

Application of the AICAP Flap in Breast-Conserving Surgery After Neoadjuvant Chemotherapy

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Aims:

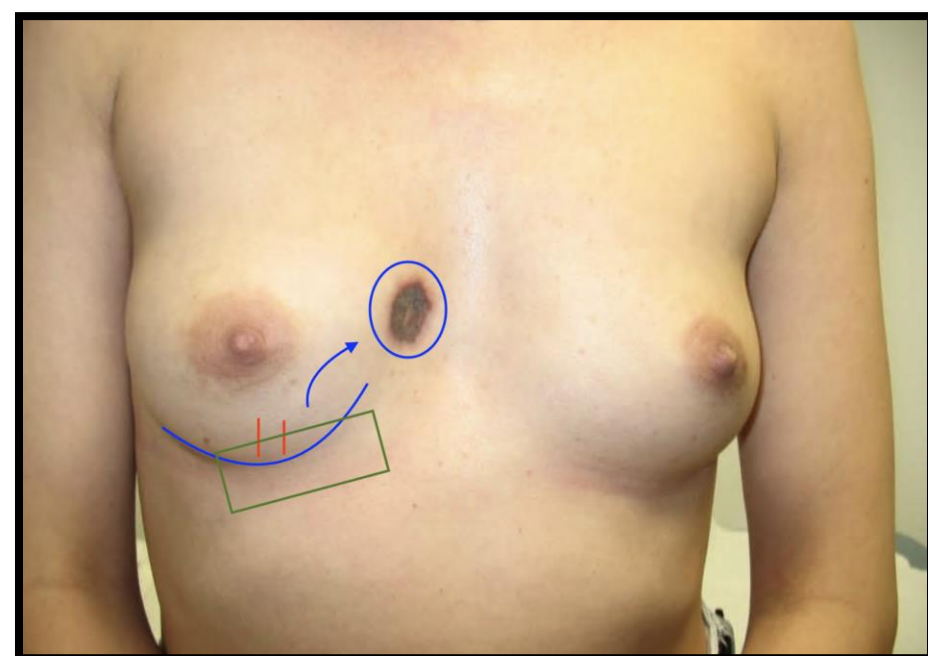
To describe the use of the Anterior Intercostal Artery Perforator (AICAP) flap for immediate breast reconstruction following breast-conserving surgery in a patient with locally advanced breast cancer treated with neoadjuvant chemotherapy.

Methods:

We present the case of a 35-year-old woman with stage IIIB (luminal B, grade II, cT4b cN1-2 cM0) invasive ductal carcinoma of the right breast. After neoadjuvant chemotherapy, she underwent a Saviscout-guided lumpectomy and axillary lymph node dissection. Preoperative Doppler ultrasound identified suitable perforators, allowing planning of an AICAP flap for immediate reconstruction (Figure 1).

Results:

Despite a complete radiologic response, a 3 cm ulcer in the lower inner quadrant persisted. Due to an unfavorable tumor-to-breast volume ratio, a pedicled AICAP flap was used for volume replacement. Postoperative treatment included hormone therapy and radiotherapy to the breast and regional nodes. Six-month follow-up showed satisfactory clinical and aesthetic outcomes (Figure 2).



Conclusion:

Thoracic wall perforator flaps, such as the AICAP flap, are a valuable reconstructive option in oncoplastic breast surgery, especially in patients with large tumor-to-breast volume ratios or tumors in challenging locations. These flaps enable breast conservation after wide resections, offering an alternative to mastectomy in selected cases.

Available options include LTAP, LICAP, MICAP, and AICAP flaps. Selection depends on defect location, volume required, and vascular anatomy assessed via preoperative Doppler. Perforator flaps preserve muscle structures and reduce donor-site morbidity. In this case, the AICAP flap provided adequate volume with excellent aesthetic and functional outcomes, even after chemotherapy and radiotherapy. With proper planning, they significantly improve quality of life and body image in breast-conserving surgery.



References:

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