

Comparison of Oncological and Aesthetic Outcomes between Tissue Rearrangement Technique and Pedicled Latissimus Dorsi Flap Reconstruction in Cases of Upper Outer Quadrant Breast Cancer

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Background: Emerging as an adjunct to breast-conserving surgery, oncoplastic breast surgery seeks to improve the cosmetic and functional outcomes for breast cancer surgery. The objective was to assess the potential advantages of using the latissimus dorsi (LD) flap, in comparison with local tissue rearrangement, in terms of aesthetic results and postoperative problems.

Methods: This study compared the outcomes of patients with a malignant tumor removed from the upper outer quadrant of the breast using a comparative non-randomized control approach. Participants were split into two groups: reconstruction using local tissue rearrangement was performed on 20 patients (group A), and a pedicled LD flap was used to treat the same number of patients (group B). All patients were examined in the clinics' outpatient setting. Every 3 months, the medical oncology team would do a thorough clinical assessment.

Results: Better aesthetic outcomes were significantly higher among patients with an LD flap. The LD flap was able to maintain breast shape in 90%, breast volume in 85%, and the nipple-areola complex direction in 90% of patients. Surgeons' evaluation of both techniques reported significantly higher satisfaction for LD flap than local tissue replacement. Patient satisfaction was significantly higher among patients with an LD flap. With regard to the postoperative complications, there were no significant differences between either group.

Conclusions: Oncoplastic breast surgery with reconstruction using the pedicled LD flap provides maintenance of the shape of female breasts with better aesthetic outcomes and patient and surgeon satisfaction than reconstruction using local tissue rearrangement, with a comparable complication rate. (*Plast Reconstr Surg Glob Open* 2024; 12:e6065; doi: [10.1097/GOX.0000000000006065](https://doi.org/10.1097/GOX.0000000000006065); Published online 26 August 2024.)

INTRODUCTION

Breast cancer (BC) is one of the most common malignancies worldwide. About 2.3 million new instances of cancer per year, from both sexes, may be attributed to it. In 2020, BC was the most common cancer among women, accounting for 25% of all cases. Its incidence has been rising.¹

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Received for publication November 21, 2023; accepted June 21, 2024.

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DOI: [10.1097/GOX.0000000000006065](https://doi.org/10.1097/GOX.0000000000006065)

Surgery is still the preferred method of care for the vast majority of patients with early-stage disease.² Mastectomy and breast conserving surgery (BCS) are two types of surgery that have traditionally been used to treat BC. BCS is a kind of operation that removes just the damaged tissue around a tumor while leaving healthy tissue intact. Over half of the patients still have breast abnormalities despite this very careful approach.³

In an effort to enhance patients' quality of life, surgeons have developed oncoplastic breast surgery (OBS) approaches to provide better cosmetic outcomes than those achieved with traditional BCS. Positive margins and the need for re-excision or mastectomy are reduced with oncoplastic surgery, which is likely due to the larger amounts of tissue that may be removed during the first operation. Despite widespread interest and use, evidence supporting the advantages of oncoplastic surgery remains unproven.⁴

Disclosure statements are at the end of this article, following the correspondence information.

The aim of the current research was to assess the potential advantages of using the latissimus dorsi (LD) flap for reconstruction, in comparison with local tissue rearrangement, in terms of aesthetic results and postoperative problems.

PATIENTS AND METHODS

Study Design and Participants

Forty women with upper outer quadrant BC were included in the study with the aim of removing the tumor plus a safety margin and the ipsilateral lymph nodes. BCS is recommended for patients with invasive BC of grade I or II who have a monocentric peripheral lesion in the upper outer quadrant. The patients were classified into two unique groups according to the technique of reconstruction performed. Twenty women undergoing BCS with local tissue rearrangement for reconstruction made up group A, while pedicled LD flap surgery was performed on 20 patients in group B.

Criteria of Inclusion and Exclusion

Inclusion Criteria

Inclusion criteria were presence of malignant tumor in the upper outer quadrant of the breast; having a tissue biopsy and being classified as IDC grade I or II; monocentric tumors with a maximal diameter of 5 cm, as identified by sonomammography and magnetic resonance imaging; and age ranging 20–60 years.

Exclusion Criteria

People who did not fit the following criteria were excluded from the current study: patients who were younger than 20 or older than 60; BC associated with skin invasion; a tumor larger than 5 cm; BC in stages III, IV, and V; patients who refused to provide permission; tumors that had developed several centers of growth; patients who had contraindications to radiation therapy, such as those with active connective tissue diseases; those with morbid obesity; and individuals with exceptionally large breast size.

Patients consulted with a team including an oncologist, a plastic surgeon, and general surgeons. All management plans in addition to the risks and benefits were explained for all patients who met the inclusion criteria. Then, patients who accepted to be incorporated in the study were randomly assigned to one of the previously mentioned groups.

History and Investigations

All patients were subjected to thorough history and detailed medical examination. All patients underwent sonomammography and magnetic resonance imaging for suspicious data. All patients underwent metastatic workup as pelviabdominal ultrasound and computed tomography of the chest and brain in addition to routine preoperative assessment (CBC, PT, PC, INR, renal and liver function tests, and ECG and echocardiography).

Takeaways

Question: What are the benefits of reconstruction using the latissimus dorsi flap (LD) compared with local tissue displacement regarding aesthetics and complications?

Findings: Aesthetic outcomes were better with the LD flap, maintaining breast shape (90%), volume (85%), and nipple-areola complex direction (90%). Surgeons' and patients' satisfaction was higher with the LD flap. There were no significant differences in postoperative complications between groups.

Meaning: Oncoplastic breast surgery with the LD flap offers better aesthetic outcomes and higher satisfaction for both patients and surgeons, with a complication rate comparable to local tissue displacement.

Operative Details

Preoperative Preparation

Assessment of tumor size, the location of the tumor in relation to the areolar edge, size of the breast, body mass index, and medical comorbidities (diabetes mellitus, hypertension, and smoking) were considered. Patients were subjected to preoperative neoadjuvant chemotherapy: four cycles of Adriamycin and cyclophosphamide (Endoxan), with a 21-day interval between each cycle, or 12 cycles of TAXOL (paclitaxel), with a 1-week interval between each cycle, according to the biological classification of BC. Immunophenotyping of the true cut biopsy by ER, PR, Her-2-neu R, and ki-67 index were assessed in all study participants.

Operative Preparations and Details

While the patient was sitting up straight, the incision line on the skin was marked out, and the exact location was determined. Curvilinear markings were made on the skin and flaps throughout the procedure. The depth of the tumor, its proximity to the skin, and its separation from the nipple-areola complex (NAC) were all measured in millimeters. To avoid any distortion, the degree of mammary ptosis, breast asymmetry, and breast shape were all taken into consideration. In cases involving LD flaps, the patient was first placed in a supine position, then moved to a lateral position, and then returned to a supine position for the duration of the surgical operation. The patient's arm on the side of the operation was elevated laterally to provide for easier access to the axillary region. Following sterilization and draping procedures, the breast and axillary region were made accessible in preparation for surgery.

Operative Steps. First, patients received perioperative antibiotics (1 hour before the surgery and continued 2 days postoperatively). Then the tumor mass was excised with safety margins at least 2 mm by naked eye as intraoperative frozen sections were not available in our hospital. Followed by ipsilateral axillary lymph node dissection, time of the operation (in minutes) and blood loss (in milliliters) were recorded. The axilla was cleared through a separate transverse incision, or the same incision according to the preference of the surgeon, removing level I and

II. The skin was closed by staplers. Three separate suction drains were inserted in LD flap patients, in the breast, axilla, and the bed of the LD muscle.

Postoperative Evaluation

Early Postoperative Status Evaluation

Postoperative status was evaluated by length of hospital stay, edema and seroma, shape of the breast and persistent seroma formation in the breast or axilla, postoperative wound infection, occurrence of lower limb DVT or chest infection, occurrence of upper limb DVT or lymphedema, wound dehiscence, nipple and areola necrosis, and postoperative pain over 48 hours according to the visual analog scale (VAS) measuring pain intensity.⁵

Late Postoperative Assessment

All patients continued treatment in the oncology department, and all of them received postoperative radiotherapy in the form of 25 cycles for 5 weeks after healing of all wounds. A number of patients received postoperative chemotherapy and/or hormonal therapy according to immunophenotyping (ER, PR, Herneu and ki-67) of the specimen, age of the patient, and stage of the disease. Surgical assessment and clinical examination for recurrence were done every 3 months along with the assistance of the medical oncology team. Bilateral sonomammography every 3–6 months and annual sonomammograms were performed for all patients.

Aesthetic Outcome

A postoperative cosmetic evaluation was conducted by two surgeons blinded to the procedure 6 months after the procedure, using a standardized grading system. A rating scale ranging from 5 to 1 (with 5 indicating outstanding, 4 indicating good, 3 indicating adequate, 2 indicating bad, and 1 indicating extremely poor) was used to evaluate the following criteria.

Patients' satisfaction was assessed using a developed satisfaction score questionnaire depending on six items: bilateral symmetry of the breast, breast configuration and shape, breast volume compared with the other side, NAC, and scar. Each item was given a score from 1 to 4 as shown in Table 1, so the total score was 20 and the minimum score was 5. A score from 5 to 8 was considered poor, from 9 to 12 was considered fair, from 13 to 16 was considered good, and from 17 to 20 was considered very good.⁶

Ethical Consideration

The research was granted permission by the ethical and scientific committee of the faculty of medicine at Beni-Suef University, with the assigned approval number FMBSUREC/06042021/Yassin.

Statistical Analysis

SPSS (v. 25) for Windows was used to analyze the data. We used statistics like mean and SD to describe quantitative variables. Both absolute numbers and percentages were used to express quantitative variables. Correlations between normally distributed variables were tested using the Pearson correlation coefficient. *P* values were used to

Table 1. Patient Satisfaction Score Questionnaire after 6 Months⁶

Item	Score
1. Bilateral Symmetry of the Breast	
Very good	4
Good	3
Fair	2
Poor	1
2. Shape	
Very good	4
Good	3
Fair	2
Poor	1
3. Breast Volume Compared with the Other Side	
Very good	4
Good	3
Fair	2
Poor	1
4. NAC	
Very good	4
Good	3
Fair	2
Poor	1
5. Scar	
Very good	4
Good	3
Fair	2
Poor	1

determine whether or not the results were statistically significant; if the *P* value was more than 0.05, the results were deemed insignificant, and if it was less than 0.05, they were deemed significant.

RESULTS

Table 2 illustrates that there was no statistically significant difference seen between group A and group B in terms of age and body mass index, as shown by a *P* value greater than 0.05. There was no statistically significant difference seen between group A and group B in terms of the distance between the tumor and NAC, as shown by a *P* value greater than 0.05. However, it should be noted that the tumor size was found to be bigger in group B, with a *P* value less than 0.001. There was no statistically significant difference seen in the IDC grading between group A and group B, as indicated by a *P* value greater than 0.05.

Table 3 presents the findings indicating a statistically significant difference in operational time and blood loss between group B and group A (*P* < 0.001). Pain assessment using VAS showed that group B had a notably greater VAS score compared with group A, with a statistically significant difference (*P* < 0.001). Group B had a much prolonged duration of recovery to normal activity and length of stay in operation compared with group A, with a statistically significant difference (*P* < 0.001). Group B had a notably greater number of afflicted lymph nodes (N1) compared with group A; with statistical significance (*P* < 0.05). Group B had a much greater percentage of

Table 2. Basic Assessment of the Studied Groups, Patient Demographics and Specimen Data

Items	Group A (n = 20)	Group B (n = 20)	P
Age (y)	41.50 ± 12.576	41.55 ± 11.199	0.989
BMI (kg/m ²)	28.11 ± 3.011	27.72 ± 3.021	0.683
Mean of tumor size	2.4 ± 0.56	3.6 ± 0.52	0.001*
Distance between tumor and NAC (cm)	4.45 ± 0.605	4.20 ± 0.696	0.233
Grading of invasive duct carcinoma (IDC)			
IDC 1	8 (40.0%)	13 (65.0%)	0.113
IDC 2	12 (60.0%)	7 (35.0%)	

*Pvalue is significant.

Table 3. Basic Operative and Postoperative Assessment of the Studied Groups

Items	Group A (n = 20)	Group B (n = 20)	P
Time of the operation (min)	50.75 ± 5.200	86.75 ± 13.206	<0.001*
Blood loss (mL)	276.25 ± 74.549	570.00 ± 136.594	<0.001*
Average postoperative VAS score over 48 h	4.55 ± 1.276	6.50 ± 1.606	<0.001*
Postoperative recovery to normal activity (d)	11.45 ± 2.874	14.85 ± 3.200	0.001*
Postoperative hospital stay (d)	1.60 ± 1.353	4.50 ± 1.051	<0.001
Lymph node grading			
Dissected lymph node N0	12 (60.0%)	4 (20%)	0.019*
Dissected lymph node N1	8 (40.0%)	16 (80%)	
Primary wound healing	10 (50.0%)	20 (100.0%)	<0.001*
Secondary wound healing	10 (50.0%)	0 (0.0%)	
Postoperative chemotherapy	10 (50.0%)	1 (5.0%)	0.002*
Postoperative hormonal therapy	8 (40.0%)	6 (30.0%)	0.584

*Pvalue is significant.

Table 4. Postoperative Complications of the Studied Groups and Aesthetic Outcome

Items	Group A (n = 20)	Group B (n = 20)	Odds Ratio	P
Early postoperative complications				
Postoperative lymphedema of upper limb	3 (15.0%)	1 (5.0%)	2.1 (0.4-11.8)	0.292
Wound seroma	5 (25.0%)	2 (10.0%)	1.9 (0.6-6.4)	0.212
Wound infection	6 (30.0%)	1 (5.0%)	4 (0.6-25)	0.091 (FET)
Wound hematoma	4 (20.0%)	0 (0.0%)	—	0.106 (FET)
First degree mammary ptosis	8 (40.0%)	7 (36.8%)	—	0.863
Second degree mammary ptosis	10 (50.0%)	9 (47.9%)		
Third degree mammary ptosis	2 (10.0%)	3 (15.8%)		
Late postoperative complications				
Recurrence	2 (10.0%)	0 (0.0%)	—	0.481
Resistance to chemo or radiotherapy	2 (10.0%)	0 (0.0%)	—	0.481
Breast asymmetry	13 (65.0%)	0 (0.0%)	0.1 (0.02-0.7)	< 0.001* (FET)
Maintained shape of the flap post radio	16 (80.0%)	16 (80.0%)	1	>0.999
Distorted shape of the flap post radio	4 (20.0%)	4 (20.0%)		
Persistent seroma after 1 month	3 (15.0%)	0 (0.0%)	—	0.231 (FET)
Aesthetic outcome				
Maintained breast shape	6 (30.0%)	18 (90.0%)	0.2 (0.04-0.6)	<0.001*
Distorted breast shape	14 (70.0%)	2 (10.0%)		
Maintained breast size	1 (5.0%)	17 (85.0%)	0.1 (0.01-0.4)	<0.001*
Distorted breast size	19 (95.0%)	3 (15.0%)		
Maintained NAC direction	8 (40.0%)	18 (90.0%)	0.2 (0.1-0.7)	0.001*
Distorted NAC direction	12 (60.0%)	2 (10.0%)		

*Pvalue is significant.

The odds ratio was calculated for group B compared with group A.

primary wound healing compared with group A, as shown by a Pvalue less than 0.001. Group A exhibited a considerably greater percentage of chemotherapy compared with

group B (P < 0.05). However, there was no significant difference seen in the administration of hormonal treatment between the two groups.

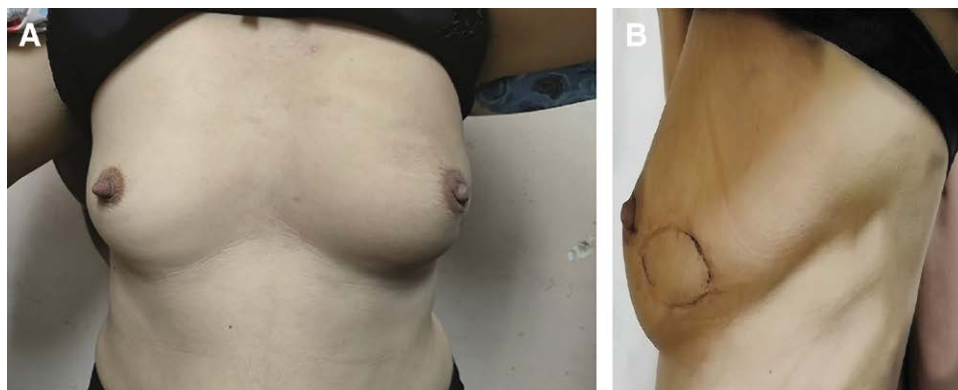


Fig. 1. Breast reconstruction with pedicled LD flap. A, A 45-year-old woman with Lt upper outer mass 2×4 cm with small breasts size. B, A 45-year-old woman with Lt upper outer mass 2×4 cm with small breast size post mass excision and immediate reconstruction by pedicled LD flap.

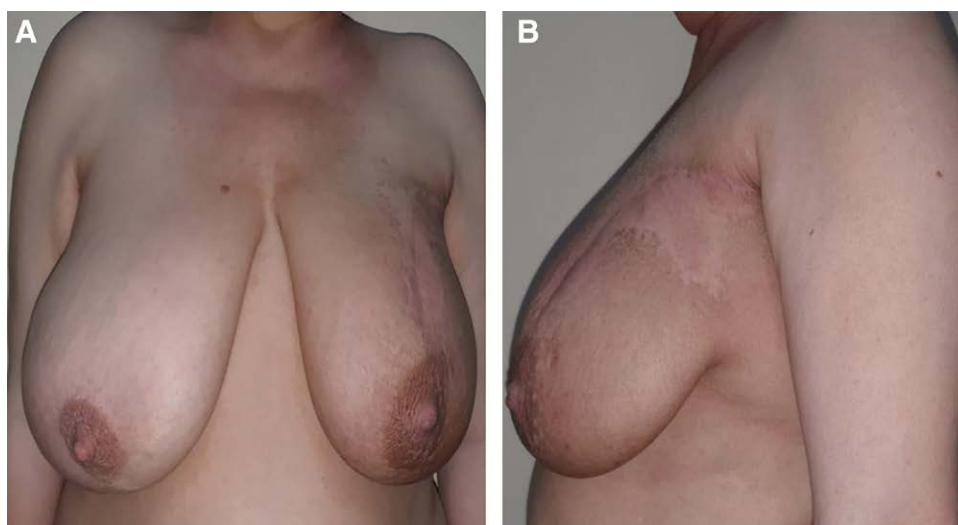


Fig. 2. Breast reconstruction with local tissue rearrangement technique. A, A 49-year-old woman with left upper outer mass. B, A 49-year-old woman with left upper outer mass post mass excision and immediate reconstruction by local tissue displacement 1 year postoperative follow-up.

Table 4 presents the findings indicating that there was no statistically significant difference seen between the two groups in relation to postoperative problems, as shown by a P value greater than 0.05. Group B had a notably greater percentage of retained breast form, volume, and NAC orientation compared with group A, as shown by a statistically significant P value less than 0.05 (Figs. 1 and 2). Group A exhibited a notably greater prevalence of breast asymmetry compared with group B, as shown by a statistically significant P value less than 0.05. There were no statistically significant differences seen among the groups under study with respect to recurrence rates, resistance to radiation and chemotherapy, degree of ptosis, flap shape after radiotherapy characterized by thickening and darkening, skin itching, and seroma occurrence after 1 month ($P > 0.05$).

Table 5 demonstrates a statistically significant difference in patients' satisfaction between group A and group B, with group B exhibiting greater levels of satisfaction ($P < 0.05$). There was a statistically significant difference in

patients' satisfaction between group A and group B, with group B exhibiting greater levels of satisfaction ($P < 0.05$). Group B exhibited a significantly greater overall mean satisfaction compared with group A ($P < 0.05$).

DISCUSSION

When tumors are removed with a safety margin and the breast is then rebuilt, a new discipline called OBS emerges. Both volume displacement and volume replacement techniques are used, with a focus on rapid reconstruction for maximum psychological benefit.⁷

The purpose of this investigation was to perform a comparative analysis of OBS using the pedicled LD flap and the conventional conservative breast surgery in cases with upper outer quadrant BC.

In our study, the outcomes were to compare between both surgical techniques regarding the aesthetic outcomes with patient and surgeon satisfaction in addition to

Table 5. Satisfaction in the Studied Groups

Satisfaction	Group A (n = 20)	Group B (n = 20)	P
Patient satisfaction (patient satisfaction score questionnaire)			
Poor	6 (30.0%)	0 (0.0%)	<0.001
Fair	12 (60.0%)	0 (0.0%)	
Good	2 (10.0%)	4 (20.0%)	
Very good	0 (0.0%)	16 (80.0%)	
Doctor satisfaction (blind) independent			
Poor	14 (70.0%)	0 (0.0%)	<0.001*
Fair	5 (25.0%)	0 (0.0%)	
Good	1 (5.0%)	6 (30.0%)	
Very good	0 (0.0%)	8 (40.0%)	
Excellent	0 (0.0%)	6 (30.0%)	
Mean satisfaction			
Mean ± SD	1.4 ± 0.6	4 ± 0.8	<0.001*

*P value is significant.

the safety of the surgical procedures. Better aesthetic outcomes were significantly higher among patients with an LD flap. The LD flap was able to maintain the breast shape in 90%, the breast volume in 85%, and the NAC direction in 90% of patients. Surgeons' evaluation of both techniques reported a significant higher satisfaction for the results of LD flap than local tissue replacement. Patient satisfaction was significantly higher among patients with an LD flap, where 80% showed very good satisfaction and the remaining 20% reported good satisfaction. On the other hand, 30% of patients in local tissue rearrangement showed poor satisfaction, 60% showed fair satisfaction, and only 10% showed good satisfaction.

The findings of our study align several reports like Rose et al,⁸ who revealed a significantly higher rate of satisfaction (99.2%) among patients who underwent OBS compared with those who received traditional conventional breast surgery. Wattoo et al⁹ found that patients who underwent implant-based LD myocutaneous flap reconstructions exhibited significantly higher levels of overall satisfaction (78.9 versus 66.4) and satisfaction with the surgical outcome (81.3 versus 68.7) compared with those who underwent fully autologous reconstructions. Noguchi et al¹⁰ noted that the use of the LD flap may effectively preserve the natural form and size of the breast, leading to a harmonious aesthetic outcome.

The high satisfaction rate observed with the use of the LD flap in reconstructive surgery may be attributed to several factors. Firstly, the LD muscle is known for its rich blood supply, which promotes successful tissue healing and graft survival. Additionally, the surgical incision required for accessing the LD flap is relatively straightforward and convenient for the surgeon to perform. Lastly, the LD flap provides a large area of tissue that can be used for reconstruction purposes, allowing for greater flexibility in achieving optimal aesthetic and functional outcomes. Following excision, the contour and functionality of the posterior region will remain unaffected, hence facilitating the process of breast reshaping.¹¹

With respect to early postoperative complications, there were no statistically significant differences observed between the two groups. However, patients who underwent local tissue rearrangement exhibited higher rates

of postoperative lymphedema (15% versus 5%), wound seroma (25% versus 10%), and wound infection (30% versus 5%) compared with those who received the LD flap procedure. Notably, no cases of nipple necrosis or wound hematoma were reported in the LD flap group. In relation to the process of wound healing, it was observed that all patients in LD flap group experienced healing via primary intention. Conversely, patients in the local tissue rearrangement group exhibited healing through primary intention in only 50% of cases. Flap ischemia and necrosis were seen in a single patient, representing a prevalence of 5% in each group. According to the mammary ptosis degree, the most common was grade II, detected in 50% versus 47.9% of patients in the local tissue replacement and LD flap group, respectively.

Consistent with the findings of Saini et al,¹² our research also observed a low incidence of postoperative problems in breast reconstruction using LD flaps. Specifically, no patients reported seroma, and only one patient had necrosis of the flap margins.

In a study conducted by Carter et al,¹³ the results indicated that the incidence of seroma was 13.4%, while delayed wound healing and wound infection were seen at rates of 1.4% and 4.1%, respectively. Additionally, it was observed that although there was a tiny rise in complications linked to wounds, the majority of these instances were of a benign nature, with only a small number necessitating further surgical intervention or the postponement of adjuvant therapy.

Mammary ptosis degree was also studied by Schaverien et al,¹⁴ who demonstrated that the majority of patients were grade II in both techniques, representing 57.1% in volume replacement surgery and 64.3% in volume rearrangement surgery.

Evaluating the delayed complications revealed that there were no significant differences between either group. Recurrence of the tumor, resistance to chemotherapy or radiotherapy, and persistence of seroma after 1 month were detected in patients with local tissue rearrangement, with only one case showing recurrence of malignancy.

Similarly, the meta-analysis of Kosasih et al¹⁵ about the safety of oncoplastic breast surgery showed no significant differences between oncoplastic breast surgery

and the traditional conservative breast surgery as regards the recurrence rate. Also, lower rates of recurrence were reported by the study of Abidi et al,¹⁶ who revealed that positive margins were seen in five patients (2%) in oncoplastic breast surgery group but in 31 (17.9%) patients in BCS group. Ahmed et al,¹⁷ found that the recurrence of malignancy in patients managed with LD flaps for breast reconstruction was reported in only one (4%) patient.

Compared with patients who had local tissue displacement, those undergoing LD flap repair had a significantly longer surgical process (86.75 ± 13.206 minutes) on average. Patients undergoing local tissue displacement had 276.25 ± 74.549 mL of blood loss during the surgical operation, whereas patients undergoing LD flap treatment had a much larger quantity (570.00 ± 136.594 mL). Patients who received LD flap surgery had a significantly higher mean postoperative VAS score (6.50 ± 1.606) compared with patients who had local tissue displacement (4.55 ± 1.276) over the 48-hour period.

Compared with patients who received local tissue displacement, those who underwent LD flap surgery required more time in the operating room. This could be because the surgery as a whole takes a long time, and there is also the extra time needed to harvest the flap. Not only that, this method is associated with increased blood loss overall. Feng et al,¹⁸ for example, studied LD flaps used in OBS. Overall, the surgical process lasted an average of 96.5 ± 25.3 minutes, according to their results. Ahmed et al¹⁷ observed that the LD flap augmentation method for quick breast reconstruction after skin-preserving mastectomy took more time. More precisely, the research showed that an average running duration of 201.32 ± 29.99 minutes was recorded.

In our study, VAS score was higher in the LD flap group than in the local tissue rearrangement group, and this could be explained due to operating on two sites. However, pain was effectively controlled by different postoperative analgesic modalities. Similarly, Gentile et al¹⁹ in their study mentioned that when satisfaction was evaluated through VAS, patients undergoing OBS were satisfied.

LIMITATIONS WITHIN THE STUDY

Sample Size and Selection

The sample size is relatively small, with only 40 women included in the study. This may limit the statistical power of the analysis and increase the likelihood of type II errors.

Outcome Measures

The study primarily focuses on aesthetic outcomes, patient satisfaction, and surgical complications. While these are important endpoints, the assessment of long-term oncological outcomes, such as disease-free survival and recurrence rates, is crucial for evaluating the overall efficacy of oncoplastic breast surgery.

Addressing these limitations and conducting further research with robust study designs and comprehensive outcome assessments would strengthen the evidence base for the use of oncoplastic breast surgery techniques in clinical practice.

CONCLUSIONS

OBS with breast reconstruction using the pedicled LD flap provides maintenance of the shape of female breasts with better aesthetic outcomes and patient and surgeon satisfaction than reconstruction using local tissue rearrangement, with a comparable complication rate. However, reconstruction using the LD flap is usually accompanied by more operative time, blood loss, and postoperative pain.

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

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