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RECURRENCE OF BREAST CANCER IN PATIENTS UNDERGOING MODIFIED RADICAL MASTECTOMY

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ASTRACT

Objectives: To study the recurrence of breast cancer in patients undergoing modified radical mastectomy at tertiary care hospital. **Material and methods:** In this cross-sectional study total 150 women with breast cancer were selected from Department of Surgery, Sheikh Zayed Hospital, Rahim Yar Khan, from March 2019 to September 2019 over the period of 6 months. Age of the selected patient was between 20-60 years. All the selected were undergone modified radical mastectomy. Recurrence of breast cancer was assessed in selected. **Results:** Total 150 females with breast cancer were selected and MRM was performed in all patients. After 6 months of MRM, recurrence of breast cancer was noted in 43 (29%) patients. Out of 83 (55.33%) primiparas, recurrence of breast cancer was noted in 24 (28.92%) patients. While out 67 (44.67%) multiparas, recurrence of breast cancer was found in 19 (28.26%) patients. Difference of recurrence of breast cancer between primiparas and multiparas was statistically insignificant with p value 1.000. **Conclusion:** In present study patients of breast cancer were managed with modified radical mastectomy. After 6 months follow-up, higher number of patients reported with recurrence of breast cancer. Association of recurrence of breast cancer with age group was found to be significant. Most of the patients were primiparas but no association of recurrence with parity was detected.

KEYWORDS: Breast cancer, mastectomy.

INTRODUCTION

Cancer is the second leading cause of death throughout the world and its burden has doubled within the last 30 years.[1] Breast cancer is the most common type of cancer accounting for 23% of all cancers, which ranks third in the most lethal malignancies among women.[2] Generally, 16% of cancer deaths are due to breast cancer; therefore, breast cancer is known as a major health problem in the world.[3]

A modified radical mastectomy is a procedure in which the entire breast is removed, including the skin, areola, nipple, and most axillary lymph nodes, but the pectoralis major muscle is spared.[4] As the treatment of breast cancer evolved, breast conservation has become more widely used. However, mastectomy still remains a viable option for women with breast cancer.[6]

In the previous reports, the 10-year local recurrence rates after modified radical mastectomy (MRM) are around 12% to 27%. The locoregional recurrence (LRR) rate can reach as high as 30% in some studies.[7] Several studies have reported that young age, large tumors, multiple tumors, positive tumor margins, axillary lymph node involvement, extranodal extension, extensive ductal carcinomain-situ and high nuclear grade are risk factors for LRR.[8]

Purpose of present was to assess the recurrence of breast carcinoma after modified radical mastectomy in patients of breast cancer. Results of this study may help us in early detection of recurrence of breast cancer, so that early management/measure can be adopted.

MATERIAL AND METHODS

In this cross-sectional study total 150 women with breast cancer were selected from Department of Surgery, Sheikh Zayed Hospital, Rahim Yar Khan, from March 2019 to September 2019 over the period of 6 months. Age of the selected patients was between 20-60 years. Patients were assessed by history taking, physical examination and investigations namely ultrasound of the abdomen, chest X-ray and skeletal survey to exclude distant metastasis before patients being incorporated in the study. Women with history of mastectomy or with any other systemic disease were excluded from the study. Study was approved by ethical committee of the institution. Written informed consent was taken from every patient. All the selected were undergone modified radical mastectomy. At 6 months follow up all the

selected patients were again examining for recurrence of breast cancer. In clinically suspected cases of recurrent breast cancer, tissue of the tumor was sent to laboratory for histopathological analysis to confirm the recurrence of breast cancer. Findings were noted on predesigned performa. Collected data was analyzed by using SPSS version 20. Mean and SD was calculated for age. Recurrence of breast cancer, marital status, obesity, parity was presented as frequency and percentage.

Stratification was done for age, obesity, parity, marital status to see the effect of these on outcome variable i.e. recurrence of breast cancer. Post stratification chi-square test was applied. Value ≤0.05 was considered as significance.

RESULTS

Total 150 females with breast cancer were selected and MRM was performed in all patients. After 6 months of MRM, recurrence of breast cancer was noted in 43 (29%) patients. (Fig. 1) Mean age of the patients was 38.53 ± 6.33 years. Patients were divided into two age groups i.e. age group 20-40 years which was consisted on 57 (38%) patients. Second age group was 41-60 years which was consisted on 93 (62%) patients. In age group 20-40 years recurrence of breast cancer was noted in 28 (49.12%) patients while in age group 41-60 years, recurrence of breast cancer was noted in 15 (16.13%) patients. After applying chi-square test, statistically significant association of recurrence of breast cancer with age group was noted with p value 0.0001. (Table 1) Out of 83 (55.33%) primiparas, recurrence of breast cancer was noted in 24 (28.92%) patients. While out 67 (44.67%) multiparas, recurrence of breast cancer was found in 19 (28.26%) patients. Difference of recurrence of breast cancer between primiparas and multiparas was statistically insignificant with p value 1.000. (Table 2) Total 87 (58%) patients were married and 63 (42%) patients were un-married. Recurrence was found in 27 (31.03%) married patients and 16 (25.40%) un-married patients. Difference of recurrence between married and un-married patients was statistically insignificant with p value 0.4711. (Table 3) Below metric or metric pass patients were labelled as illiterate and above metric patients were labelled as literate. Total 108 (72%) patients were illiterate while 42 (28%) patients were literate. Total 34 (31.48%) illiterate patients and 9 (21.43%) literate were found with recurrence of breast cancer but the difference was not statistically significant with p value 0.315. (Table 4).

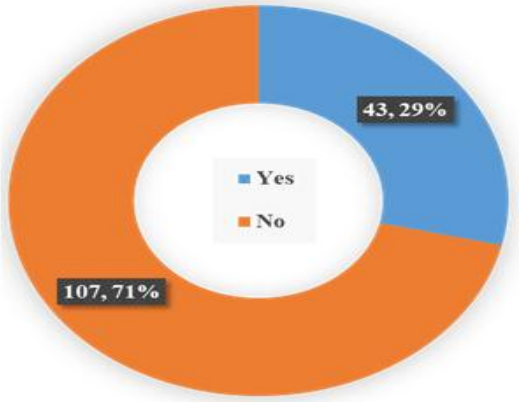

Fig. 1: Recurrence of breast cancer.

Table 1: Association of recurrence with age groups.

Age Group	Recurrence of breast cancer		Total (%)	P value
	Yes (%)	No (%)		
20-40	28 (49.12)	29 (50.88)	57 (38)	0.0001
41-60	15 (16.13)	78 (83.87)	93 (62)	
Total	43 (29%)	107 (71%)	150	

Table 2: Association of recurrence with parity.

Parity	Recurrence of breast cancer		Total (%)	P value
	Yes (%)	No (%)		
Primiparas	24 (28.92)	59 (71.08)	83 (55.33)	1.0000
Multipara	19 (28.36)	48 (71.64)	67 (44.67)	
Total	43 (29%)	107 (71%)	150	

Table 3: Stratification for marital status.

Marital Status	Recurrence of breast cancer		Total (%)	P value
	Yes (%)	No (%)		
Married	27 (31.03)	60 (68.97)	87 (58)	0.4711
Un-married	16 (25.40)	47 (74.60)	63 (42)	
Total	43 (29%)	107 (71%)	150	

Table 4: Association of recurrence with education status.

Education status	Recurrence of breast cancer		Total (%)	P value
	Yes (%)	No (%)		
Illiterate	34 (31.48)	74 (68.52)	108 (72)	0.3145
Literate	9 (21.43)	33 (78.57)	42 (28)	
Total	43 (29%)	107 (71%)	150	

DISCUSSION

For almost a century, radical mastectomy, introduced by Halsted, was the method of choice for the treatment of breast cancer, despite the stage of the disease and the age of the woman. During that time period, the idea of breast conservation was highly unpopular and widely refuted.[9] This sentiment was clearly expressed in the words of the famous surgeon Urban, who, during one of his lectures in front of the Society of Surgical Oncology in 1976, expressed regret that "the rational way of treating breast cancer is substituted by the woman's vanity.[10] Currently, these beliefs are only of historical value. In the early 1990s, breast conservation surgery followed by radiotherapy was accepted as the standard treatment for early diagnosed tumors of the breast.[11] Dramatic changes occurred as a result of the immense amount of research conducted in oncological centers throughout Europe and North America. Numerous clinical studies comparing breast conservation approaches and radical mastectomy proved the same efficacy as far as overall survival was concerned.[12] The reported locoregional recurrence rates after mastectomy range from 5% to > 25%. These divergent rates may result from many factors: different lengths of follow-up, patient selection criteria, the quality of the primary locoregional treatment, and the definition of recurrence (scoring of recurrences at any time during follow-up or only those recurrences occurring as a first event).[13]

The purpose of present study was to assess the recurrence rate of breast cancer after modified radical mastectomy. Total 150 females with breast cancer were selected and MRM was performed in all patients. After 6 months of MRM, recurrence of breast cancer was noted in 43 (29%) patients. In one study by Kheradmand et al,[14] total 114 patients undergoing mastectomy and adjuvant radiotherapy in Cancer Institute of Tehran University of Medical Sciences were retrospectively reviewed between 1996 and 2008. All cases were followed up after initial treatment of patients with breast cancer via regular visit for discovering the LRR and recurrence was found in 20.2% patients which is comparable with our findings.

In another study by Overgaard et al,[15] total 276 patients were managed with modified radical mastectomy and recurrence was noted in 27% patients. In study by Liubota et al,[16] among 218 patients with a breast cancer, 99 patients had breast conserving surgery (BCS) and 119 underwent radical mastectomy (RME). Recurrence of breast cancer was found in 13% patients managed with BCS and in 9% patients managed with RME.

In present study, mean age of the patients was 38.53 ± 6.33 years. Patients were divided into two age groups i.e. age group 20-40 years which was consisted on 57 (38%) patients. Second age group was 41-60 years which was consisted on 93 (62%) patients. In age group 20-40 years recurrence of breast cancer was noted in 28 (49.12%) patients while in age group 41-60 years, recurrence of breast cancer was noted in 15 (16.13%) patients. After applying chi-square test, statistically significant association of recurrence of breast cancer with age group was noted with p value 0.0001. In study of Mutlak et al,[17] total 100 female patients of breast cancer were managed with MRM and recurrence rate was found to be 13%. It was more common among both young (20-29) years & the (40 – 49) year age groups which was 16.7%. In study of Akbari et al,[3] 115 patients with an average age of 48.23 years in BCT and 48.76 years in the MRM group were included. Twenty-one patients (18.26%) showed local recurrence.

In our study, out of 83 (55.33%) primiparas, recurrence of breast cancer was noted in 24 (28.92%) patients. While out 67 (44.67%) multiparas, recurrence of breast cancer was found in 19 (28.26%) patients. Difference of recurrence of breast cancer between primiparas and multiparas was statistically insignificant with p value 1.000. Total 87 (58%) patients were married and 63 (42%) patients were un-married. Recurrence was found in 27 (31.03%) married patients and 16 (25.40%) unmarried patients. Difference of recurrence between married and un-married patients was statistically insignificant with p value 0.4711. Mutlak et al,[17] found recurrence of breast cancer in 16.3% multiparas, 11.3% married women and 14.8% unmarried women.

Alexandrova et al.[18] reported frequency of recurrence of breast cancer in 7.8% patients who underwent MRM.

CONCLUSION

In present study patients of breast cancer were managed with modified radical mastectomy. After 6 months follwoup, higher number of patients reported with recurrence of breast cancer. Association of recurrence of breast cancer with age group was found to be significant. Most of the patients were primiparas but no association of recurrence with parity was detected.

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