

Effectiveness of Lymphatic Microsurgical Procedures in the Treatment of Primary Lymphedema

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Abstract:

Introduction

Vascularized lymph node transfer (VLNT) and lymphovenous bypass (LVB) procedures represent physiologic treatment options for symptomatic lymphedema. Secondary causes related to oncologic surgery and/or radiation have been successfully treated using these surgical procedures. Primary lymphedema represents a poorly understood lymphedematous condition with equally poor understanding of the benefits of microsurgical intervention. The purpose of this study was to review our experience with this patient population to better understand the effectiveness of microsurgical procedures.

Methods

A retrospective review of a prospectively maintained database of patients who received microsurgical treatment for primary lymphedema was reviewed. Both LVB and VLNT procedures were used in this patient cohort. Outcomes related to demographics, circumference differences, and symptoms, and quality of life (QoL) changes were evaluated. A validated questionnaire, the LYMQOL, was used to assess QoL outcomes.

Results

Thirteen patients were identified and met inclusion criteria. All patients had primary lower extremity lymphedema. Average age and symptom duration was 37.8 years and 162 months, respectively. The average lymphedema stage was classified as Stage II in 66.7% of patients. Average followup was 12.2 months. VLNT was used in most cases (69.2%) while LVB was used in the remainder of patients. The average overall circumference reduction was 3.6 cm with more improvement seen in patients who received VLNT as compared to LVB (*4.2cm v. 1.9cm*). Improvements in body weight and cellulitis occurrence was significantly improved in the VLNT cohort ($p < 0.05$). In addition, patient-reported QoL domains related to function, appearance, symptoms, and mood were significantly improved following VLNT ($p < 0.05$ in all domains) as compared to LVB ($p > 0.05$ in all domains).

Conclusion

Lymphatic microsurgical procedures are valuable treatment options for patients with primary lymphedema. Vascularized lymph node transfer appears to result in improved overall outcomes as compared to lymphovenous bypass procedures in this specific patient population. Improvements in objective clinical measures (limb circumference, body weight, and cellulitis occurrence) correlate well with improved patient-reported quality of life parameters.