

# Analysis of Clinical Efficacy of Single-Port Endoscopic Breast-Conserving Surgery and Modified Radical Mastectomy in the Treatment of Early Breast Cancer

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**Abstract: Objective:** To analyze the effect of single-port endoscopic breast-conserving surgery and modified radical mastectomy in the treatment of early breast cancer. **Methods:** The research subjects included in this study were 52 patients with early breast cancer who were admitted to our hospital from February 2020 to February 2021. They were divided into control group and experimental group by random number table method. The control group received modified radical mastectomy(26 cases), and the experimental group received single-port endoscopic breast-conserving surgery (26 cases). The treatment effects of the two groups were compared. **Results:** The blood loss, incision length and hospital stay in the experimental group were lower than those in the control group ( $P<0.05$ ), but the operation time was significantly longer than that in the control group ( $P<0.05$ ). There were significant differences in breast beauty between the two groups, and the experimental group was better ( $P<0.05$ ). **Conclusion:** Single-port endoscopic breast-conserving surgery and modified radical mastectomy are used in the treatment of early breast cancer, and the treatment effect of the former is significantly better than that of the latter. This treatment method can be promoted.

**Keywords:** Single-Port Laparoscopic Breast-Conserving Surgery; Modified Radical Mastectomy; Early Breast Cancer; Surgery-Related Indicators; Aesthetics

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## Introduction

Breast cancer is one of the most common malignant tumors in clinical practice, and it is one of the most common cancers that cause death in women. Effective treatment in the early stage of breast cancer can better control the patient's condition and improve the quality of life. In the treatment of this disease, modified radical mastectomy is often used, which can effectively remove the lesion tissue. However, this type of surgery is very traumatic and can have a great impact on the aesthetics of the patient's breasts, so as to cause psychological trauma to the patient, and then affect postoperative recovery. Single-port laparoscopic breast-conserving surgery has been used in clinical practice in recent years with minimal trauma and can ensure the beauty of the breasts. It is favored by the majority of patients with early breast cancer<sup>[1]</sup>. To this end, the effect of single-port endoscopic breast-conserving surgery and modified radical mastectomy in the treatment of early breast cancer was analyzed. The results of the study are detailed below.

## 1. Materials and methods

### 1.7 Basic information

The subjects included in this study were patients with early breast cancer who were admitted to our hospital from

February 2020 to February 2021, with a total of 52 cases. They were divided into control group and experimental group by random number table method. The control group received modified radical mastectomy (26 cases), and the experimental group received single-port endoscopic breast-conserving surgery (26 cases). The age of the experimental group was 32-51 years old, with an average of (35.65±2.43) years old. The age of the control group was 33-50 years old, with an average of (35.43±2.43) years old. The analysis of the basic data of the two groups of patients showed that there was no significant difference in the age of the patients ( $P>0.05$ ).

## 1.8 Methods

### 1.8.1 Control group

Modified radical mastectomy was performed in this group, and the patients were treated with anesthesia. A 20 cm transverse fusiform incision was made on the nipple and areola as the center points. The skin flap is freed between the subcutaneous and superficial fascia, up to the lower clavicle to the anterior sheath of the rectus abdominis, inside to the outer border of the sternum, outside to the anterior border of the latissimus dorsi, the thickness of the skin flap is 0.5 cm, and the breast and basal thorax are sharply dissected. The myofascia major reaches the outer edge of the pectoralis major muscle, the coracoclavicular fascia is incised, the axillary adipose lymph node tissue is removed, the axillary lymph node is dissected preventively according to the direction of the axillary vein, the breast tissue is excised, and the axillary lymph node dissection is followed by hemostasis, the incision is sutured layer by layer, followed by compression bandaging.

### 1.8.2 Experimental group

In this group, single-port laparoscopic breast-conserving surgery was performed. The patients were injected with methylene blue 0.5 ml circumferentially at a position 1 cm outside the tumor edge 15 minutes before surgery to mark the pre-resection margin and establish a laparoscopic surgery space. A 2 cm incision was made on the outer edge of the pectoralis major muscle, and the skin flap and the superficial glandular space were bluntly separated with a tunnel device. A single-hole laparoscopic Trocar and surgical instruments were placed through the hole, and the tumor lesions were excised laparoscopically for pathological diagnosis. For patients with negative margins, the axillary incision should be made along the dermatoglyphics, and lymph nodes should be dissected. For patients with positive margins, the scope of resection should be increased, and lymph node dissection should be performed after negative margins. After the operation was determined whether there was active bleeding, a negative pressure drainage tube was placed, which was drawn out through a single-hole incision, and the remaining glands were sutured with a barbed thread under the laparoscope, followed by pressure bandaging.

## 1.9 Performance criteria

(1) To observe and record the relevant indicators (operation time, intraoperative blood loss, incision length, hospitalization time) during the two groups, and make a comparative analysis.

(2) Observe the beauty of the breasts of the patients after surgery, and judge by their appearance and feel. Criteria: no difference between the appearance and feel of the breast and preoperative is excellent; there is a certain difference between the appearance and feeling of the breast and the preoperative difference, and the detection difference is between 0.8 and 1.5 cm, which is good; the difference between the appearance and feeling of the breast is obviously poor.

## 1.10 Statistical methods

The data obtained in the study were processed by SPSS 23.0 software. ( $\bar{x} \pm s$ ) is used to represent measurement data,

using t test; (%) is used to represent count data, using ( $\chi^2$ ) test. When the calculated  $P < 0.05$ , it was suggested that there was a significant difference between the compared subjects.

## 2. Results

### 2.1 Comparative analysis of surgery-related indicators between the two groups

The intraoperative blood loss, incision length and hospital stay in the experimental group were lower than those in the control group ( $P < 0.05$ ), but the operation time was significantly longer than that in the control group ( $P < 0.05$ ). See Table 1 for details.

Table 1 Comparative analysis of surgery-related indicators between the two groups ( $\bar{x} \pm s$ )

Groups	Number of cases	Operation time (min)	Intraoperative blood loss (ml)	Incision length (cm)	Hospital stay (d)
Experimental group	26	125.43±12.32	32.43±11.32	6.76±0.43	11.65±1.54
Control group	26	96.54±11.54	55.43±12.54	3.24±0.45	16.76±1.67
<i>t</i>	-	8.726	6.942	28.837	11.470
<i>P</i>	-	0.001	0.001	0.001	0.001

### 2.2 Comparative analysis of postoperative breast aesthetics between two groups

There were significant differences in breast beauty between the two groups, and the experimental group was better ( $P < 0.05$ ). See Table 2 for details.

Table 2 Comparative analysis of postoperative breast aesthetics between the two groups [n, (%)]

Groups	Number of cases	Excellent	Good	Poor
Experimental group	26	20 (76.92%)	5 (19.23%)	1 (3.85%)
Control group	26	10 (38.46%)	10 (38.46%)	6 (23.08%)
$\chi^2$	-	7.879	2.342	4.127
<i>P</i>	-	0.005	0.126	0.042

## 3. Discussion

Breast cancer is one of the most common malignant tumors in the clinic. The disease can be caused by many factors, and its incidence is relatively high, which can pose a greater threat to the life of patients, so the early diagnosis and treatment of the disease are of great importance. In clinical treatment of this disease, surgery is often used to control the patient's condition and improve its life cycle. With the increasing improvement of people's living standards, their health concepts and aesthetic concepts have also improved. Female patients also pay more attention to aesthetics when they need

effective treatment effects.

Modified radical mastectomy is a common surgical method for the treatment of early breast cancer, which can preserve the breast of patients. However, this method can produce large scars on the breast surface, which cannot meet the aesthetic needs of patients. At the same time, the large incision and high intraoperative blood loss are not conducive to the postoperative recovery of patients. Single-port laparoscopic breast-conserving surgery requires a small incision and low intraoperative blood loss, which will not affect the aesthetics of the breast [2]. The results of this study showed that the intraoperative blood loss, incision length and hospital stay in the experimental group were lower than those in the control group ( $P<0.05$ ), and the operation time was significantly longer than that in the control group ( $P<0.05$ ). It is suggested that single-port endoscopic breast-conserving surgery can reduce the amount of blood loss and the incision is small, but its operation time is longer. Marks are removed, and laparoscopy is required to establish an operating area during the operation, which prolongs the operation time. There were significant differences in breast beauty between the two groups, and the experimental group was better ( $P<0.05$ ). It is suggested that single-port laparoscopic breast-conserving surgery can ensure the aesthetics of the patient's breasts, because the incision required by the operation is small and will not cause major trauma.

In conclusion, single-port laparoscopic breast-conserving surgery and modified radical mastectomy are used in the treatment of early breast cancer, and the treatment effect of the former is significantly better than that of the latter. This treatment method can be promoted.

## References

- [1] Wang XW, Liu C, Ou JH. Comparison of the Efficacy and Safety of Single-port Endoscopic Breast-conserving Surgery and Open Breast-conserving Surgery in the Treatment of Early Breast Cancer [J]. *Chinese Journal of General Surgery (Electronic Edition)*, 2021, 15(05):558-561.
- [2] Bu TJ. Clinical Effect of Single-port Endoscopic Breast-conserving Surgery and Modified Radical Mastectomy in the Treatment of Patients with Early Breast Cancer [J]. *Medical Equipment*, 2021, 34(19): 115-116.