

A Prospective Evaluation of Lymphedema-Specific Quality-of-Life Outcomes Following Vascularized Lymph Node Transfer

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ABSTRACT

Background. Microsurgical techniques for the treatment of lymphedema rapidly increased in popularity. Although surgical success with vascularized lymph node (VLN) transfer has been demonstrated, limited studies have investigated the influence of microsurgical treatments on health-related quality-of-life (HRQoL) parameters. The aim of this study was to prospectively evaluate changes in HRQoL following VLN transfer for upper- and lower-extremity lymphedema using a validated instrument.

Methods. An Institutional Review Board-approved prospective study was performed of patients who underwent VLN transfer for symptomatic upper- or lower-limb lymphedema. A validated lymphedema-specific questionnaire—lymphoedema quality-of-life study—was utilized to assess specific quality-of-life parameters at multiple time points during the 12-month perioperative period. For a comparison with HRQoL metrics, limb circumference measurements were obtained to assess circumference differentiation.

Results. Twenty-five patients met the study criteria. Limb circumference analysis revealed significant early improvements following VLN transfer, with continued improvement during the study period (upper-limb lymphedema: 24.4 %; lower-limb lymphedema: 35.2 %). These improvements were mirrored by improvements in all HRQoL domains and overall quality of life ($p < 0.01$). The function, body

appearance, symptom, and mood domains were all found to be significantly improved during the postoperative evaluation, with continued improvement being reported throughout the study period ($p < 0.01$ within each domain).

Conclusions. Microsurgical treatment of lymphedema with VLN transfer procedures effectively decrease limb circumference. This improvement is mirrored by improvements in patient-reported outcomes and quality of life. These changes can be observed as soon as 1 month postoperatively, and continued steady improvement can be expected.

Lymphatic microsurgical procedures are becoming increasingly popular for the treatment of chronic and debilitating symptoms related to lymphedema. Vascularized lymph node (VLN) transfer and lymphovenous anastomosis (LVA) continue to be the most common microsurgical techniques related to the surgical treatment of this condition.^{1,2}

Health-related quality-of-life (HRQoL) metrics have changed patient expectations and treatment protocols in the setting of breast,^{3,4} head and neck,⁵ and lower-extremity reconstruction.⁶ Outcomes following conservative and non-surgical lymphedema treatments have focused on objective measurements, with limb circumference being the predominant benchmark used for comparative evaluations. In addition, various studies have evaluated aspects of microsurgical procedures for lymphedema. In reference to VLN transfer, preoperative surgical planning,⁷ technical refinements to flap dissection,⁸ recipient site preference,⁹ and optimization of surgical results with the reduction of limb circumference¹⁰ have been the focus of many studies. HRQoL measurements have been evaluated in many aspects of lymphedema treatment,^{11–14} but there is little understanding of these patient-centered metrics in relation to lymphatic microsurgery, particularly VLN transfer

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