Background: Lymphedema is the chronic, progressive swelling of tissue due to inadequate lymphatic function. Surgical management includes removal of affected tissues (excisional procedures), or operations that create new lymphatic connections (physiologic procedures). The purpose of this study was to determine the efficacy of one type of excisional procedure, suction-assisted lipectomy, for extremity lymphedema.

Methods: Patients treated in our Lymphedema Program between 2007 and 2013 with liposuction that had post-operative follow-up were reviewed. The diagnosis of lymphedema was made by physical examination and confirmed with lymphoscintigraphy. Patient gender, age, type of lymphedema (primary or secondary), location of disease, infection history, and volume of lipoaspirate were recorded. Outcome variables were improvement in patient symptoms, reduction of extremity volume, and complications.

Results: Eight female patients were included; mean age was 54 years (range 39-71). Four patients had secondary upper extremity lymphedema following breast cancer treatment and 4 had primary lower limb disease. Five patients had a history of repeated cellulitis involving the lymphedematous extremity. Mean lipoaspirate volume was 1793 ml (range 1400-2800) for the upper extremity and 2780 ml (range 2120-3700) for the lower limb. Post-operative follow-up averaged 2.4 years (range 1.0 to 5.5). The average reduction in excess extremity volume was 61% (range 42% to 94%) (Figure 1). All patients reported a significant improvement in their extremity function and quality of life. No patient had recurrence or cellulitis following their procedure. A localized area of skin loss occurred following liposuction of one patient with lower extremity lymphedema.

Conclusions: Suction-assisted lipectomy is an effective and safe technique to reduce extremity volume for patients with moderate or severe lymphedema. The outpatient procedure gives a significant long-term reduction in limb size, reduces the prevalence of infections, and improves quality of life.

Figure 1: Operative management of lymphedema using suction-assisted lipectomy. (A) A 37-year-old woman with adolescent-onset primary lymphedema of the left lower extremity. (B) Improved contour 5 months postoperatively.

A

B