



A COMPARATIVE STUDY BETWEEN BREAST CONSERVATIVE SURGERY AND MODIFIED RADICAL MASTECTOMY IN POST NEOADJUVANT CHEMOTHERAPY PATIENTS WITH LOCALLY ADVANCED BREAST CANCER IN GOVERNMENT RAJAJI HOSPITAL, MADURAI

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ABSTRACT Breast cancer is a major health problem for women throughout the world. Breast conserving therapy for early stage breast cancer was proven safe and effective after several trials. Now with newer and effective neoadjuvant therapies, breast conserving therapy could be equally effective in a locally advanced breast cancer compared to Modified radical mastectomy, especially in patients who are good responders to chemotherapy and in whom having unifocal disease. Despite the wide application of BCS in early-stage breast cancer, the use of BCS in locally advanced breast cancer (LABC) still remains controversial. In our study, we have taken locally advanced breast carcinoma patients and have down staged the tumor using neoadjuvant chemotherapy and have done BCS and MRM. And have followed up the patients to look for outcome. In our study, the outcomes of Breast conservative therapy was compared with Modified radical mastectomy in locally advanced breast cancer postneoadjuvant chemotherapy. The data gathered from the study population comprising of 50 patients was analysed with particular reference to the objectives of the study. As per study, we have taken 50 cases out of which, 25 Patients underwent Breast conservative surgery and 25 Patients underwent Modified radical mastectomy. Our results indicated that Breast conservative therapy can be recommended in cases of locally advanced breast cancer post neoadjuvant chemotherapy.

KEYWORDS : locally advanced breast cancer, breast conserving therapy, post neoadjuvant therapy

INTRODUCTION

Breast cancer is a major health problem for women throughout the world. Mastectomy was a surgical option till 1980s. Then came the idea of breast conserving therapy for early stage breast cancer, which was proven safe and effective after several trials. The goal of breast conserving therapy is to provide survival equivalent to mastectomy with preservation of cosmetic appearance and a low rate of recurrence. Now with newer and effective neoadjuvant therapies, breast conserving therapy could be equally effective in a locally advanced breast cancer compared to mastectomy, especially in patients who are good responders to chemotherapy and in whom having unifocal disease. Advanced stage at presentation and the lack of timely access to high-quality, affordable cancer treatment remain key barriers to improved cancer survival in limited resource settings such as India. Several prospective long-term studies on quality of life (QOL) after breast surgery carried out have shown that body image-related QOL scores are better in the patients undergoing breast conservation therapy than in those who undergo mastectomy. Mastectomy being a extensive surgery is expected to result in poorer QOL. The overall safety of breast conserving surgery (BCS), as well as improvement in long term outcome of breast cancer treatment, have enhanced concerns about aesthetic results. The extent to which cosmetic results affect the quality of life (QoL) of breast cancer patients remains unclear. QoL is an important endpoint of breast cancer treatment. And the effects of various interventions on the QoL of these patients are of major interest.

Many randomised trials with long-term follow-up time provided sufficient evidences that disease-free survival (DFS), overall survival (OS), and local recurrence (LR) in BCS were even higher than MRM in early-stage breast cancer. Despite the wide application of BCS in early-stage breast cancer, the use of BCS in locally advanced breast cancer (LABC) still remains controversial. LABC refers to loco-regionally advanced tumor without distanced metastasis. It is a heterogeneous group of tumors usually >5 cm, involves the skin or the underlying pectoral muscles, infiltrates axillary, supraclavicular and/or infraclavicular lymph nodes, and inflammatory carcinomas. They are also represented by stage IIIA, stage IIIB, and stage IIIC.

AIM OF THE STUDY

To determine whether patients with LABC who received neoadjuvant chemotherapy have equal survival after breast conservative surgery compared with Modified radical mastectomy.

OBJECTIVES OF THE STUDY

To compare outcomes of breast conservative therapy with Modified Radical Mastectomy in post neoadjuvant chemotherapy with locally advanced breast cancer in GRH, Madurai.

To compare local recurrence rate, margin status, cosmetic outcomes, quality of life in both groups.

DETAILS OF THE PROJECT

DESIGN OF STUDY : Prospective Study
 PERIOD OF STUDY : 6 months
 SELECTION OF STUDY SUBJECTS : All patients satisfying inclusion criteria who were admitted in General Surgery Department, Government Rajaji Hospital.
 ETHICAL CLEARANCE : Obtained
 CONSENT : Individual written and Informed consent
 ANALYSIS : chi-Square test, Student paired t test
 CONFLICT OF INTEREST : None
 FINANCIAL SUPPORT : Nil From The Institution
 SAMPLE SIZE : 50
 STUDY PLACE : GRH, Madurai

Inclusion Criteria

- Female patients more than 30 years of age and less than 60 years of age.
- Patients consented for inclusion in the study
- Patients with locally advanced breast cancer.

Exclusion Criteria

- Patients less than 30 years and more than 60 years of age
- Patients not consented for inclusion in the study
- Patients who have contra indications to radiation therapy
- Patient who are poor responders to neoadjuvant chemotherapy
- Patients with invasive lobular carcinoma breast or with multifocal disease.

MATERIALS AND METHODS

All the patients who are admitted in the ward with features of Locally advanced Breast Cancer are evaluated. The diagnosis of LABC will be made clinically, Pathologically & radiologically. Patients are subjected to NeoAdjuvant chemotherapy (four cycles of Adriamycin and cyclophosphamide and four cycles of Paclitaxel). Post neoadjuvant chemotherapy patients either undergoes breast conserving therapy or modified radical mastectomy Patients undergoing BCS have axillary node dissection and whole breast irradiation as a part of BCS. Both group of patients will complete their chemotherapy regimens post procedure. Margin status, Recurrences, Cosmetic outcome and Quality of life will be observed in both groups and followed up for a period of 6 months.

OBSERVATION & RESULTS:

The data gathered from the study population comprising of 50 patients

was analysed with particular reference to the objectives of the study.

As per study, we have taken 50 cases out of which 25 Patients underwent BCS and 25 Patients underwent MRM.

Age Distribution:

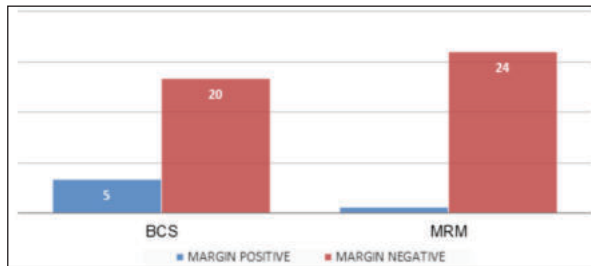
In our study, majority of patients fall under age group 51 to 60 yrs. Least being 41 to 50 yrs group. The youngest person included in study was 32yrs and oldest person was 58 yrs.

Margin Status In Post-op Hpe:

MARGIN	BCS	MRM	TOTAL
POSITIVE	5	1	6
NEGATIVE	20	24	44
NEED FOR REEXCISION	5	1	50

Chi-square statistic is 3.0303

p-valve is 0.081723 (not significant at p<0.05)



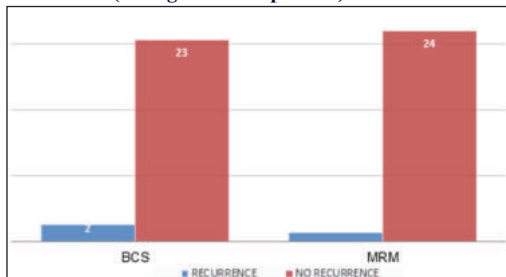
In our study of 50 patients, 25 underwent BCS of which 5(20%) had margin positivity and 25 underwent MRM of which 1 (4%) had margin positivity. The same percentage of patients in my study had the need for re-excision.

LOCAL RECURRENCE RATES:

	BCS	MRM
RECURRENCE	2	1
NO RECURRENCE	23	24

Chi-square statistic is 0.3546

p-valve is 0.5515 (not significant at p<0.05)



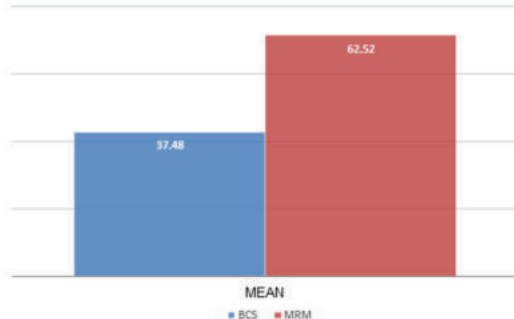
In our study, out of 25 cases (BCS), 2(8%) had recurrence at the end of 6 month follow up and out of 25 controls(MRM), 1 (4%) of them had local recurrence at the end of 6 months follow up.

Quality Of Life And Cosmetic Outcome:

	Count (N)	Mean	Variance	SD
BCS	25	37.48	13.943	3.734
MRM	25	62.52	24.926	4.992

-Value is 19.76075

P-value < 0.00001 (significant < 0.05)



EUROPEAN ORGANISATION FOR RESEARCH AND TREATMENT OF CANCER (EORTC)- QUALITY OF LIFE(QLQ) BR23 QUESTIONNAIRE was used to assess the cosmetic outcomes and quality of life after surgery.

In our study, of assessing the quality of life using EORTC BR23 questionnaire, all 50 patients were given this questionnaire at the end of 6 months, from their answers a scoring was done. 25 patients who underwent BCS had a mean value of 37.48 and 25 patients who underwent MRM had a mean value of 62.52.

On calculating the p-value for each outcome variable, there was found to be statistical significance in quality of life and cosmetic outcome variable (with a p-value < 0.05) and there was statistical insignificance in local recurrence rates and margin status with p-value > 0.05 .

DISCUSSION:

Breast cancer is the most common cancer occurring in women all over the world, and its the second leading cause for cancer related death. The affected patients are psychologically depressed on knowing their illness. Hence these patients should be attended with utmost care with the help of a multidisciplinary team. In addition to this stress, mastectomy and chemotherapy side effects aggravates the stress to the patients. With the introduction of breast conserving therapy the patients still feel psychologically ,emotionally and cosmetically better. They tend to retain their body image and sexuality. They have a better sexual life. These were all proven with multiple trials for early breast cancers, in which breast conserving therapy is significantly better than MRM in view of quality of life , decreased or similar local recurrence rates and similar overall survival rates.

Hence in our study, we have taken locally advanced breast carcinoma patients and have down staged the tumor using neoadjuvant chemotherapy and have done BCS and MRM. And have followed up the patients to look for above said outcomes. If this study can show a significantly better outcome in control of local recurrence rate, there could be a new path of treatment for these patients. In our study, the outcomes of Breast conservative therapy was compared with Modified radical mastectomy in locally advanced breast cancer postneoadjuvant chemotherapy. As per study, we have taken 50 cases out of which , 25 Patients underwent Breast conservative surgery and 25 Patients underwent Modified radical mastectomy. In our study, majority of patients fall under age group 51 to 60 years. Least being 41 to 50 yrs group. The youngest person included in study was 32 yrs and oldest person was 58 yrs. In our study, all patients were females. In our study of 50 patients, 25 underwent BCS of which 5 (20%) had margin positivity and 25 underwent MRM of which 1 (4%) had margin positivity. The same percentage of patients in my study had the need for re-excision. In our study, out of 25 cases (BCS), 2(8%) had recurrence at the end of 6 month follow up and out of 25 controls(MRM), one (4%) of them had local recurrence at the end of 6 months follow up. In our study, of assessing the quality of life using EORTC BR23 questionairre, all 50 patients were given this questionnaire at the end of 6 months, from their answers a scoring was done. 25 patients who underwent BCS had a mean value of 37.48 and 25 patients who underwent MRM had a mean value of 62.52.

There Is A Statistically Significant Better Quality Of Life And Cosmetic Outcome With Breast Conservative Therapy Than With Modified Radical Mastectomy In Our Study. There Is Statistically Insignificant Difference In Other Outcomes Compared Such As Margin Status, Need For Re-excision And Local Recurrence Rates. These Insignificance Could Be Due To Low Study Population And Duration Of Followup In My Study.

CONCLUSION:

Our results indicated that Breast conservative therapy can be recommended in cases of locally advanced breast cancer post neoadjuvant chemotherapy, since it has significant impact on quality of life and an insignificant impact on local recurrence and margin status,when compared to modified radical mastectomy . There should be no compromise in recurrence rates, if our study had showed a significant increase in recurrence with BCT, then MRM should be preferred. Good response to chemotherapy has an additional advantage to prefer conservative therapy. Hence complete clinical radiological and pathological examination is necessary before treating a case of carcinoma breast. Proper counselling of patients and the patients should know the different modalities of treatment available

and the pros and cons of each. A multidisciplinary team of surgeon, anaesthetist, medical oncologist, radiation oncologist and a physiotherapist is essential.

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