ORIGINAL ARTICLE

Frequency of Recurrent Breast Carcinoma after Modified Radical Mastectomy

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ABSTRACT

Aim: To determine the frequency of recurrence of breast carcinoma after modified radical mastectomy in patients of breast cancer.

Methods: This cross-sectional study was conducted at department of Surgery, Sahiwal Medical College, Sahiwal from September 2015 to August 2016. Total 100 female patients of breast cancer having age from 30 to 60 years were selected and modified radical mastectomy was performed. After 6 months, recurrence of breast carcinoma was assessed.

Results: Age range of the patients was 30-60 years and mean age of the patients was 43.56 ± 8.9 years. Recurrence of breast carcinoma was noted in 18 (18%) patients.Recurrence of breast carcinoma was observed in 7 (12.07%) patients of age group 30-45 years and 11 (26.19%) patients of age group 46-60 years. Insignificant (P = 0.112) association of age of the patients with Recurrence of breast was noted. Out of 56 (56%) primary paras, recurrence of breast carcinoma was noticed in 15 (26.79%) patients and out of 44 (44%) multiparas, recurrence of breast carcinoma was noticed in 3 (6.82%) patients. Primary paras were found with significantly higher rate of recurrence of breast carcinoma as compared to multiparas with p value 0.017.

Conclusion: Results of this study showed a higher rate of recurrence of breast carcinoma after modified radical mastectomy. Most of the patients with breast cancer belonged to younger age group and no association of recurrence of breast cancer with age, marital status and use of contraceptive drugs was noted. Findings of this study showed significant association of recurrence of breast cancer with parity and family history of breast cancer.

Keywords: Modified radical mastectomy, breast cancer, recurrence, risk factors

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].

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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 infiltered lymphatics, from spillage of cancer 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.

MATERIAL AND METHODS

This cross-sectional study was conducted at department of Surgery, Sahiwal Medical College, Sahiwal from September 2015 to August 2016. Only female patients between 30-60 years of age with

breast cancer as per operational definition were included in the study. Patients with history of mastectomy and with history of diabetes mellitus were excluded from the study.

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).

Data collection procedure: Written informed consent was taken from all patents and an approval was taken from institutional review board before start of study. Parity (primarypara/multipara, marital status (married/un-married), contraception use (Yes/No), family history of breast cancer (Yes/No)noted on the pre-designed proforma.Modified radical mastectomywas 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 forhistopathological analysis to confirm the recurrence of breast cancer. All the data was recorded along with demographic profile of the patients on pre-designed Performa.

Data analysis procedure: Collected data was entered on SPSS version 16. The quantitative variables of the study i.e., age was represented as Mean±SD. The qualitative variables like parity (primary Para/multipara), marital status (married/un-married), contraception use (Yes/No), family history of breast cancer (Yes/No) and recurrence (Yes/No)were presented as frequencies and percentages. Stratification was done for age, parity (primary Para/multipara), marital status (married/un-married), contraception use (Yes/No), family history (Yes/No) 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

In present study, total 100 patients with breast cancer were selected and assessed for recurrence of breast carcinoma after modified radical mastectomy. Age range of the patients was 30-60 years and mean age of the patients was 43.56±8.9 years. In present study recurrence of breast carcinoma was noted in 18(18%) patients (Fig. 1).

Selected patients were divided into two age groups i.e. age group 30-45 years and age group 46-60 years. In age group 30-45 years, there were 58 (58%) patients and in age group 46-60 years, there were 42(42%) patients. Recurrence of breast carcinoma was observed in 7(12.07%) patients of age 30-45 years and 11 (26.19%) patients of age group 46-60 years. Insignificant (P=0.112) association of age of the patients with Recurrence of breast was noted (Table 1).

Out of 56(56%) primary paras, recurrence of breast carcinoma was noticed in 15(26.79%) patients and out of 44(44%) multiparas, recurrence of breast carcinoma was noticed in 3 (6.82%) patients. Primary paras were found with significantly higher rate of recurrence of breast carcinoma as compared to multiparas with p value 0.017 (Table 2).

Total 74(74%) patients were married and 26(26%) patients were unmarried. Recurrence of breast carcinoma was noted in 13(17.57%) married patients and 5(19.23%) unmarried patients. The difference of recurrence of breast carcinoma between married and unmarried patients was statistically insignificant with p value 1.00 (Table 3).

Total 26(26%) patients were found with family history of breast cancer and 74(74%) patients were found without family history of breast cancer. Recurrence of breast carcinoma was noted in 11(42.31%) patients with family history of breast cancer and in 7(9.46%) patients without family history of breast cancer. Statistically significant association of family history of breast cancer with recurrence of breast cancer was noted with p value 0.001 (Table 4).

Out of 100 patient, 36(36%) patients were using contraceptive drugs and 64(64%) were not using contraceptive drugs. Recurrence of breast carcinoma was observed in 10 (27.78%) patients who were using contraceptive drugs and 8(12.5%) patients who were not using contraceptive drugs. Statistically insignificant association of use of contraceptive drugs with recurrence of breast carcinoma was noted with p value 0.064 (Table 5).

Table 1: Relation of age with recurrence of breast carcinoma

Age group	Recurrence		Total
	Yes	No	
30-45 yrs	7(12.07%)	51(7.93%)	58(58%)
46-60 yrs	11(26.19%)	31(73.81%)	42(42%)
Total	18(18%)	82(82%)	100

P value: 0.112

Table 2: Relation of parity with recurrence of breast carcinoma

Parity	Recurrence		Total
	Yes	No	
Primary para	15(26.79%)	41(73.21%)	56(56%)
multipara	3(6.82%)	41(93.18%)	44(44%)
Total	18(18%)	82(82%)	100

P value: 0.017

Fig. 1: Frequency of breast carcinoma

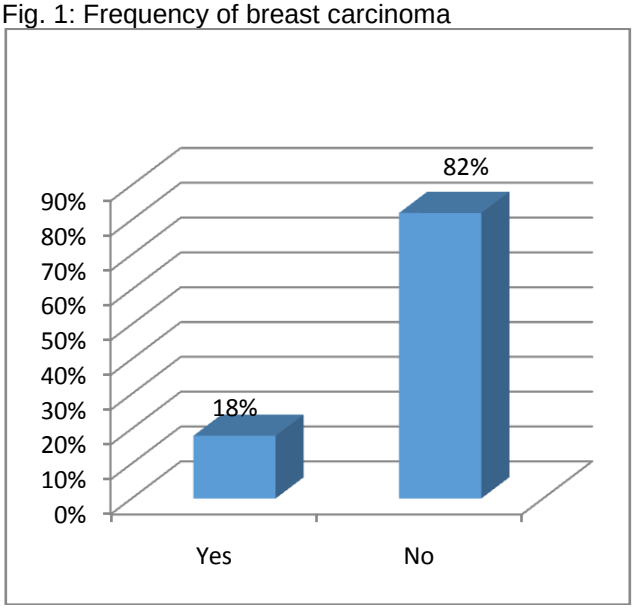

Table 3: Relation of marital status with recurrence of breast carcinoma

Marital status	Recurrence		Total
	Yes	No	
Married	13(17.57%)	61(82.43%)	74(74%)
Unmarried	5(19.23%)	21(80.77%)	26(26%)
Total	18(18%)	82(82%)	100

P value: 1.00

Table 4: Relation of family history with recurrence of breast carcinoma

Family history of ca breast	Recurrence		Total
	Yes	No	
Yes	11(42.31%)	15(57.69%)	26(26%)
No	7(9.46%)	67(90.54%)	74(74%)
Total	18(18%)	82(82%)	100

P value: 0.001

Table 5: Relation of contraceptive use with recurrence of breast carcinoma

Contraception used	Recurrence		Total
	Yes	No	
Yes	10(27.78%)	26(72.22%)	36(36%)
No	8(12.5%)	56(87.5%)	64(64%)
Total	18(18%)	82(82%)	100

P value: 0.064

DISCUSSION

Breast cancer is considered as the most frequent malignancy among females and it contributes 18% of all type of female cancers[9]. In Pakistan, younger age women are most commonly recorded with this morbidity when compared to Western countries where it is more common in elderly age i.e., after the 60 years[10]. In Asian region, Pakistani women carrying higher risk of breast cancer. The actual etiology of this disease is not properly revealed[11]. Various important risk factors for the development of the disease are unavoidable, e.g., female gender, elderly age, and a positive family history of the disease[12].

In present study, total 100 patients with breast cancer were selected and assessed for recurrence of breast carcinoma after modified radical mastectomy. Recurrence of breast carcinoma was noted in 18% patients which is comparable with study of Kheradmand et al[13] who reported recurrence rate in patients of breast cancer after Modified Radical Mastectomy as 20.2%. In one study by Mutlak NS et al[4] recurrence rate of breast cancer after Modified Radical Mastectomy was 13%.Andry et al[14] reported recurrence rate of breast cancer as 14% after Modified Radical Mastectomy.

Lundkvist et al[15] reported recurrence rate as 9.8% in cases of breasts cancer after Modified Radical Mastectomy. In present study, most of the patients (58%) of breast cancer were between 30-45 years and 42% patients were between 46-60 years of age. But statistically insignificant (P=0.112) association of recurrence of breast cancer with age of the patients was noticed. Some other studies reported higher rate of breast cancer above the age of 40 years[16,17]. Primary paras were 56% and multiparas were 44% and significant (P=0.017) association of parity with recurrence of breast carcinoma was noticed. 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. Most of the patients reported without family history of breast cancer (74% vs 26%). But significantly (P=0.001) higher rate of recurrence of breast cancer was noted in patients with family history of breast cancer. Total 64% patients reported without history of contraceptive use and 36% patients found with history of contraceptive use. No association of recurrence of breast cancer with history of contraceptive use was noticed. 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 with breast cancer belonged to younger age group and no association of recurrence of breast cancer with age, marital status and use of contraceptive drugs was noted. Findings of this study showed significant association of recurrence of breast cancer with parity and family history of breast cancer.

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