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Comparative study of complications of modified radical mastectomy and breast conservation therapy in early invasive breast cancer

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Abstract

Background: All early breast cancer patients admitted in surgery department were distributed in MRM and BCS groups. All operated cases of early breast cancer in Dept. of Surgery, Amaltas Institute of Medical Sciences, Dewas. The study included prospective cases 1 year from June 2017 to June 2018.

Method: In all MRM group patients all breast tissue, skin, nipple areola complex and level 1, 2, 3 lymph nodes removed. In all BCS group patients lump was removed with an envelope of normal appearing breast tissue.

In all resected specimens free surgical margin was ensured via histopathology reports.

Patients were reviewed in early post operative period for complications and followed at the end of 1st, 3rd, 6th and 12th month for recurrence.

Result: In MRM group two patients developed Seroma formation and one developed Marginal Necrosis. In BCT group one patient had Seroma formation. 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 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.

Conclusion: 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.

Keywords: Cosmetic, BCT, BCS & MRM

Introduction

The attempt to preserve the breast without compromising survival brought up the use of Breast Conserving Therapy (BCT). This includes breast conserving surgery and breast radiotherapy. Although BCT and breast conserving surgery (BCS) are used interchangeably, strictly speaking BCT includes both BCS and breast radiotherapy.

BCS is an important part of the breast-conserving therapy, which may be defined as a combination of conservative surgery for resection of the primary tumor with or without surgical staging of the axilla, followed by radiotherapy for the eradication of the residual microscopic disease of the breast, with or without adjuvant systemic therapy [1].

Breast conserving surgery (BCS) with radiation therapy is today standard therapy for low grade Breast Cancer. It is safe and preferred therapeutic procedure in all early detected breast cancers, because it provides the same level of overall survival as mastectomy. Besides that, BCS provides much better cosmetic effect, compared to radical treatments, a significant gain for patients, if tumors of grade I and II are considered.

Breast conservation has become the standard of care in Western countries for early breast cancer. In India BCT still not popular due to various reasons including advanced stage at presentation, cost of treatment, lack of appropriate equipments and facilities, physician's and patient's awareness Oncoplastic Breast Conservative Surgery: By using plastic surgical technique with aim of good cosmesis, oncoplastic BCS is emerging in current practice.

Number of conditions must be fulfilled to treat a breast cancer with BCS [2]. There are number of factors that favour BCS: Smaller, monocentric tumors; Younger age; Treatment carried in specialised institutions; Favourable physical factors; Localization of tumor; Patient compliance.

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Material & Method

All early breast cancer patients admitted in surgery department were distributed in MRM and BCS groups.

All operated cases of early breast cancer in Dept. of Surgery, Amaltas Institute of Medical Sciences, Dewas. The study included prospective cases 1 year from June 2017 to June 2018. Sample size: Minimum 15 cases of each group.

Inclusion criteria

1. Patients with early breast cancer stage I and II (T1 and T2, diameter up to 5 cm, N0 and N1, M0).
2. 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

In all MRM group patients all breast tissue, skin, nipple areola complex and level 1, 2, 3 lymph nodes removed. In all BCS group patients lump was removed with an envelope of normal appearing breast tissue.

In all resected specimens free surgical margin was ensured via histopathology reports.

Patients were reviewed in early post operative period for complications and followed at the end of 1st, 3rd, 6th and 12th month for recurrence.

1. Informed consent took from all patients included in the study
2. All patients in study undergone a detailed history taking including general examination.
3. Choice taken by patient after counseling whether she want
 - a) Modified Radical Mastectomy
 - b) Breast Conservative Surgery
4. Records maintained.
5. Patient identity kept confidential

Results

Table 1: Distribution of subjects based on complications

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

In MRM group two patients developed Seroma formation and one developed Marginal Necrosis. In BCS group one patient had Seroma formation.

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 were absent in 93.33% (14 out of 15). P value by statistical analysis being 0.283, the difference being statistically insignificant.

Table 2: Distribution of subjects based on Recurrence –

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

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.

Discussion

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 [3-5] 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.

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 [6-8]. 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. No significant difference was observed in rate of recurrence between the two groups [9].

Conclusion

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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