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Bilobed LICAP for breast conservation: Technique description and 10-year retrospective cohort results

Ana Filipa Ferreira Goulart¹, Régis Resende Paulinelli^{1,2}, Horácio Mendonza¹, Luiz Fernando Jubé Ribeiro¹ ¹Gynecology and Breast Unit, Araújo Jorge Cancer Hospital – Goiânia (GO), Brazil. ²Mastology Program, Universidade Federal de Goiás – Goiânia (GO), Brazil.

Objective: The bilobed flap is a useful double transposition flap technique for covering skin defects, particularly in the face. Lateral intercostal perforator vessel flaps (LICAPs) are a valuable volume replacement oncoplastic technique for the outer quadrants. A plastic surgeon in Brazil has modified the bilobed flap for use in the breast, especially for tumors located in the upper inner quadrants. The aim of this study is to describe a new modification, called bilobed LICAP, for tumors located in the central quadrants or nearby, and our results after 10 years. Methodology: From 2013 to 2023, we identified 37 patients submitted to this technique, with large malignant breast tumors near or involving the skin in the central quadrants or nearby, who did not have ptosis or did not wish to correct it, and for whom this new modified bilobed flap technique avoided mastectomy. These patients were operated on by the same breast oncoplastic surgeon in different institutions, and this is part of a research project approved by our ethical committee (n. 2.322.212). Results: The mean age of patients was 56.23 (±13.57) years, and the estimated breast volume was 350 (±124.74) g. A total of 24 (88.89%) women had grade 0 or 1 ptosis. The mean specimen weight was $105.89 (\pm 127.00)$ g, and the mean clinical tumor size was $45.00 (\pm 16.49)$ mm, with tumors up to 75 mm. There were 13 (35.14%) tumors larger than 5 cm and one multicentric tumor. Notably, 34 (91.89%) patients had invasive ductal carcinomas. Round incisions over the tumor were performed in 36 (97.30%) cases, and the skin was preserved, and part of the flap de-epithelialized in one case. Nipple areola complex was removed due to clinical involvement in 19 (51.35%) cases. In two of these cases, the nipple and areola were immediately reconstructed with contralateral free grafting. A total of 20 (54.05%) patients required neoadjuvant chemotherapy, and 10 (27.03%) received adjuvant chemotherapy. Four patients received anti-HER therapy (13.04%) and 20 (86.96%) received hormone therapy. Three (8.11%) patients underwent immediate contralateral mastopexy due to previous asymmetry. Radiotherapy was indicated in all cases. Notably, 18 (88.24%) patients received hormone therapy. There were 3 (8.11%) minor complications, including one case of hyperemia treated with antibiotics, one small hematoma treated clinically, and one case of palpable lump and retraction due to fat necrosis in a patient with previous mammoplasty. There was one case of focally positive margin, treated with radiotherapy, without re-excision. Intraoperative pathological margin evaluation was performed in 14 (46.77%) cases. There were no cases of dehiscence, skin necrosis, seroma, enlarged scars, thromboembolism, or other complications. All patients were satisfied, and none of them required surgical revision. There were no cases of conversion to mastectomy. Notably, 19 (51.35%) patients returned after radiotherapy for aesthetic follow-up and evaluation with the oncoplastic surgeon. The rest continued their follow-up with other surgical or clinical oncologists. In a median follow-up of 20 (13-66) months, there were no cases of local recurrence, metastasis, or death. According to the BREAST-Q, patient satisfaction with their breasts was 74.41 (±17.92), satisfaction with the results was 91.06 (±11.89), psychosocial well-being was 80.19 (±17.12), sexual well-being was 75.92 (±24.63), physical well-being was 68.25 (±14.05), satisfaction with information was 84.64 (±15.83), and satisfaction with the surgeon was 97.67 (±6.95). Aesthetic results were rated as good or excellent in 17 (89.47%) cases by the Harris scale and in 14 (73.68%) by the BCCT.core software. Conclusion: The new technique allowed for breast conservation in all cases, even those requiring large central resections on proportionally small breasts with limited ptosis. The procedure resulted in high rates of free surgical margins, good or excellent symmetry in most cases, no need for surgical revisions, and few complications.

Keywords: breast neoplasm; mastectomy, segmental.