

“Microsurgery for Lymphatic Diseases”

Corradino Campisi, MD, PhD, FACS

University Department of Surgery
Section of Lymphology and Microsurgery
Operative Unit of Lymphatic Surgery
IRCCS University Hospital San Martino - IST
National Institute for Cancer Research
Genoa, Italy

PURPOSE OF STUDY

A wide clinical experience has led to a remarkable knowledge about lymphatic disorders, both primary and secondary. Diagnostic and histopathological studies of lymphatic diseases gave a better understanding of the etiological aspects and pathophysiological mechanisms responsible for the complex clinical features correlated with lymphatic dysfunctions. Strategies of treatment are proposed to prevent lymphatic injuries, avoid lymphatic complications, and to treat lymphatic diseases, utilizing new imaging technologies to visualize the lymphatic pathways pre- and intra-surgery.

MATERIAL AND METHODS

The authors' wide clinical experience in the treatment of patients with peripheral lymphedema by microsurgical techniques is reported (over 2900 cases with a follow-up of at least 5 years, to approximately 20 years). Microsurgical methods included derivative lymphatic-venous anastomoses and lymphatic reconstruction by interpositioned vein-grafted shunts. Specific pre-operative diagnostic investigations consisted of duplex scan, lymphoscintigraphy, and the Photo Dynamic Eye (PDE) method with indocyanine green fluorescence. Outcome measures included volume reduction, stability of results with time, reduction of dermato-lymphangio-adenitis (DLA) attacks, necessity of wearing elastic supports, and use of conservative measure post-operatively.

RESULTS

Volume changes showed a significant improvement with over 80% volume reduction compared to pre-operative conditions. DLA attacks were reduced by about 90%. The stability of the anastomoses recently verified by PDE during surgery were confirmed in the long-run by lymphoscintigraphy.

CONCLUSIONS

Microsurgical lymphatic derivative and reconstructive techniques give excellent and stable results in the treatment of peripheral lymphedema. New imaging technology improves the microsurgical experience and can be used in a lymphatic-sparing approach; both in the prevention of lymphedema (Lymphatic Microsurgical Preventive Healing Approach – Ly.M.P.H.A) and in the treatment of chronic lymphedema with fibrosis (Fibro-Lipo-Lympho-Aspiration – FLLA, with lymph vessel sparing procedure).