

Recurrence rate of breast cancer after modified radical mastectomy at tertiary care hospital

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ABSTRACT

Objectives: To assess the recurrence rate of breast cancer after modified radical mastectomy in cases of breast cancer at tertiary care hospital.

Material and methods: Between the March 2020 to September 2020 (over the period of 6 months) total 110 women with breast cancer having age range 30-60 years were recruited from Department of Surgery, Bahawal Victoria Hospital Bahawalpur for this cross sectional study. Modified radical mastectomy was performed in all selected patients. At 6 months follow up, all the selected patients was again examined for recurrence of breast cancer.

Results: Total 110 patients with breast cancer were recruited. Mean age of the patients was 43.56 ± 8.9 years. Recurrence of breast cancer was found in 25 (23%) cases. Total 11 (10%) patients belonged to age group <30 years followed by 13 (11.82%) patients to age group 30-40 years, 41 (37.27%) to age group 41-50 years and 45 (40.91%) patients to age group 51-60 years. Recurrence of breast cancer was noted in 2 (18.18%) patients, 3 (23.08%) patients, 10 (24.39%) patients and 10 (22.22%) patients respectively. Statistically insignificant association of recurrence with age group was noted with p value 0.9776.

Conclusion: Results of this study showed a higher rate of recurrence of breast carcinoma after modified radical mastectomy. Most of the patients belonged to 5th decade of life. Parity, educational status and marital status showed no association with recurrence of breast cancer.

INTRODUCTION

Globally, among all deaths, cancer is the 2nd most common cause of death.¹ In cases of cancer, female breast cancer is most common cancer, in year 2018 total 25.4% new cases of breast cancer was diagnosed.² Worldwide, among all cancer cases, breast cancer accounts for 10.4%.³ In modified radical mastectomy (MRM), whole breast is removed including skin, nipple, areola, axillary lymph nodes and pectoralis muscle is spared.⁴ Primary management method of breast cancer was MRM in history.⁵ After the advancement in the management of breast cancer, breast preservation has become more widely used. However, in cases of female breast cancer, mastectomies are still preferable option as compared other available options.⁶ In published literature, 10 years rate of local recurrence rate after MRM was 12-27%. Some studies reported locoregional recurrence rate as 30%.⁷ Risk factors of locoregional recurrence are extensive ductal carcinoma-in-situ, positive tumor margins, large or multiple tumors, extranodal extension, involvement of axillary lymph node.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.

Operational Definition

Breast Cancer: Patients having breast lump diagnosed as cancer on histopathology after tissue biopsy (histopathology findings are pleomorphism, increased nuclear cytoplasmic ratio, anaplasia and metaplasia).

Recurrent Breast Carcinoma: Recurrent breast carcinoma defined as when there is locoregional lump at site of mastectomy confirmed on histopathology or when there is distant metastasis confirmed by ultrasound abdomen (liver mets, ascites and abdominal

lymphadenopathy), chest x-ray (pleural effusion and cannonball lesions in lungs) and bone scan (increased radioisotope tracer uptake suggested of osteolytic activity).

MATERIAL AND METHODS

Between the March 2020 to September 2020 (over the period of 6 months) total 110 women with breast cancer with age range 30-60 years were recruited from Department of Surgery, Bahawal Victoria Hospital Bahawalpur for this cross sectional study. Women with history of mastectomy, diabetes mellitus were excluded from the study. Prior approval was taken from institutional review committee and written informed consent was taken from every patient. Parity, marital status and education status was entered on pre-designed proforma.

Modified radical mastectomy was performed in all selected patients. At 6 months follow up, all the selected patients were again examine for 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. Data was entered in computer software SPSS version 16. The quantitative variables of the study i.e. age was presented as Mean \pm SD. The qualitative variables like parity (primary Para/multipara), marital status (married/un-married) and recurrence (Yes/No) was presented as frequency and percentages. Stratification was done for age, parity (primary Para/multipara), marital status (married/un-married) to see the effect of these on outcome variable i.e. recurrence. Post stratification chi-square test was applied. P value ≤ 0.05 was considered as significance.

RESULTS

Total 110 patients with breast cancer were recruited. Mean age of the patients was 43.56 ± 8.9 years. Recurrence of

breast cancer was found in 25 (23%) cases. (Fig. 1) Total 4 age groups were created i.e. age group <30 years, age group 30-40 years, age group 41-50 years and age group 51-60 years. Total 11 (10%) patients belonged to age group <30 years followed by 13 (11.82%) patients to age group 30-40 years, 41 (37.27%) to age group 41-50 years and 45 (40.91%) patients to age group 51-60 years. recurrence of breast cancer was noted in 2 (18.18%) patients, 3 (23.08%) patients, 10 (24.39%) patients and 10 (22.22%) patients respectively. Statistically insignificant association of recurrence with age group was noted with p value 0.9776. (Table 1) Total 71 (64.55%) patients were under metric and 39 (35.45%) patients were metric or above. Recurrence was observed in 18 (25.35%) patients and 7 (17.95%) patients respectively in under metric and Metric or above patients. Statistically insignificant association of recurrence with education status was noted. (Table 2) Out of 57 (51.82%) primary paras, recurrence was noted in 11 (19.30%) patients and out of 53 (48.18%) multiparas, recurrence was noted in 14 (26.42%) patients. Insignificant association of recurrence with parity was noted with p value 0.4952. (Table 3) Total 59 (53.64) patients were married and 51 (46.36) patients were un-married.

Recurrence was noted in 10 (16.95) married patients and in 15 (29.41) unmarried patients. But the association was insignificant with p value 0.170. (Table 4)

Fig. 1: Frequency of recurrence

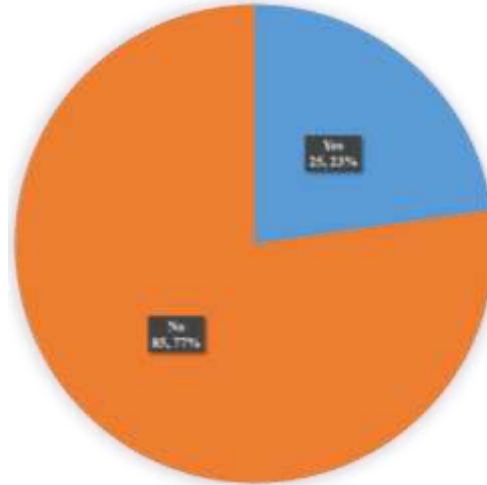


Table 1: Association of recurrence with age groups

Age Group	Recurrence		Total	P value
	Yes	No		
<30	2 (18.18)	9 (81.82)	11 (10)	0.9776
30-40	3 (23.08)	10 (76.92)	13 (11.82)	
41-50	10 (24.39)	31 (75.61)	41 (37.27)	
51-60	10 (22.22)	35 (77.78)	45 (40.91)	
Total	25 (22.73)	85 (77.27)	110	

Table 2: Association of recurrence with education status

Education status	Recurrence		Total	P value
	Yes	No		
Under metric	18 (25.35)	53 (74.65)	71 (64.55)	0.4780
Metric or above	7 (17.95)	32 (82.05)	39 (35.45)	
Total	25 (22.73)	85 (77.27)	110	

Table 3: Association of recurrence with parity

parity	Recurrence		Total	P value
	Yes	No		
Primarypara	11 (19.30)	46 (80.70)	57 (51.82)	0.4952
Multipara	14 (26.42)	39 (73.58)	53 (48.18)	
Total	25 (22.73)	85 (77.27)	110	

Table 4: Stratification for marital status

Marital Status	Recurrence		Total	P value
	Yes	No		
Married	10 (16.95)	49 (83.05)	59 (53.64)	0.1707
Un-married	15 (29.41)	36 (70.59)	51 (46.36)	
Total	25 (22.73)	85 (77.27)	110	

DISCUSSION

The purpose of present study was to assess the recurrence rate of breast cancer after modified radical mastectomy. Total 110 women with breast cancer were recruited from Department of Surgery. All patients underwent MRM. After 6 months follow up, total 23% patients found with recurrence of breast cancer. In one study by Kheradmand et al,⁹ MRM was performed in 114 patients and 20.2% patients found with recurrence of breast cancer.

In study of Overgaard et al,¹⁰ total 276 patients were managed with modified radical mastectomy and recurrence was noted in 27% patients. In study by Liubota et al,¹¹ among 218 patients managed with MRM, 13% patients found with recurrence of breast cancer.

Total 4 age groups were created i.e. age group <30 years, age group 30-40 years, age group 41-50 years and age group 51-60 years. Total 11 (10%) patients belonged to age group <30 years followed by 13 (11.82%) patients to age group 30-40 years, 41 (37.27%) to age group 41-50

years and 45 (40.91%) patients to age group 51-60 years. recurrence of breast cancer was noted in 2 (18.18%) patients, 3 (23.08%) patients, 10 (24.39%) patients and 10 (22.22%) patients respectively. Statistically insignificant association of recurrence with age group was noted with p value 0.9776.

In study of Mutlak et al,¹² total 100 female patients of breast cancer were managed with MRM and 13% patients found with recurrence of breast cancer. It was very common in 3rd and 4th decade of life. In study of Akbari et al.¹³ 115 patients managed with MRM, 18.26% patients showed local recurrence.

Total 71 (64.55%) patients were under metric and 39 (35.45%) patients were metric or above. Recurrence was observed in 18 (25.35%) patients and 7 (17.95%) patients respectively in under metric and Metric or above patients. Statistically insignificant association of recurrence with education status was noted. (Table 2) Out of 57 (51.82%) primary paras, recurrence was noted in 11 (19.30%) patients and our of 53 (48.18%) multiparas, recurrence was noted in 14 (26.42%). Insignificant association of recurrence with parity was noted with p value 0.4952. (Table 3) Total 59 (53.64) patients were married and 51 (46.36) patients were un-married. Recurrence was noted in 10 (16.95) married patients and in 15 (29.41) unmarried patients. But the association was insignificant with p value 0.170.

Mutlak et al¹² found recurrence of breast cancer in 16.3% multiparas, 11.3% married women and 14.8% un-married women. Alexandrova et al¹⁴ reported frequency of recurrence of breast cancer in 7.8% patients who underwent MRM. In study of Andry et al¹⁵ recurrence rate of breast cancer was 14% and Jonas lundkvisit et al¹⁶ reported recurrence rate as 9.8% after MRM. Similarly in another study by Sattar et al recurrence rate was 18%.¹⁷

CONCLUSION

Results of this study showed a higher rate of recurrence of breast carcinoma after modified radical mastectomy. Most of the patients belonged to 5th decade of life. Parity, educational status and marital status showed no association with recurrence of breast cancer.

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