

# Outcome of Breast Conserving Surgery and Modified Radical Mastectomy in Early Breast Carcinoma –A Retrospective Study.

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## ABSTRACT

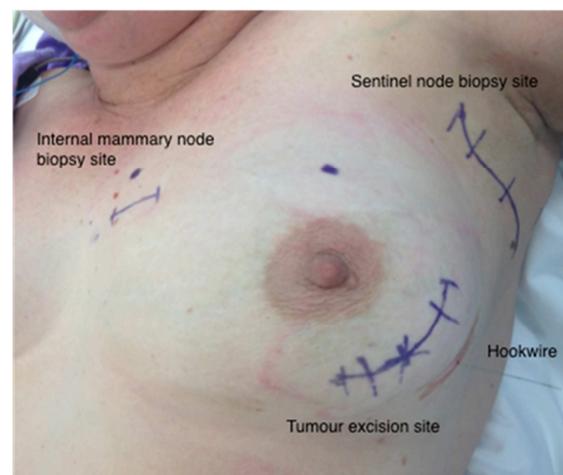
**Background:** To compare the outcome of Modified Radical Mastectomy and breast conserving surgery in early breast carcinoma Retrospective analysis of 100 patients with early breast cancer done in Index Medical College Hospital and Research Centre, Indore, MP( India), from June 2015 to July 2016. **Methods:** With early breast cancer were divided into conserving group (n=30) and radical (n=30) according to the different surgical operations. Patients were female, aged 30 to 60 y, with normal breast development. **Results:** The operative time, blood loss, hospital stay and the incidence of postoperative complications were compared between the two groups. The local recurrence rate, distant metastasis rate, and the 3 years and 5 years survival rate of patients after operation were compared according to the follow-up data. Patients follow up done monthly in first year and every 3 months after the first year of operation. **Conclusion:** Breast conserving surgery and modified radical mastectomy surgery results were similar for early breast cancer patients.

**Keywords:** Breast, Breast Carcinoma.

## INTRODUCTION

Breast cancer is now the most common cancer in most cities in India, and 2nd most common in the rural areas in India, we are now witnessing more and more numbers of patients being diagnosed with breast cancer to be in the younger age groups (in their thirties and forties). 25 years back, out of every 100 breast cancer patients, 2% were in 20 to 30 years age group, 7% were in 30 to 40 and so on. 69% of the patients were above 50 years of age. Presently, 4% are in 20 to 30 yrs age group, 16% are in 30 to 40, 28% are in 40 to 50 age group. So, almost 48% patients are below 50. An increasing numbers of patients are in the 25 to 40 years of age, and this definitely is a very disturbing trend. At present, the cause of breast cancer is still unclear, and it is mainly believed that secretion disorders of estrogen and progesterone has a close correlation with breast cancer. Early manifestations of breast cancer present as painless and single small lumps. Peau D orange appearance and dimpling occur when the lymphatic vessels and ligament of cooper are involved. 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.



## Aims

The purpose of this study is to compare the outcome of the two methods, Modified Radical Mastectomy and breast conserving surgery. Retrospective analysis of 60 patients with early breast cancer done

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in Index Medical College Hospital and Research Centre, Indore, MP (India). From June 2015 to July 2016

**MATERIALS AND METHODS**

Retrospective analysis of 60 patients with early breast cancer done in Index Medical College Hospital and Research Centre, Indore, MP (India). From June 2015 to July 2016

Early breast cancer were divided into conserving group (n=30) and radical (n=30) according to the different surgical operations. Patients were female, aged 30 to 60 y, with normal breast development. General information of two groups is shown in [Table 1].

**Table 1: General information of two groups.**

Feature	Breast conserving group	Radical group
Mean Age (years)	31.5 ± 4.6	32.2 ± 4.4
Avarage Tumour diameter (cm)	1.25 ± 0.39	1.30 ± 0.31
TNM stage of tumour (n)		
Stage I	16	15
Stage II	14	15
Pathological type of tumour (n)		
Invasive ductal carcinoma	11	10
Invasive lobular carcinoma	12	14
Others	07	06
Pathogenic site (n)		
Left breast	12	13
Right breast	18	17

**Inclusion criteria**

All patients were required to meet the following criteria before inclusion.

1. Patients had normal appearance of breast and areola without haemorrhage, nipple retraction and eczema-like changes,
2. All patients only had unilateral breast tumour,
3. All patients were diagnosed as stages I and II breast cancer by triple assessment (clinical, radiological (USG, MAMMOGRAPHY, MRI), and cytological (FNAC, Biopsy)
4. All patients were not treated with chemotherapy or radiotherapy before operation.

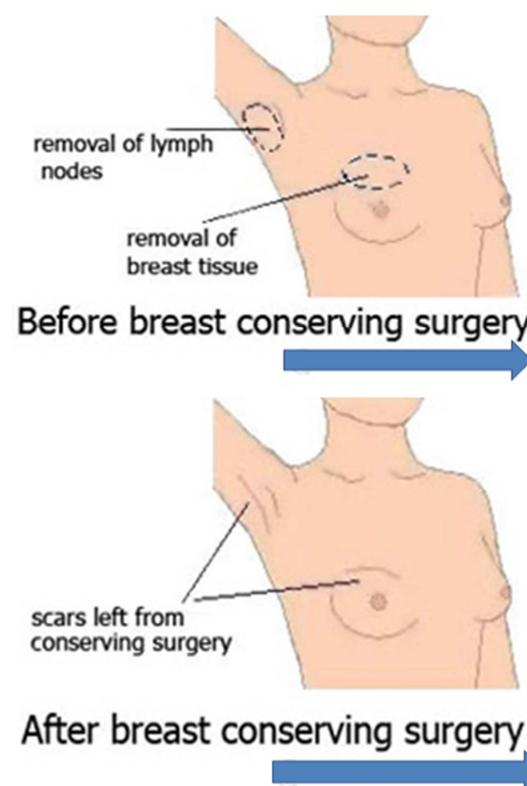
**RESULTS**

**Modified Radical Mastectomy**

Preoperative conventional imaging was adopted to determine the location of cancer and tumour size. Then according to the breast shape and different sizes, transverse or longitudinal spindle incision was selected. The incision should have a distance of more than 5 cm to the edge of the tumour. After removal of tumour, all the lymph nodes in pectorals, breast and axilla (group I and II) were dissected according to the grading criteria of axillary lymph node. After the operation, drainage tubes were placed routinely and unplugged after completion.

**Breast conserving surgery**

Same as the radical group, imaging location was used to determine the foci location and size in conserving group. According to breast shape and different sizes, transverse or longitudinal spindle incision was selected. The incision should have a distance of more than 2 cm to the edge of the tumour. With conventional complete resection of about 2 cm normal tissue of the tumour margin, tissue above the tumour generally was kept. Suture markers and intraoperative frozen section were performed on 5 directions (inside, outside, top, bottom and the base) of tumour edge to ensure negative margins. If biopsy showed positive margins, expansion of resection should be done in the according side. If the margin was still positive after expansion, modified radical surgery was required. Incision suture was operated after all margins became negative. Stump gland of both sides should not be sutured to avoid the abnormal appearance of postoperative breast shape. Another armpit incision was used to clean ipsilateral axillary lymph nodes (groups 1 and 2). Routine drainage was performed after the operation. All patients were treated with individualized comprehensive treatment according to the specific circumstances.



**Evaluation index**

The operative time, blood loss, hospital stay and the incidence of postoperative complications were compared between the two groups. The local recurrence rate, distant metastasis rate, and the 3 years and 5 years survival rate of patients after

operation were compared according to the follow-up data. Patients follow up done monthly in first year and every 3 months after the first year of operation, Main review tests included breast, liver type-B ultrasonic check, chest radiography, and the whole body bone scan if necessary, followed up to December 2017. SF-36(short form survey 36) were used to evaluate the life quality of the patients, including 8 items such as:

1. Physiological function,
2. Vigorous activities,
3. Physical pain,
4. General health,
5. Vital energy,
6. Social function,
7. Emotional function and
8. Mental health (each score of 0 to 100 points). The higher score indicated the better quality of life.

**Statistical methods**

All the data of this study were analysed by SPSS19.0 software. The t test was used to measure the data and the  $\chi^2$  test for count (test standard  $\alpha=0.05$ ). It was considered statistically significant when  $P<0.05$ .

**DISCUSSION**

**Table 2: General surgery statistics of the two groups.**

Group	Cases (n)	Surgery time (min)	Intraoperative blood loss (ml)	Hospital stay (d)
Breast-conserving	30	110.42 ± 20.62	96.04 ± 8.95	9.52 ± 2.89
MRM	30	165.31 ± 25.51	135.76 ± 13.58	16.01 ± 3.31
P value	0.013	0.035	0.021	

**Table 3. Comparison of prognosis between the two groups**

Group	Cases (n)	Local recurrence	Distant metastasis	3-year survival	5-year survival rate
		Rate (n(%))	Rate (n(%))	Rate (n(%))	Rate (n(%))
Conserving	30	3(10.0)	2(6.66)	29 (96.6)	28 (93.3)
Radical	30	4 (13.0)	2 (6.66)	28 (93.3)	27 (90.0)
$\chi^2$ value		1.104	0.953	1.305	1.005
P value		0.062	0.085	0.072	0.072
<b>Other studies</b>					
<b>Veronesi U</b>					
Conserving		12%	7%	96%	94%
Radical group		14%	8%	94%	91%

Comparison of the two groups in surgery time, intraoperative blood loss and hospital stay of patients in conserving group and radical group are shown in [Table 2] below. From the table, the results of surgery time, hospital stay and intraoperative bleeding of conserving surgery group were

significantly better than those of the radical group ( $P<0.05$ ).

The two groups of patients with postoperative complications

In the conserving group, there were 03 cases of postoperative complications (the incidence rate 12%), 1 case of skin necrosis, 1 cases of seroma and 1 cases of local skin flap necrosis. In the radical group, there were 06 cases of postoperative complications (the incidence rate 24%), 2 cases of skin necrosis, 3 cases of seroma and 1 case of local skin flap necrosis. The incidence of postoperative complications was significantly lower in that of conserving group ( $P<0.05$ ).

Comparison of prognosis of the two groups

The local recurrence rate, distant metastasis rate and the 3 years and 5 years survival rates of the conserving group and the radical group were shown in [Table 3]

From the table above, local recurrence rate, distant metastasis rate and 3 years/5 years survival rate after surgery of the two groups had no significant difference ( $P>0.05$ ).

Comparison of life quality of patients in two groups

SF-36 was used for the evaluation of life quality of patients during the follow-up period [Table 4].

**Table 4: Comparison of life quality of patients in two groups.**

Items	Conserving group	Radical group	P value
Physiological function	81.65 ± 7.73	73.14 ± 8.40	0.034
Vigorous activity	87.64 ± 10.41	75.67 ± 8.17	0.026
Physical pain	81.04 ± 8.24	72.59 ± 8.34	0.019
General health	84.07 ± 9.35	71.55 ± 8.32	0.031
Vital energy	85.24 ± 9.53	72.24 ± 7.89	0.032
Social function	85.56 ± 9.72	78.64 ± 9.12	0.047
Emotional function	88.42 ± 10.01	75.56 ± 7.86	0.028
Mental health	86.76 ± 10.57	74.28 ± 8.57	0.031
Average score	85.38 ± 9.72	74.11 ± 8.34	0.037

From the table, life quality of conserving group was significantly better than that of the radical group ( $P<0.05$ ).

**CONCLUSION**

Breast cancer is a common malignant tumour in women. The incidence gradually increased after the age of 20, and remained high in 45 to 50 years old females. Compared with western countries, the highest incidence age of breast cancer in India is in thirties and forties. Clinical studies have shown that the incidence of breast cancer was related with early age of menarche, late age of menopause, infertility and age of the first issue. In addition, the incidence of breast cancer was also a family phenomenon. A family history of breast cancer increased the risk of

general population 2 to 3 times. At present, the treatment of breast cancer mainly depended on the surgical treatment of multi-based comprehensive treatment.

For early breast cancer, surgical treatment was the preferred method. In 1894, Halsted proposed radical mastectomy with the idea that transfer of breast cancer was the primary lesion metastasis to the regional lymph nodes, and then into blood circulation. However, with the expansion of the scope of surgery, it was found that postoperative survival rate was not significantly improved. In the treatment of breast cancer using modified radical mastectomy, two surgical methods developed. First treatment retained the pectoralis major muscle and excising pectoralis minor muscle. The second treatment retained pectoralis major and minor muscle. The lymph node dissection scope of the former treatment was similar to radical resection, while the second treatment mainly dissected axillary lymph node groups 1 and 2. According to a large number of clinical case studies, it was found that survival rate of phases I and II breast cancer using radical surgery and modified radical surgery was not significantly different. Moreover, the second modified radical operation also retained the size of the chest muscle with better postoperative appearance than traditional radical surgery, which was a common treatment for early breast cancer treatment in clinic now. Although modified radical operation had less impact on women's breast appearance compared with traditional radical mastectomy, its removal range was still large which didn't meet the modern women's aesthetic requirements. At present, most studies have shown that breast cancer patients had early haematogenous metastasis, and lymphatic metastasis pathway was not in an orderly manner. Hence, local treatment of breast cancer had no significant effect on prognosis. In recent years, with the development of biological research of breast cancer and various medical technologies, as well as the requirement to improve the quality of life, the treatment of breast cancer has also undergone some changes. The scope of breast cancer resection was narrowing gradually, which developed a conserving breast cancer resection. The primary purpose of this procedure was to complete the removal of the mass, and the surgical resection range was smaller. The axillary lymph node and other incision were cleaned, so as to meet the patient's requirement on the breast appearance. Results showed that local recurrence rate, distant metastasis rate, 3 years and 5 years survival rate for post-operative patients were not significant different when comparing patients with modified radical operation and conserving breast cancer resection ( $P>0.05$ ). However, with regard to amount of blood loss, operation time, hospital stay, postoperative complications and quality of life comparison, improved radical surgery patients was not better than

conserving breast cancer resection patients. Above all, breast conserving surgery and modified radical mastectomy surgery results were similar for early breast cancer patients.

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