FROM LYMPH TO FAT: NEW SURGICAL TREATMENT STRATEGY TO ACCOMPLISH COMPLETE REDUCTION OF CHRONIC ARM AND LEG LYMPHEDEMA

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Aim: Patients with longstanding, pronounced, non-pitting lymphedema do not respond to conservative treatment because diminished lymph flow and inflammation result in the formation of excess subcutaneous adipose tissue. Previous surgical treatments utilizing either total excision with skin grafting or reductionoplasties seldom achieved acceptable cosmetic and functional results. Microsurgical reconstruction involving lympho-venous shunts or transplantation of lymph vessels, although attractive as a physiological concept, cannot provide complete reduction in chronic non-pitting lymphedema because it does not eliminate newly formed, subcutaneous adipose tissue collections.

Methods: 94 women with non-pitting arm lymphedema following breast cancer and 16 patients (12 women and 4 men) with leg lymphedema (7 primary and 9 secondary) underwent liposuction due to non-pitting, chronic lymphedema. All patients had received conservative treatment (CDT, CCT, and/or CP) before surgery without further reduction of the excess volume. All were wearing compression garments before surgery.

Results: Preoperative arm excess volume was 1729 ml and leg excess volume was 4312 ml. A complete reduction was achieved after 6 months in the arm group, and at 1 year in the leg group. No recurrence was seen during follow up: 13 years in the arm group and 4 years in the leg group.

Conclusion: These long-term results demonstrate that liposuction is an effective method for treatment of chronic, non-pitting lymphedema in patients who have failed conservative treatment. Conservative methods and microsurgical procedures cannot remove the hypertrophied adipose tissue. The removal of hypertrophied adipose tissue, induced by inflammation and slow or absent lymph flow, is a prerequisite to complete reduction. Liposuction is the only known method that can completely reduce the excess volume. The reduction is maintained through constant (24-hour) use of compression garments postoperatively.