

ASSESSMENT OF LATERAL INTERCOSTAL ARTERY PERFORATOR FLAP IN PARTIAL BREAST RECONSTRUCTION AFTER BREAST CONSERVING SURGERY (BCS) FOR CANCER BREAST PATIENTS



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Introduction

- Breast-conserving surgery (BCS) has become the standard treatment for early breast cancer; however, wide local excision may lead to significant breast deformity.
- Oncoplastic breast surgery (OPBS), particularly volume replacement using perforator flaps, aims to address this challenge by maintaining both oncologic safety and cosmetic integrity.
- The lateral intercostal artery perforator (LICAP) flap has gained increasing popularity due to its reliability, minimal donor site morbidity, and suitability for lateral breast defects.

Objective:

To evaluate the feasibility, safety, and aesthetic outcomes of the LICAP flap as a volume replacement technique in patients undergoing wide local excision for stage I and II breast cancer, as well as selected patients with stage III disease following neoadjuvant chemotherapy.

Methodology

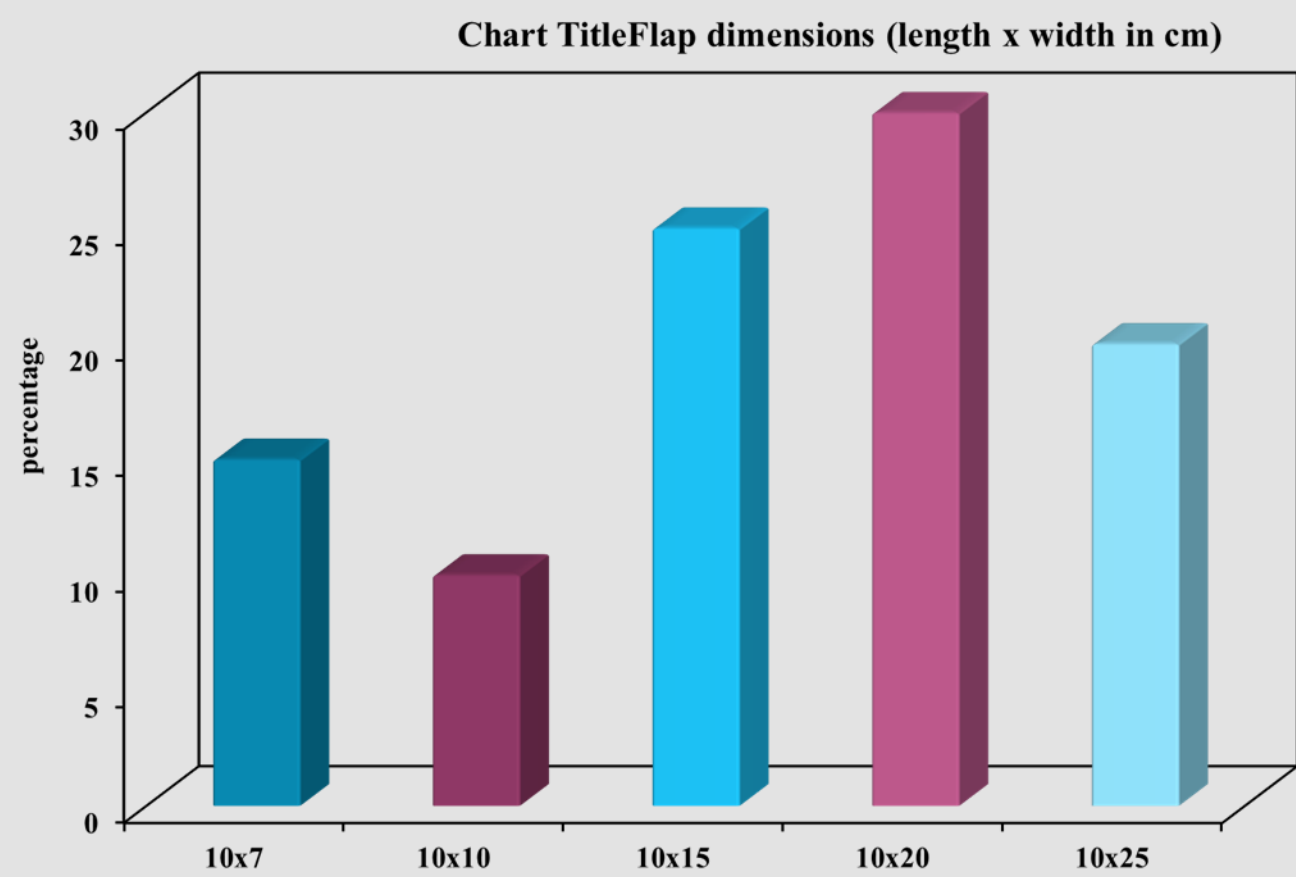
This prospective study included 20 female patients who underwent BCS with immediate LICAP flap reconstruction at Alexandria Main University Hospital. Demographic data, tumor characteristics, operative details, and postoperative complications were recorded. Aesthetic outcomes were assessed at 3 and 6 months using the Harvard scale. Complications such as flap necrosis, seroma formation, wound dehiscence, and infection were evaluated.



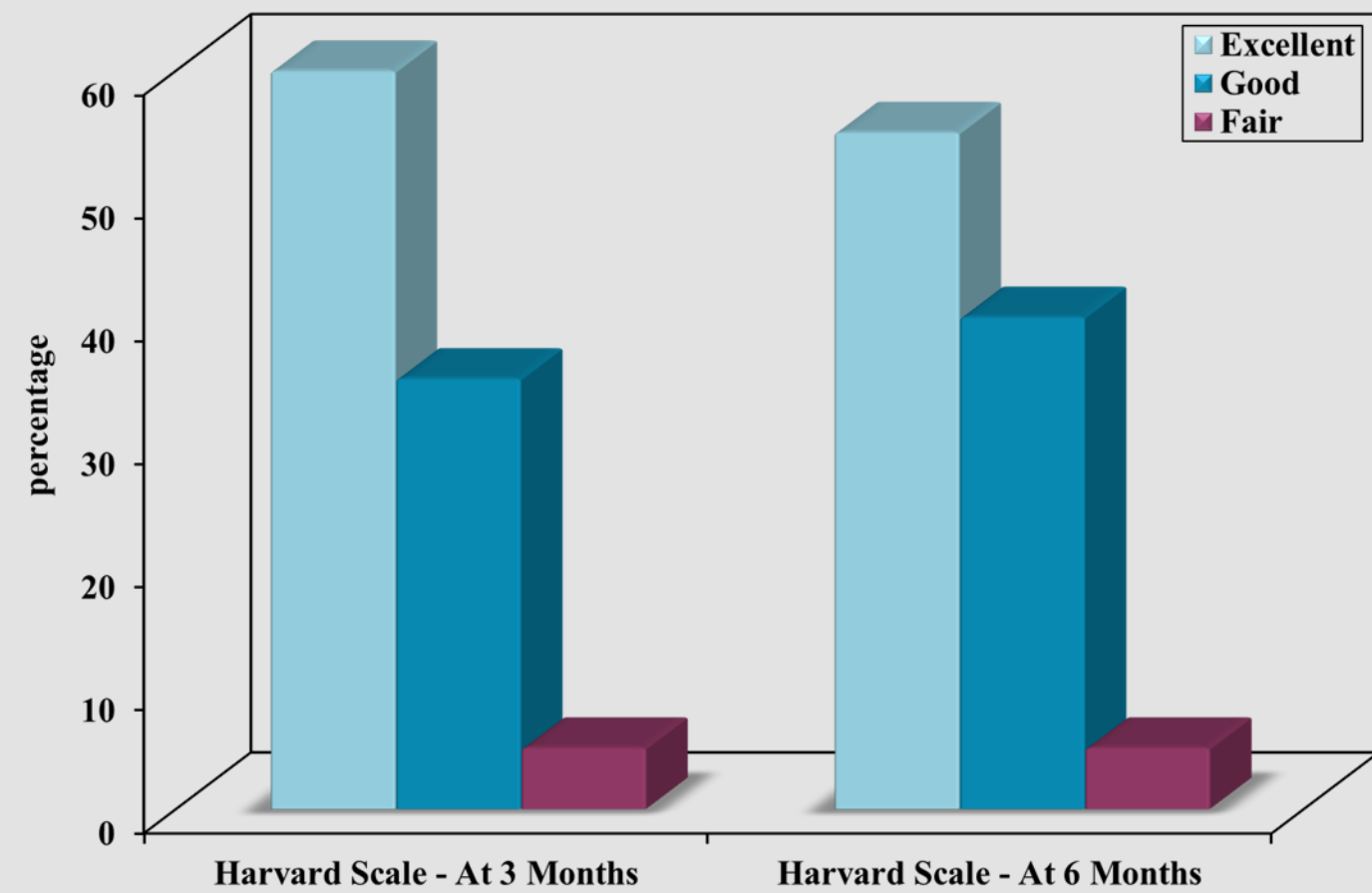
Results

LICAP flap reconstruction was successfully performed in all patients. One patient (5.0%) developed full-thickness flap necrosis involving 90% of the flap, leading to wound dehiscence and secondary infection; this case required flap excision and salvage with a pedicled latissimus dorsi flap. Four patients (20.0%) developed postoperative seromas, all managed conservatively. No complete flap loss occurred apart from the single necrosis case. Aesthetic evaluation revealed excellent to good cosmetic outcomes in 95.0% of patients. Previous axillary surgery or postoperative radiotherapy did not adversely affect flap viability.

Operative characteristics	No.	%
Doppler usage		
No	8	40.0
Yes	12	60.0
Surgical position		
Supine	12	60.0
Partial Lateral Decubitus	8	40.0
Flap dimensions (length x width in cm)		
10x7	3	15.0
10x10	2	10.0
10x15	5	25.0
10x20	6	30.0
10x25	4	20.0
Operative time (min)		
Min. – Max.	85.0 – 120.0	
Mean ± SD.	106.0 ± 12.0	
Median	110.0	



	No.	%
Cosmetic Outcome (Harvard Scale - At 3 Months)		
Excellent	12	60.0
Good	7	35.0
Fair	1	5.0
Cosmetic Outcome (Harvard Scale - At 6 Months)		
Excellent	11	55.0
Good	8	40.0
Fair	1	5.0
Patients' satisfaction		
Satisfied	19	95.0
Non-satisfied	1	5.00



Conclusion

- The LICAP flap has proven to be a reliable, versatile flap for partial breast reconstruction, especially after wide local excision, offering good reach for defects in the lateral and central quadrants.
- Preservation of the latissimus dorsi muscle ensures reduced shoulder dysfunction and quicker recovery, enhancing patient comfort and satisfaction.
- This Study demonstrates excellent or good cosmetic outcomes, translating into improved body image, self-esteem, and quality of life for breast cancer survivors.
- Potential for Broader Application: Beyond early-stage cancers, the LICAP flap has shown promise in stage III tumors post-neoadjuvant chemotherapy and in patients with massive weight loss, expanding its clinical indications.
- Personalization of Reconstruction: Tailoring flap selection based on tumor location, breast size, comorbidities, and patient preference is crucial for optimizing outcomes in modern breast cancer care.