

Independent prospective follow-up of lymphedema patients who have undergone lymphatic surgeries

Authors: Marie-Eve Letellier, Clinician-researcher, MUHC Lymphedema Clinic. marie-eve.letellier@mail.mcgill.ca; Marize Ibrahim, PT, MUHC Lymphedema Clinic; Angela Yung, PT, MUHC Lymphedema Clinic; Georgina Cama, Data analyst, MUHC Lymphedema Clinic; Nathalie Côté, RN, MUHC Lymphedema Clinic, Geneviève Chaput, MD, MUHC Lymphedema Clinic; Anna Towers, MD, MUHC Lymphedema Clinic

Introduction: Physiological interventions, such as lymphovenous anastomoses (LVA) and vascularised lymph nodes transfer (VLNT), are receiving growing attention. There are an increasing number of surgeons trained in lymphatic surgeries, some of whom may be reporting their outcomes using ambiguous or unclear measurement methods pre/post-operatively. As a LE and RN; Lymphedema Center of Excellence, we have been independently following patients who have undergone lymphatic surgeries since 2018 with standardized measurements and volume calculation to objectively assess surgical outcomes over time.

Aims: The aims of the study are to estimate the extent to which, among patients undergoing lymphatic surgery, there is a post-operative change over time in 1) limb volume, 2) use of compression, and 3) frequency of cellulitis episodes.

Method: This is an ongoing study. Patients who have undergone LVA or VLNT are followed prospectively. Circumference measurements are taken of bilateral extremities pre-surgery and approximately every three months post-operatively for at least two years. Percentage oedema volume are calculated for each affected and unaffected limb, including limb segment differences. Use of compression (e.g. day compression, night, alternative) are also recorded, along with recording the number of cellulitis episodes at each visit. Clinical assessments, circumference measurements and volume calculation are conducted by an interdisciplinary team (physician and lymphedema therapists). We also collect qualitative data from patients regarding perceived outcomes.

Results: To date, nine women have been independently followed: 7 with breast cancer-related lymphedema (BCRL), 1 with bilateral primary lower limb lymphedema (LLL) and 1 with bilateral cervical cancer-related LLL. Of the 7 BCRL, 3 had LVA surgery and 4 VLNT. Arm volume measurement increased for 5 women, while a decrease was observed for 2 women. The 2 LLL had LVA procedure: 1 presented with fluctuation in volume over time while the other decreased. Regarding compression, 6 women continued with compression usage, while 3 stopped, despite volume increase. One episode of cellulitis was recorded post-surgery in 3 women.

Conclusion: As lymphedema has historically been defined as a chronic condition requiring lifelong care, our results emphasize the benefits and need for longitudinal follow-up in those who have undergone lymphedema surgeries. It is critical to objectively evaluate post-surgical outcomes of lymphedema, addressing both acute and long-term potential effects. The need for compression garment may also need to be re-evaluated post-surgery as many still require usage, despite the surgical intervention. Longitudinal follow-up with this

clientele is essential to better understand the impact of lymphedema surgeries on the lymphatic and venous systems.