



BREAST-CONSERVING SURGERY COMPARED WITH MASTECTOMY IN MALE BREAST CANCER: A RETROSPECTIVE STUDY.

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Abstract

Background: Current treatment guidelines for male breast cancer (MBC) are largely based on clinical trials limited to female participants. With limited MBC research, it remains unclear if breast conservative therapy (BCT) is equivalent to mastectomy in MBC.

Aim and objective: To evaluate the clinical efficacy and prognosis of breast-conserving surgery versus modified radical mastectomy in the treatment of early-stage breast cancer.

Methods: 60 cases of early-stage breast cancer were reviewed and retrospectively included in Department of General Surgery, Different private Hospitals, Puri, Bhubaneswar, Odisha. The characteristics of the operation procedure, such as operation time, intraoperative blood loss, and length of hospital stay, were compared between the two groups. And the prognosis was that the that the recurrence rate was also compared to the two groups.

Results: Of the 60 early breast cancer cases included, 30 subjects received the breast-conserving operation, and the other 30 cases received the modified radical mastectomy. The operation time, intraoperative blood loss, and length of hospital stay were (58.6 ± 5.02) min, (40.73 ± 4.61) ml, (11.73 ± 2.06) day in the breast-conserving group, and (98.73 ± 5.57) min, (80.65 ± 4.99) ml, (13.53 ± 1.85) day in the modified radical mastectomy group, respectively. The operation time, intraoperative blood loss, and length of hospital stay were smaller in the breast-conserving group compared with the modified radical mastectomy group, with a statistical difference of $P < 0.05$.

Conclusions: The breast-conserving operation was superior to a modified radical mastectomy in terms of operation time, intraoperative blood loss, and length of hospital stay.

Keywords: male breast cancer, breast cancer, breast-conserving operation, modified radical mastectomy,

Introduction

Breast cancer may occur in men. Breast cancer may occur in men at any age, but it usually occurs in men between 60 and 70 years of age. Male breast cancer (MBC) is a rare and understudied cancer, accounting for less than 1% of all breast cancers. [1] Thus, no single institution can accommodate enough patients to guide therapy. Current National Comprehensive Cancer Network Guidelines

recommend clinicians treat men similar to postmenopausal women, implying that breast conservative surgery (BCS) and mastectomy are equivalent local therapies based on the National Surgical Adjuvant Breast and Bowel Project (NSABP) B-06 data. [2-3] However, NSABP B-06 and the majority of breast cancer trials include only female patients. Therefore, the primary objective of this study was to perform a systematic literature review to determine if BCS is associated with equivalent survival to mastectomy in MBC patients. Secondary objectives were to evaluate compliance with BCS and survival rates among MBC patients.

Such limitations in male breast cancer research are significant, as they impair treating clinicians' ability to provide evidence-based recommendations for male breast cancer patients. Although the National Comprehensive Cancer Network guidelines recommend that men be treated similarly to postmenopausal women, [2] a multidisciplinary expert panel has advised that male breast cancer is distinct from female breast cancer with significant biologic, clinicopathologic, and prognostic differences and should be treated accordingly. [4-8]

Surgery is important for the treatment of early-stage breast cancer. And the operation procedure for breast experienced a long period of time.[9] Options for surgery procedures include breast-conserving surgery (BCS) and mastectomy. [10-11] For BCS, the breast can be reconstructed at the same time as surgery or later on. BCS is also called a partial (or segmental) mastectomy. It is also sometimes called a lumpectomy or a quadrantectomy. [12] In BCS, only the part of the breast containing the cancer is removed.[13] The goal is to remove cancer as well as some surrounding normal tissue. In this retrospective study, we reviewed and compared the prognosis of 60 early breast cancer patients who received BCS or modified radical mastectomy.

Material and Methods

The present study was conducted in Department of General Surgery, Different private Hospitals, Puri, Bhubaneswar, Odisha. 60 cases of early-stage breast cancer were reviewed and retrospectively included in this study by hospitals (location ABC). The characteristics of the operation procedure, such as operation time, intraoperative blood loss, and length of hospital stay, were compared between the two groups. And the prognosis was that the that the recurrence rate was also compared to the two groups. We included early-stage breast cancer according to the inclusion criteria. The intraoperative information (operation time and blood loss), length of hospital stay, and survival were recorded and compared between the two groups.

Statistical analysis

The SPSS version 21.0 statistical software (Statistical Package for Social Sciences) was used for the statistical analysis of the data. The demographic data of the patients was demonstrated as a number, percentage, and mean value. A student's *t*-test was used for comparison of operation time, intraoperative blood loss, and length of hospital stay. The overall survival was evaluated by a log-rank test. Two-tailed $P < 0.05$ was deemed statistically significant.

Observation and Results

Table No. 1: The general information of the two groups

Characters	Breast-conserving surgery ($n=30$)	Modified radical mastectomy ($n=30$)
Age (years)	41.67±5.49	40.1±4.88
TNM n (%)		
I	22	21
IIA	8	9
Tumor diameter (cm)	2.15±0.45	1.95±0.39

Table No. 2: The operation time, blood loss, and hospital stay period of the two groups

	Breast-conserving surgery (n=30)	Modified radical mastectomy (n=30)	T-value	P-value
Operation time (min)	58.6±5.02	98.73±5.57	29	0.0001
Blood loss (mL)	40.73±4.61	80.65±4.99	32	0.0001
Hospital stay (day)	11.73±2.06	13.53±1.85	3.56	0.0007

Table no. 3: The prognosis comparison between the two groups

	Breast-conserving surgery (n = 30)	Modified radical mastectomy (n=30)
Recurrence (%)	2(6.67)	1(3.33)
Metastases (%)	5(16.67)	6(20)
Survival (%)		
1 year	96.2	96.6
2 years	88.1	86.6
3 years	87.6	84.3

For the 60 early breast cancer cases included, 30 subjects received the breast-conserving operation, and the other 30 cases received the modified radical mastectomy. The operation time, intraoperative blood loss, and length of hospital stay were (58.6 ± 5.02) min, (40.73 ± 4.61) ml, (11.73 ± 2.06) day in the breast-conserving group, and (98.73 ± 5.57) min, (80.65 ± 4.99) ml, (13.53 ± 1.85) day in the modified radical mastectomy group, respectively. The operation time, intraoperative blood loss, and length of hospital stay were smaller in the breast-conserving group compared with the modified radical mastectomy group, with a statistical difference ($P < 0.05$) [Table 2].

The follow-up period ranges from 5 to 60 months for the two groups. In the breast-conserving group, 2 cases of recurrence and 5 cases of remote metastases were observed, with a recurrence rate of 6.67% and a metastasis rate of 16.67%, respectively. In the modified radical mastectomy group, 1 case of recurrence and 6 cases of remote metastases were observed, with a recurrence rate of 3.33% and a metastasis rate of 20%, respectively. The 1--ear, 3 -year, and 5 -year survival rates were 96.2%, 88.1%, 887.6%, and 96.6%, 886.6%, and 84.3% for the breast--on serving and modified radical mastectomy groups, respectively [Table 3]. The overall survival was compared with Kthe Kaplan-eier curve by using the log rank test for the hazard ratio (HR). And the HR was 0.77 with ia95% confidence interval of 0.37–1.45, which indicated that no statistical difference in overall survival existed between the two groups ($P > 0.05$).

DISCUSSION

Male breast cancer is a rare cancer that begins with the growth of cells in the breast tissue of men. Breast cancer is typically thought of as a condition that happens in women. But everyone is born with some breast tissue. So anyone can get breast cancer. Male breast cancer is rare. It happens most often in older men, though it can occur at any age.

With a rising diagnostic rate of breast cancer in its early stages and the progress of comprehensive treatment modality, BCS is considered an appropriate treatment for patients with stage I or II disease. [14] For men with early-stage breast cancer, BCS is as effective as mastectomy. The survival rates of men treated with BCS and mastectomy were not significantly different. But BCS is not suitable for all men with breast cancer.

In a similar study, Cloyd et al. reported a 5-year DSS of 87% for BCS and 88% for mastectomy, while Zaenger et al., which included only stage I and II disease, reported a 97% 5-year DSS for BCS and 95% for mastectomy. [15-17] After adjusting for age, race, stage, grade, and radiotherapy, Cloyd et

al. observed no significant differences in DSS for BCS and mastectomy (aHR 1.09, 0.87-1.37). Madden et al. also found no difference in DSS for BCS and mastectomy in an unadjusted SEER analysis. [18] Interestingly, O'Malley et al., also using patients abstracted from SEER, stratified their survival analyses by race and were the only study to observe worse DSS among both Caucasian and Black patients who underwent BCS compared to modified radical mastectomy after adjusting for age, year of diagnosis, stage, histology, and radiotherapy (Caucasian: aHR 1.6, 95%CI 1.2–3.0; Black: aHR 3.9, 95%CI 1.6–9.7). [19]

In this retrospective study, we compared the clinical efficacy and prognosis of two operation procedures—BCS and modified radical mastectomy—in the treatment of early-stage breast cancer. In this study, we found that the operation time, intraoperative blood loss, and length of hospital stay were smaller in the breast-conserving group than in the modified radical mastectomy group. This result indicated the BCS was less invasive compared to the modified radical mastectomy. The length of hospital stay was also shorter in BCS compared to a modified radical mastectomy. But the overall survival for the two groups was not statistically different, indicating the BCS was not inferior to modified radical mastectomy in the aspect of prognosis.

Conclusion

BCS was effective in the treatment of early-stage breast cancer with less operation time, intraoperative blood, and a shorter length of hospital stay compared with modified radical mastectomy.

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