

RESEARCH ARTICLE

Long-term outcome of lower extremity lymphedema treated with vascularized lymph node flap transfer with or without venous complications

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Abstract

Background: Vascularized submental lymph node (VSLN) transfer is an emerging approach for extremity lymphedema. This study investigated the long-term outcome and venous complications of VSLN for unilateral lower extremity lymphedema.

Methods: Between 2010 and 2018, patients who underwent VSLN for unilateral lower extremity lymphedema were retrospectively evaluated. Patient demographics, operative records, complications, circumferential improvement, and episodes of cellulitis were analyzed. Further comparisons were performed between different types, numbers, and techniques of venous anastomoses.

Results: A total of 75 VSLNs in 70 patients survived, giving a 100% success rate. Six flaps (8%) had venous complications (VC group) and 69 flaps (92%) did not (No-VC group). There were no statistical differences in types, numbers, and techniques of anastomoses between two groups ($P = .65$, 1, and $.56$, respectively). At a mean follow-up of 32.0 ± 23.0 months, mean circumferential improvement and episodes of cellulitis between two groups did not statistically differ significantly ($P = .31$ and $.09$, respectively).

Conclusions: VSLN is an effective treatment for lower extremity lymphedema. The types, numbers of veins, and techniques of venous anastomoses did not statistically affect the venous complication rates. Functional outcomes of the VSLNs were not compromised if venous complications were salvaged promptly.

KEYWORDS

lymphedema, microsurgery, vascularized lymph node transfer, venous complications

1 | INTRODUCTION

Microsurgical procedures for the treatment of lymphedema including lymphovenous anastomosis and vascularized lymph node transfer (VLNT) have gained popularity in the last 20 years. VLNT has become a mainstay

treatment for extremity lymphedema, particularly indicated for cases with advanced stages in the Cheng's Lymphedema Grading (CLG) system,¹ with total obstruction of the lymphatic channel plus absent proximal lymph nodes on lymphoscintigraphy, and with prolonged histories of lymphedema with severe fibrosis of the subcutaneous tissue.

The presence of nonexpansile fibrotic tissue in the distal recipient site secondary to the proinflammatory environment from extremity lymphedema can increase the risk of venous complications in VLNT compared with other microsurgical free flaps. Because vascularized

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