



VASCULARIZED LYMPH NODE TRANSFER FOR TREATMENT OF LOWER EXTREMITY LYMPHEDEMA

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BACKGROUND

Primary lymphedema results from abnormal development of the lymphatic system, while secondary lymphedema results from a disruption of lymphatic flow by an acquired blockade. In the lower extremities, secondary lymphedema is much more common and is often seen after groin or pelvic surgery. Patients can experience swelling, pain, heaviness, restricted motion and infections leading to poor quality of life. Non-surgical treatment includes complete decongestive therapy, which is lifelong and time consuming. Vascularized lymph node transfer (VLNT) is a surgical treatment for lymphedema that re-establishes lymphatic drainage.

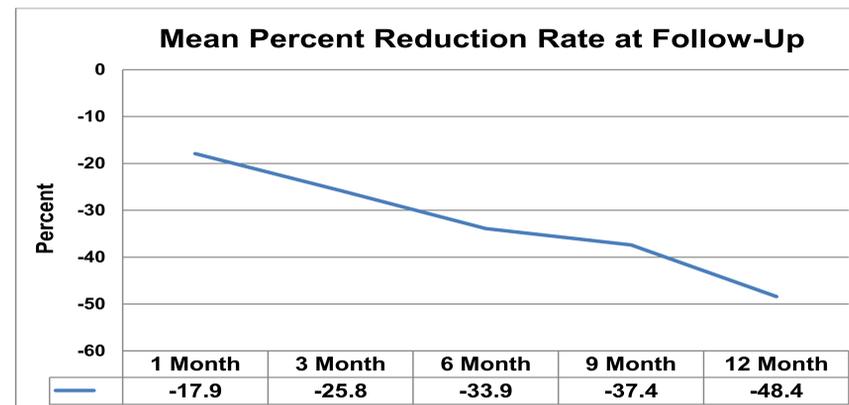
OBJECTIVES

The goal of this prospective, ongoing study is to investigate the clinical and psychosocial outcomes of patients undergoing VLNT for the treatment of primary and secondary unilateral lower extremity lymphedema and to compare outcomes based on etiology.

METHODS

Inclusion criteria was unilateral LE lymphedema and an indication for VLNT surgery [lymphedema resistant to conservative therapy, chronic infections, ongoing pain, or worsening lymphedema]. Patients were evaluated preoperatively and postoperatively at 1, 3, 6, 9 and 12 month intervals by circumferential measurements, pain/heaviness/tightness scales, and LymQOL questionnaire for quality of life. A frustum formula was used to calculate the volume of each leg and then a percentage difference compared the affected to the unaffected leg.

Mean Age	55 (26-80) years
Male / Female	4 (14%) / 25 (86%)
Right lower extremity lymphedema	11 (38%)
Left lower extremity lymphedema	18 (62%)
Reported pre-operative infections	7 (24%)
Mean hospital length of stay	24.8 hours
Groin etiology	12 (41%)
Pelvic etiology	11 (38%)
Primary Lymphedema	6 (21%)



PROCEDURE

Visible scar tissue released from groin. A flap of soft tissue containing lymph nodes was harvested from the lateral chest wall. Microscope was used to anastomose the artery and vein. Intraoperative ICG angiogram was performed to ensure adequate flow to the flap.

RESULTS

29 patients met inclusion criteria. 41% (12) developed lymphedema from groin etiology, 38% (11) from pelvic etiology, and 21% (6) had primary lymphedema. Overall patients had a decrease in leg volumes by 17.9% at 1 month, 25.8% at 3 months, 33.9% at 6 months, 37.4% at 9 months, and 48.4% at 12 months. Overall quality of life scores improved from 5.5 at pre-op to 6.7 at 1 month, 6.7 at 3 months, 6.4 at 6 months, 7.3 at 9 months, and 8 at 12 months.

Ten patients had complications. Four required outpatient therapy for infections and hematomas. One had worsening lymphedema with 38% increase. Four had complications requiring hospitalization, including IV antibiotics (1), surgical debridement of wound breakdown (2) and DIEP rotational flap reconstruction (1). One patient had perioperative PE.

DISCUSSION

VLNT offers the possibility of reduction or elimination of symptoms with significant improvement in quality of life. Our limitations include power of study and early follow-up period. Based on preliminary results we believe statistical significance will be achieved with larger (n).