

Vascularized Groin Lymph Node Flap Transfer for Postmastectomy Upper Limb Lymphedema: Flap Anatomy, Recipient Sites, and Outcomes

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Background: Vascularized groin lymph node flap transfer is an emerging approach to the treatment of postmastectomy upper limb lymphedema. The authors describe the pertinent flap anatomy, surgical technique including different recipient sites, and outcome of this technique.

Methods: Ten cadaveric dissections were performed to clarify the vascular supply of the superficial groin lymph nodes. Ten patients underwent vascularized groin lymph node flap transfer for postmastectomy upper limb lymphedema using the wrist ($n = 8$) or elbow ($n = 2$) as a recipient site. Ten patients who chose to undergo physical therapy were used as controls. Intraoperatively, indocyanine green was injected subcutaneously on the flap margin to observe the lymph drainage. Outcomes were assessed using improvement of circumferential differentiation, reduction rate, and decreased number of episodes of cellulitis.

Results: A mean 6.2 ± 1.3 groin lymph nodes with consistent pedicles were identified in the cadaveric dissections. After indocyanine injection, the fluorescence was drained from the flap edge into the donor vein, followed by the recipient vein. At a mean follow-up of 39.1 ± 15.7 months, the mean improvement of circumferential differentiation was 7.3 ± 2.7 percent and the reduction rate was 40.4 ± 16.1 percent in the vascularized groin lymph node group, which were statistically greater than those of the physical therapy group (1.7 ± 4.6 percent and 8.3 ± 34.7 percent, respectively; $p < 0.01$ and $p = 0.02$, respectively).

Conclusions: The superficial groin lymph nodes were confirmed as vascularized with reliable arterial perfusion. Vascularized groin lymph node flap transfer using the wrist or elbow as a recipient site is an efficacious approach to treating postmastectomy upper limb lymphedema. (*Plast. Reconstr. Surg.* 131: 1286, 2013.)

CLINICAL QUESTION/LEVEL OF EVIDENCE: Therapeutic, III.

Postmastectomy upper limb lymphedema is a relatively uncommon but potentially devastating complication of axillary lymph

node dissection and irradiation.¹⁻³ Nonsurgical treatments, such as exercise and elevation, lymphatic massage, static compression garments,

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