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Research Article

Assessment of recurrence of breast cancer after modified radical mastectomy

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ABSTRACT

Objectives: To assess the recurrence rate of breast cancer after modified radical mastectomy in cases of breast cancer.
Material and methods: This cross sectional study was conducted at Department of Surgery, Bahawal Victoria Hospital Bahawalpur from January 2017 to December 2017. Total 110 women with breast cancer having age range from 30-60 years were selected.Modified radical mastectomy was performed in all selected patients. At 6 months follwoup all the selected patients was again examine 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.

INTRODUCTION

The incidence of breast cancer is increasing worldwide. It is the most common cancer related cause of death in middle-aged women all over the world. It is also the most common cancer among women in many areas of Pakistan.[1] Breast cancer appears to have a complex etiology, possibly with interplay of many causal factors including hormonal, genetic and environmental factors operating over a long period.[2]

The two basic principles of treatment of early breast cancer are to reduce the chance of local recurrence and the risk of metastatic spread.[3]The standard surgical treatment of breast cancer is mastectomy and axillary dissection or clearance, and although there is somewhat higher rate of local recurrence following conservative surgery, even if combined with radiotherapy, but the long term outlook in terms of survival remains unchanged.[4] Radiotherapy to the chest wall after mastectomy is indicated in selected patients in whom the risks of local recurrence are high.[5,6] Recurrence of breast cancer within the operative field following radical mastectomy results from incomplete removal of the tumor or involved node, from cutting across infilteredlymphatics, from spillage of cancers cells into the wound or perhaps blood born metastasis that have implanted within the surgical field.[7] Risk factors of recurrence are lymph node involvement, larger tumor size, positive or close tumor margins, and lack of radiation treatment following lumpectomy, younger age and inflammatory process.[8]

The aim of this study is to determine the frequency of 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

This cross sectional study was conducted at Department of Surgery, Bahawal Victoria Hospital Bahawalpur from January 2017 to December 2017. Total 110 women with breast cancer having age range from 30-60 years were selected. 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 follwoup 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. agewas presented as Mean±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) Selected patients were divided into 4 age groups 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 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) patients of unmarried patients. But the association was insignificant with p value 0.170. (Table 4)

Fig. 1 Frequency of recurrence

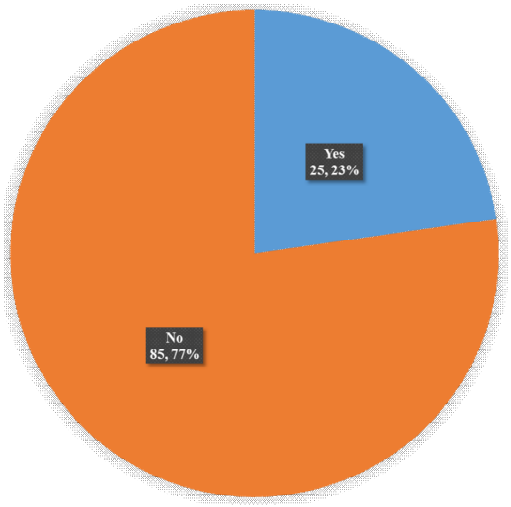

Table 1 Association of recurrence with age groups

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 two basic principles of treatment of early breast cancer are to reduce the chance of local recurrence and the risk of metastatic spread (1).The standard surgical treatment is mastectomy and axillary dissection or clearance, and although there is somewhat higher rate of local recurrence following conservative surgery, even if combined with radiotherapy, but the long term outlook in terms of survival remains unchanged. Radiotherapy to the chest wall after mastectomy is indicated in selected patientsin whom the risks of local recurrence are high. Recurrenceofcancerwithintheoperativefieldfollowi

ngradical mastectomy results from incomplete removal of the tumor or involved node, from cutting across infilteredlymphatics, from spillage of cancers cells into the wound or perhaps blood born metastasis that have implanted within the surgical field (2). Risk factors of recurrence are lymph node involvement, larger tumor size, positive or close tumor margins, and lack of radiation treatment following lumpectomy, younger age and inflammatory process.[9-10]

Total 110 patients of breast cancer sere selected for this study and MRM was performed. At 6 months followup, recurrence was assessed. Recurrence of breast cancer was noted in 23% patients. In one study by Kheradmand et al[11] of breast cancer was reported as 20.2% patients. Findings of this study are comparable with our study. In one study by Mutlak NS et al,[4] recurrence rate of breast cancer after Modified Radical Mastectomy was 13%. Andryet al[12] reported recurrence rate of breast cancer as 14% after Modified Radical Mastectomy. Findings of these two studies are not in agreement with our findings. Lundkvistet al[13] reported recurrence rate as 9.8% in cases of breasts cancer after Modified Radical Mastectomy.

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.

Most of the patients of breast cancer belonged to 5th decade of life. Some other studies reported higher rate of breast cancer above the age of 40 years.[14-15]

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. 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) patients of unmarried patients. But the association was insignificant with p value 0.170.

Higher rate of breast cancer was noted in married patients as compared to unmarried patients (74% vs 26%) but no association of recurrence of breast cancer with marital status was noted. Mutlak NS et al,[4]also reported insignificant association of recurrence of breast cancer with age, parity, marital status, history of contraceptive use and family history of breast cancer.

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.

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