

Single-Stage Delayed Hybrid Reconstruction After Failed Implant-Based Breast Surgery Using the Pedicled Thoracodorsal Artery Perforator Flap: A Report of Three Cases

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Abstract:

The thoracodorsal artery perforator (TDAP) flap is well established for immediate and early breast reconstruction, but its role in delayed, single-stage hybrid reconstruction after failed implant-based surgery is less well described. We present three consecutive cases of delayed breast reconstruction using a pedicled TDAP flap combined with a subpectoral Becker-35 expandable implant, performed more than 12 months after failed implant-based reconstruction in previously operated, scarred fields. All patients had poor skin quality and significant surgical scarring. Preoperative computed tomography angiography was used for perforator mapping, supplemented by handheld Doppler assessment; intraoperative indocyanine green angiography was unavailable. Mean flap size was 17 × 8 cm, pedicle length 13–15 cm, mean operative time 247 minutes, and estimated blood loss under 250 mL. Two patients achieved durable, satisfactory outcomes with no significant donor-site morbidity at 24 months' follow-up. The third patient experienced flap failure following inadvertent division of the dominant perforator during dissection through a fibrotic surgical plane, highlighting the technical challenges of perforator identification in previously operated fields. A pedicled TDAP flap with an expandable implant offers a feasible, muscle-sparing option for single-stage delayed breast reconstruction after failed implant-based surgery, particularly for patients unsuitable for abdominal free flaps or unwilling to sacrifice the latissimus dorsi. Careful perforator mapping and meticulous dissection in scarred planes are essential to minimize vascular complications.

Keywords:

Breast reconstruction, thoracodorsal artery perforator flap, implant failure, hybrid reconstruction, expandable implant.