Comparing Outcomes Between Vascularized Lymph Node Transfer and Lymphovenous Anastomosis in the Primary Lymphedema

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Purpose
Primary lymphedema is a devastating, debilitating disease. Much of the current treatment options demonstrate evidence in the treatment of secondary lymphedema. This study is to investigate the outcomes between vascularized lymph node (VLNT) transfers and lymphovenous anastomosis (LVA) in the treatment of primary lymphedema.

Methods
A total of 17 patients were recruited to the study with a total of 19 lower limbs with primary lymphedema at Chang Gung Memorial Hospital. All patients reported a non-hereditary occurrence of lymphedema history that originated at birth. All patients were treated with either VLNT or LVA. Postoperative quality of life and serial circumferential limb measurements were compared. Group comparisons were performed using Mann-Whitney U test for circumference comparisons, and the Wilcoxon test for pre and postoperative group comparisons. This study was approved by the Institutional Review Board (IRB) at Chang Gung Memorial Hospital and performed in accordance with the Helsinki Declaration ethical standards.

Results
15 limbs received VLNTs and had an average of 3.8cm reduction above knee, 3.6cm below knee and 4cm above ankle. An average total reduction was 3.7cm. 4 limbs received LVA treatment and had an average of 1.3cm reduction AK, 3.0cm BK and 1.5cm AA, giving an average total reduction of 1.9cm. Patients in the VLNT group had an average drop from 5.2 episodes preoperatively to 0.1 episodes postoperatively. Patients in the LVA group reported an average reduction in cellulitic episodes from 5 preoperatively to 0.8 postoperatively. In the VLNT group, an average significant improvement in quality of life was noted by 2.5 points. In the LVA group, an average improvement in the quality of life score was seen by 2 points.

Conclusion
In conclusion, primary lymphedema can be treated adequately with improvements in both functional and quality of life outcomes if treatment options are chosen correctly. VLNT when used in severe cases of lymphedema, can provide greater relief with more impactful outcomes in both functional restoration and quality of life outcomes.