

# Vascularized Groin Lymph Node Transfer Using the Wrist as a Recipient Site for Management of Postmastectomy Upper Extremity Lymphedema

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**Background:** Restoring the continuity of lymphatic drainage by lymphaticovenous or lymphaticolymphatic anastomosis was observed in the short term to be patent but eventually occluded because the elevated interstitial pressure will cause obliteration of these tiny, thin-walled, low-pressure lumens. The purpose of this study was to evaluate the outcome of vascularized groin lymph node transfer using the wrist as a recipient site in patients with postmastectomy upper extremity lymphedema.

**Methods:** Between January of 1997 and June of 2005, 13 consecutive patients with a mean age of  $50.69 \pm 11.25$  years underwent vascularized groin lymph node transfer for postmastectomy upper extremity lymphedema. A vascularized groin lymph node nourished by the superficial circumflex iliac vessels was harvested and transferred to the dorsal wrist of the lymphedematous limb. The superficial radial artery and the cephalic vein were used as the recipient vessels. Outcome was assessed by upper limb girth, incidence of cellulitis, and lymphoscintigraphy.

**Results:** All flaps survived, and one flap required reexploration, with successful salvage. No donor-site morbidity was encountered. At a mean follow-up of  $56.31 \pm 27.12$  months, the mean reduction rate ( $50.55 \pm 19.26$  percent) of the lymphedematous limb was statistically significant between the preoperative and postoperative groups ( $p < 0.01$ ). The incidence of cellulitis was decreased in 11 patients. Postoperative lymphoscintigraphy indicated improved lymph drainage of the affected arm, revealing decreased lymph stasis and rapid lymphatic clearance. A hypothesis was proposed that the vascularized groin lymph node transfer might act as an internal pump and suction pathway for lymphatic clearance of lymphedematous limb.

**Conclusion:** Vascularized groin lymph node transfer using the wrist as a recipient site is a novel and reliable procedure that significantly improves postmastectomy upper extremity lymphedema. (*Plast. Reconstr. Surg.* 123: 1265, 2009.)

**P**ostmastectomy upper extremity lymphedema, one of most significant postmastectomy sequelae, is estimated to occur in 16 to 39 percent of breast cancer patients.<sup>1-4</sup> Lymphedema is especially prevalent in patients subjected to radiotherapy and axillary lymph node dissection.

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The majority of patients exhibit lymphedema within 3 years of surgery or irradiation; late-onset symptoms affiliated with infection, injury, or weight gain appear at a rate of 1 percent per year. The use of sentinel lymph node biopsy can reportedly reduce postmastectomy upper extremity lymphedema.<sup>5</sup> Postmastectomy upper extremity lymphedema is usually managed conservatively with complex decongestive physiotherapy, which involves the use of external compression, manual lymphatic drainage, exercise, and skin care. Stabilization or modest improvement can be achieved through daily adherence to a strict regimen. Medical

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