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Dr. Manish Kaushal
Prof., Dept. of Surgery, MGM,
Medical College and MY Hospital,
Indore, Madhya Pradesh, India

Dr. Arvind Shukla
Assoc. Prof., Dept. of Surgery,
MGM, Medical College and MY
Hospital, Indore, Madhya Pradesh,
India

Dr. Sonu Patidar
Resident, Dept. of Surgery, MGM,
Medical College and MY Hospital,
Indore, Madhya Pradesh, India

Dr. RK Mathur
Prof. & Head, Dept. of Surgery,
MGM, Medical College and MY
Hospital, Indore, Madhya Pradesh,
India

Correspondence
Dr. Arvind Shukla
Assoc. Prof., Dept. of Surgery,
MGM, Medical College and MY
Hospital, Indore, Madhya Pradesh,
India

Comparative study of modified radical mastectomy and breast conservative surgery in early breast cancer

Dr. Manish Kaushal, Dr. Arvind Shukla, Dr. Sonu Patidar and Dr. RK Mathur

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Abstract

The purpose of this study is to compare the outcome in term of post operative complication, recurrence, psychiatric outcome of the two methods, Modified Radical Mastectomy and breast conserving surgery in early breast cancer. This study includes 30 cases of MRM and BCS (15-15 from each group) done for early breast cancer.

Every woman with operable breast cancer should be offered option of breast conservation if there are no standard contraindications with explanation of role of radiation in these cases.

Acceptability of BCS depends apart from the patient's educational and economic background, also on the treating surgeon's training.

Patient that had undergone BCS have significantly better health status with regard to physical functioning, health perception & vitality, social functioning & role, emotional and mental health and self-esteem.

Study Design: Observational Study

Keywords: Radical mastectomy, conservative & breast cancer

Introduction

Carcinoma of the breast is the most common malignant tumor and the most common cause of death from carcinoma in females all over the world. In our country incidence of breast cancer is second only to that of cancer cervix. Different factors such as high body mass index, advanced age, family history of breast cancer, a long menstrual history, use of oral contraceptives, exposure to radiation, no childbearing or giving birth to the first child after age 30 are among possible risk factors for breast cancer^[1, 2].

Commonest neoplasm of breast is the tumor arising from epithelial component of glandular element of breast. Infiltrating ductal carcinoma being the most common type of carcinoma (70%), Lobular carcinoma is the second most common followed by smaller groups such as Medullary, Mucinous, Comedo carcinoma, Papillary, Tubular and Inflammatory carcinoma^[3].

Early diagnosis and radical treatment of patients with Breast cancer is important to good prognosis, and surgical methods are commonly used for early breast cancer. Modified Radical Mastectomy is commonly used which may have destruction on pretty figure of breast and a serious impact on the quality of life of patients, while breast conserving surgery has advantages such as retention of breast, which meets the life demand of patients^[4, 5].

Now by using plastic surgical technique with aim of good cosmesis, oncoplatic breast conservative surgery is emerging in current practice.

Materials and methods

This study includes 30 cases of MRM and BCS (15-15 from each group) done for early breast cancer.

Source of data

All operated cases of early breast cancer in Dept. of Surgery, M.G.M medical college and M.Y Hospital, Indore. The study will include prospective cases 1 year from date of approval.

Inclusion criteria

- Patients with early breast cancer stage I and II (T1 and T2, diameter up to 5 cm, N0 and N1, M0).

- Those who give written informed consent.

Exclusion criteria

1. Patient in advanced stage of breast cancer.
2. Patients not willing to give written consent.
3. Neoadjuvant chemotherapy patients.

Methodology

- Informed consent will be taken from all patients included in the study
- All patients in study will undergo a detailed history taking including general examination.
- Choice taken by patient after counseling whether she want
 - a. Modified Radical Mastectomy
 - b. Breast Conservative Surgery
- Records will be maintained

Result

Complications were present in 20% of MRM group (3 out of 15 cases), while they were absent in 80% (12 out of 15). However, in the BCS group, complications were present in 6.66% cases only (1 out of 15 cases), while they were absent in 93.33% (14 out of 15). P value by statistical analysis being 0.283, the difference being statistically insignificant.

Recurrence were present in 6.66% of MRM group (1 out of 15) while they were absent in 93.34% (14 out of 15). However in BCS group recurrence were present in 6.66% (1 out of 15) and were absent in 93.34% (14 out of 15). P value by statistical analysis being 1, the difference being statistically insignificant.

According to visual analogue scale the mean of mental satisfaction score in MRM group is 6.66, while in BCS group mean of mental satisfaction score is 7.60. P value by statistical analysis being 0.013, the difference is statistically significant.

Table 1: Age wise distribution of patients

Age Group (Yr)	Number	Percentage (%)
20-40 YR	9	30%
41-60 YR	17	56.66%
>60 YR	4	13.33%
TOTAL	30	100%

Table 2: Distribution of subjects based on complications

Group	Complication Present		Complication Absent	
	Number	%	Number	%
MRM (15)	03	20	12	80
BCS (15)	01	6.66	14	93.33
TOTAL (30)	04		26	

Table 3: Distribution of subjects based on Recurrence

Group	Recurrence Present		Recurrence Absent	
	N	%	N	%
MRM (15)	01	6.66	14	93.33
BCS (15)	01	6.66	14	93.33
Total (30)	02		28	

Discussion

The study comprises of 30 patients with early breast cancer referred to our centre for definitive surgical management. All the patients had undergone complete preoperative evaluation and routine laboratory analyses and were counselled and given the choice for MRM / BCS and were then subsequently operated. They were then followed for a period of 6 months and were evaluated for recurrence and quality of life [6, 7].

Out of the total of 30 patients in the study, the most common age group was 41-60 years with a total of 56.66% cases. 30% were in the age group 20-40 years while 13.33% were aged >60 years [8].

All of the patients in the study i.e. 100% had beared one or more child and were therefore multipara. None of the patient in the study was nulliparous i.e. not bearing any child or pregnancy in the past [9].

Family history of breast carcinoma in first degree relatives was present in 16.66% patients (5 out of 30), while there was no positive family history in 83.33% cases (25 out of 30).

The disease was distributed equally among both right and left breast units (50% each of total units involved). Among the MRM group 53.33% cases involves the right side whereas 46.67% involved the left side. Among the BCS group 46.67% of cases involved the right side and 53.33% cases involves the left side [10].

On histopathology 90% of patients had ductal carcinoma (27 out of 30), while 10% of patients had lobular carcinoma (3 out of 30).

Out of the total patients, 63.33 percentage patients had ER+ receptor (19 out of 30), 53.33 percentage patients had PR+ receptor (16 out of 30), and 26.66 percentage patients had HER2NEU positive receptor (8 out of 30) [11].

Out of total patients 16.66% patients had associated comorbidities like hypertension, diabetes mellitus, bronchial asthma etc. While 20% patients in MRM group (3 out of 15) had associated comorbidities, these were present in 13.33% patients in BCS group (2 out of 15) [12].

Out of total patients 76.66% had positive triple assessment test. While 86.66% in MRM group (13 out of 15) had positive triple assessment test, 66.66% in BCS group (10 out of 15) had positive triple assessment test [13].

Complications were present in 20% of MRM group (3 out of 15 cases), while they were absent in 80% (12 out of 15). However, in the BCS group, complications were present in 6.66% cases only (1 out of 15 cases), while they were absent in 93.33% (14 out of 15). P value by statistical analysis being 0.283, the difference being statistically insignificant [14, 15, 16].

On comparing recurrence in cases operated, they were present in 6.66% of MRM group (1 out of 15) while they were absent in 93.34% (14 out of 15). However in BCS group recurrence were present in 6.66% (1 out of 15) and were absent in 93.34% (14 out of 15). P value by statistical analysis being 1, the difference being statistically insignificant. These results are comparable to those done by a study in Chaoyang Hospital of Capital Medical University, China from January 2010 to November 2011 where there was no significant difference in postoperative local recurrence rate and distant metastasis rate ($P > 0.05$) [17, 18].

According to visual analogue scale the mean of mental satisfaction score in MRM group is 6.66, while in BCS group mean of mental satisfaction score is 7.60. P value by statistical analysis being 0.013, the difference is statistically significant. Similar results were demonstrated by a study at Athens University Medical School – ‘Laiko’ General Hospital, Athens, Greece who concluded that those undergoing breast-conserving surgery were more satisfied and reported a lower impact on their self-esteem and sexual life versus those who only had MRM/ Mastectomy. Also in a multicentre randomised clinical trial in 1980 by EORTC-BCCG significant benefit in body image and satisfaction with treatment was observed in the BCS patients [19, 20, 21].

No significant difference was observed in rate of recurrence between the two groups.

Conclusion

Every woman with operable breast cancer should be offered option of breast conservation if there are no standard contraindications with explanation of role of radiation in these cases.

Acceptability of BCS depends apart from the patient's educational and economic background, also on the treating surgeon's training.

Patient that had undergone BCS have significantly better health status with regard to physical functioning, health perception & vitality, social functioning & role, emotional and mental health and self-esteem.

In cases of early breast cancer BCS offers a better option than MRM in terms of post operative quality of life and patient satisfaction.

There is no significant difference in the recurrence rate, whether the patient had undergone BCS or MRM based on our short term follow-up. However a delay long term follow-up is required.

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