

Thigh volume in patients with lipoedema following bariatric surgery

ABSTRACT (Jodok Fink)

Objective

To analyze leg volume and weight-loss in lipoedema patients following bariatric surgery.

Summary Background Data

Lipoedema is clinically characterized as subcutaneous lipohypertrophy in association with soft tissue pain affecting female patients. Recently, the disease has undergone a paradigm shift departing from historic reiterations of defining lipoedema in terms of classic edema paired with the notion of weight-loss resistant leg volume towards an evidence based, patient centered approach. Although lipoedema is strongly associated with obesity, the effect of bariatric surgery on leg volume in lipoedema patients has not been explored.

Methods

In a retrospective cohort study, thigh volume and weight-loss of 31 patients with lipoedema were analyzed before, 12 and >24 months following Sleeve gastrectomy (SG) or Roux-en-Y gastric bypass (RYGB). Patients with distal leg lymphoedema (healthy thigh) that had undergone bariatric surgery served as controls. Statistical analysis was performed using a linear mixed effects model adjusted for patient age and initial BMI (excess BMI loss for analysis of thigh volume reduction).

Results

Adjusted initial thigh volume in patients with lipoedema was 23785,361 ml (CI 22316.6-25254.1). Leg volumes significantly decreased in lipoedema and control patients (Baseline vs. 1st P<0.0001 and P=0.0001; 2nd follow-up P<0.0001 and P=0.0013, resp.). Adjusted thigh volume reduction amounted to 33.4% in lipoedema and 37.0 % in control group at first and 30.4% and 34.7% at 2nd follow-up (lipoedema vs. control P>0.999 for both). SG and RYGB led to equal reduction of leg volume (operation × time P=0.83). Furthermore, volume reduction was equally effective for obese and super-obese patients (weight category × time P=0.43).

Conclusions

SG and RYGB lead to a significant thigh volume reduction in patients with lipoedema.