among the patients attending a tertiary care OPD of Kolkata.

MATERIALS AND METHODS

A record-based descriptive study was conducted at the Radiotherapy Department, Medical College, Kolkata during the months of April & May, 2017. Several patient records available in the department were reviewed by census method based on pre-decided inclusion and exclusion criteria. Records of patients attending Radiotherapy OPD, Medical College, Kolkata from 1st January, 2012; with histologically proven breast carcinoma were considered. However previously irradiated patients for other malignancy/other reason, patients with primary melanoma metastases from other area(s) and patients who attended the OPD after 31st December 2016 were excluded from this study. This resulted in 80 records to be considered. But 7 of these records had incomplete treatment details and was therefore excluded.

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Table 1. Clinical parameters related to Breast Carcinoma (n=73)

Variable	Categories	Frequency	Percentage
Presentation of carcinoma(n=65)	Local	26	40.0
	Locally Advanced	32	49.2
	Advanced	7	10.8
Status of Metastasis (n=59)	Present	5	8.5
	Absent	54	91.5
Comorbidities (multiple response)	Diabetes mellitus	1	1.4
	Hypertension	13	17.8
	IHD	3	4.1
	COPD	0	0.0
Surgery done or not	Prior Surgery	65	89.0
	Surgery during treatment	0	0.0
	No Surgery	8	11.0
Intent of Surgery (n=65)	Definitive	61	93.9
	Palliative	4	6.1
Hormonal Status	Known	60	82.2
	Unknown	13	17.8
Treatment outcome	Completed	53	72.5
	Did not Follow-up	16	21.9
	Death	2	2.8
	Clinically unfit for further therapy	2	2.8

Table 2. Chemotherapy& hormonal therapy parameters related to Breast Carcinoma

Variable	Categories	Frequency (Percentage)
Intent of Chemotherapy (n=67)	Curative	62 (92.54%)
	Palliative	5 (7.46%)
Completion of Chemotherapy (n=67)	Completed	59 (88.06%)
	Did not complete	8 (11.94%)
Received hormonal therapy (n=73)	Yes	23 (31.5%)
	No	50 (68.5%)
Which hormonal drug given (n=23)	Anastrozole	6 (26.09%)
	Letrozole	2 (8.69%)
	Tamoxifen	15 (65.22%)

Table 3. Distribution as per hormonal therapy among those with known hormonal status (n=60)

HER2 status	ER status	PR status	Hormonal therapy given	
			Yes	No
Positive	Positive	Positive	13 (21.67%)	0 (0.0%)
		Negative	0 (0.0%)	0 (0.0%)
	Negative	Positive	0(0.0%)	1 (1.67%)
Negative	Positive	Negative	0 (0.0%)	13 (21.67%)
		Positive	10 (16.67%)	3 (5.0%)
	Negative	Negative	1 (1.67%)	1 (1.67%)
		Positive	1 (1.67%)	2 (3.33%)
		Negative	0 (0.0%)	15 (23.33%)

Table 4. Distribution as per chemotherapy among those with known hormonal status (n=60)

HER2 status	ER status	PR status	Chemotherapy therapy given	
			Yes	No
Positive	Positive	Positive	13 (21.67%)	0 (0.0%)
		Negative	0 (0.0%)	0 (0.0%)
	Negative	Positive	1(1.670%)	0 (1.67%)
Negative	Positive	Negative	13 (21.67%)	0 (21.67%)
		Positive	11 (18.33%)	2 (2.330%)
	Negative	Negative	2 (3.33%)	0 (1.67%)
		Positive	3 (5 %)	0 (3.33%)
		Negative	14 (23.33%)	1 (1.67%)

Data was collected and compiled from the remaining 73 records maintaining the confidentiality regarding patient identity. Data was collected regarding different socio-demographic variables, variables related to general clinical profile, radiotherapy and chemotherapy related variables decided beforehand. The collected data was compiled into EpiInfo 7 software and subsequently analysis of data was done using SPSS software, version 16.

RESULTS

From the reviewed 73 records, it was observed that mean age of the patients was 46.62 years (SD 10.37 years), with minimum age being 27 years and Maximum 83 years. Median age was found to be 44 years. All of whom were married with 95.9% females, majority (87.7%) were Hindu by religion. Majority (49.2%) presented with locally advanced carcinoma, while 10.8% had advanced carcinoma with rest having local

presentation. Nearly 91.5% did not have any metastasis while presenting to the OPD. Hypertension was the major comorbidity identified (17.8%) followed by IHD (4.1%). Eighty-nine percent of the patients had undergone surgery prior to attending the OPD & rest did not have any surgical history related to their illness. Among those who had surgery earlier 93.9% had definitive intent while remaining 6.1% were palliative. Among the 73 records available, majority (72.5%) completed their treatment as per advice, but 21.9% did not follow-up till completion of therapy, and death occurred among 2.8%. Hormonal status was known for 82.2% of the patients. (Table 1). Out of the patients 91.78% received chemo-therapy while 73.97% received radio-therapy. While 71.23% of the patients received both, 5.48% received neither. (Fig. 1) 98.15% of the patients, who received radio-therapy, received it with curative intent. All of them who received radio-therapy had EBRT (Figure 2).

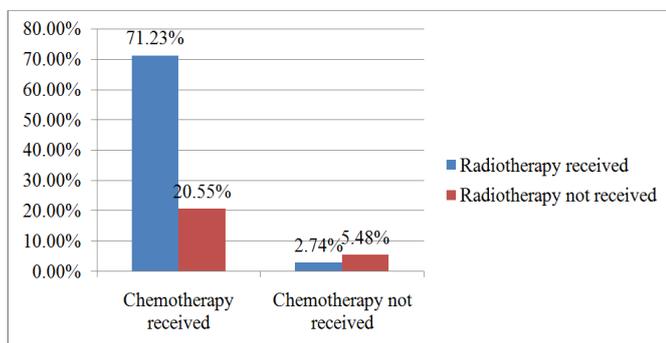


Figure 1. Clustered bar diagram showing distribution of patients as per status of radiation therapy and chemotherapy (n=73)

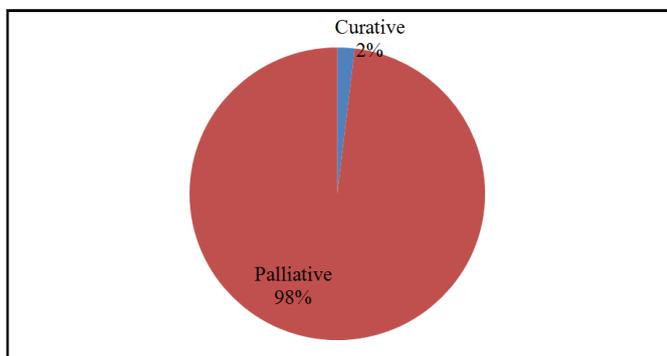


Figure 2. Intent of Radio-therapy (EBRT) among patients with Breast Cancer

Among those who received chemotherapy 92.54% received it with curative intent. Majority completed their course of chemotherapy (88.06%) (Table 2). Those who received hormonal therapy, were 31.5% amongst all the available records. Anastrozole (26.09%), Letrozole (8.69%) & Tamoxifen (65.22%) were used for hormonal therapy. (Table 2) Hormonal status was considered in the backdrop of whether or not hormonal therapy was given. It was observed that 18.32% of the patients received hormonal therapy who were also positive for all of HER2, ER & PR status. Considering HER2 negative status, 16.67% patients overall were positive for ER & PR and received hormonal therapy. While 23.33% patients did not receive hormonal therapy, being negative for HER2, ER & PR; it was also observed that 21.67% patients were not given any hormonal therapy, being ER & PR negative but HER2 positive (Table 3). Hormonal status was also considered in the backdrop of whether or not chemo-therapy was given.

It was observed that 21.67% of the patients received chemo-therapy who were positive for all of HER2, ER & PR status. While 1.67% patients did not receive chemo-therapy, being negative for HER2, ER & PR, but 23.33% of the patients received chemo-therapy. It was observed that 21.67% patients were given chemo- therapy, being ER & PR negative but HER2 positive (Table 4).

DISCUSSION

Going with the trend in India, the median age is 44 years (~30%) (McCormack *et al.*, 2013; Statistics of Breast Cancer in India, 2017). In our study most presentation was from locally advanced (49.2%) and advanced (10.8%) similar to the prevailing trend (McCormack *et al.*, 2013). Most of the patients of carcinoma breast receive chemotherapy also reflected in our study (91.78%). While a majority received radiotherapy (73.97%). In our study ER positive breast carcinoma was around 38.4% while in the studies it is usually about 65%. This may be due to the fact that some statuses were not known. Among the patients with known status it increases to 46.67%. Similarly with PR status 41.09% is positive in whole sample while 50% in known ones. This is consistent with the known trials (53%). Her2 positive in 36.9% of whole sample and 45% of known ones. The percentage of triple negative in known cases is 25% similar to trials (21%) (Halperin *et al.*, 2015; DeVita *et al.*, 2011; McCormack *et al.*, 2013). Patient with positive hormonal status received hormonal therapy. All the patients receiving radiotherapy received EBRT according to the present recommendations. The present study was a record-based study. Depending on the results, a longitudinal study can be undertaken in future primarily focussing on the treatment outcomes and survival pattern. Also data was collected in a census method. So we did not seek any statistical association among different variables. Since it is difficult to pursue a similar study in a community-based manner, we decided to stick to a OPD-based (record-based method). However a longitudinal study in a similar setting can be undertaken.

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