Does Manual Lymphatic Drainage Add Value in Reducing Suprafascial Fluid Accumulation and Skin Elasticity in Patients With Breast Cancer–Related Lymphedema?

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**Abstract**

**Objective**

The purpose of this study was to investigate the effectiveness of fluoroscopy-guided manual lymph drainage (MLD) versus that of traditional and placebo MLD, when added to decongestive lymphatic therapy (DLT) for the treatment of breast cancer–related lymphedema (BCRL) (EFforT-BCRL trial), on the suprafascial accumulation of lymphatic fluid and skin elasticity.

**Methods**
In this multicenter, 3-arm, double-blind, randomized controlled trial (EFforT-BCRL trial), 194 participants (mean age = 61 [SD = 10] years) with unilateral BCRL were recruited. All participants received standardized DLT (education, skin care, compression therapy, exercises) and were randomized to fluoroscopy-guided, traditional, or placebo MLD. Participants received 60 min/d of treatment during the 3-week intensive phase and 18 sessions of 30 minutes during the 6-month maintenance phase. During this phase, participants were instructed to wear a compression garment, to perform exercises, and to perform a self-MLD procedure once daily. This study comprises secondary analyses of the EFforT-BCRL trial. Outcomes were the amount of fluid accumulation in the suprafascial tissues (local tissue water, extracellular fluid, and thickness of the skin and subcutaneous tissue) and skin elasticity at the level of the arm and trunk. Measurements were performed at baseline; after intensive treatment; after 1, 3, and 6 months of maintenance treatment; and after 6 months of follow-up.

**Results**

At the level of the arm, there was a significant improvement over time in the 3 groups for most of the outcomes. At the level of the trunk, no remarkable improvement was noted within the individual groups. No significant interaction effects (between-group differences) were present. Only skin elasticity at the level of the arm, evaluated through palpation, showed a significant interaction effect.

**Conclusion**

All 3 groups showed similar improvements in response to DLT regardless of the type of MLD that was added. The effect of the addition of MLD to other components of DLT for reducing local tissue water and extracellular fluid or skin thickness and for improving skin elasticity and fibrosis in participants with chronic BCRL was limited.

**Impact**

Although MLD has been applied all over the world for many years, evidence regarding its added value in reducing arm volume in patients with BCRL is lacking. These results show that adding MLD to other components of DLT has limited value in reducing local tissue water and extracellular fluid or skin thickness and in improving skin elasticity and fibrosis in patients with chronic BCRL. To date, there is no clinical indication to continue including time-consuming MLD in physical therapist sessions for patients with chronic BCRL.