

Journal Watch

Decongestive lymphatic therapy for patients with cancer-related or primary Lymphedema.

Reference: Szuba A, Cooke JP, Yousuf S, Rockson SG. (2000) *Amer J Med* 109:4296–300

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Background:

Lymphedema of the upper extremity is a common occurrence in patients with breast carcinoma. Intermittent pneumatic compression is one of the several modalities proposed to help alleviate this growing problem. Numerous early studies have described the efficacy of pumps as a sole therapeutic intervention for patients with Lymphedema. However, several reports of complications using IPC and lack of efficacy have tended to dampen enthusiasm for its use in patients suffering from lymphedema. In particular, it has been alleged that IPC may contribute both to inappropriate tissue retention of interstitial protein, leading to an excess of cutaneous fibrosis, and to a reduction in joint mobility. It was to address these concerns, in addition to providing definitive data demonstrating the efficacy of IPC, that this study was conducted.

Abstract:

Szuba et al. (2002) performed two randomised studies which investigated the use of a four-chambered, sequential pump as an adjunct therapy. The first study compared 10 days of complex physical therapy (CPT) alone (n = 11) and in combination with 30 min of 30–40 mmHg pump therapy (n = 12). Results showed that the CPT plus pump therapy resulted in a greater and significant limb volume reduction in comparison to CPT alone (45.3% versus 26% respectively). Interestingly, the CPT plus pump therapy reduction was not maintained at 1 month follow up (increase of 15%), while the CPT alone reduction was maintained. The second study investigated a 1 month phase of arm self maintenance including self massage and compression garment wear, followed by a phase of applying 1 hour of pump therapy for a further 1 month period (n = 25). The self maintenance phase resulted in an arm volume increase of 32.7 ml (~3.3%), with the addition of the 1 h of pump therapy resulting in a statistically significant reduction of 89.5 ml (~9.0%). Some participants (20 of the 25 in the study, 1 died in f/u) continued using the pump an average of four times a week for 6 months, with 19 participants having an additional reduction in limb volume of 29.1 ml (~3.0%) and the five who chose to stop ICP having an increase of 35 ml (~3.5%). Change in joint mobility was also measured in a subgroup of patients who first presented with impaired upper limb extremity ROM. All participants showed an improvement in ROM post-procedure regardless of treatment used.

Strengths:

The study uses a prospective, randomized control design.
Solid assessments/ equipment are used to evaluate change in lymphedema – volumetry using water displacement, tonometry, as well as goniometry to evaluate joint ROM.
Adverse effects to the pump were reported.

Weaknesses:

Small sample size (23 women in Study 1 and 27 women in Study 2).
Reasons for why some participants elected not to continue on with IPC were not discussed.
Patient satisfaction with this method of treatment was not formally evaluated.
Relevant end-points such as decrease in limb pain or reduction in complications of lymphedema such as cellulites were not investigated.

Relevance to palliative care:

Lymphedema is frequently encountered in palliative care. As it is a significant source of discomfort and psychological distress for patients, and may lead to further complications It is helpful to determine which modalities of treatment have documented benefit. Although the 'self maintenance' phase of trial 2 of this study yielded smaller volume reductions, this study has demonstrated that overall IPC appeared to be beneficial. Moreover, the fact that the majority of participants chose to continue therapy at the end of the study suggests that it is a fairly easy to use, well tolerated and acceptable modality of treatment. However, whether or not its use correlates with a significant reduction in clinical symptoms or complications of lymphedema remains to be elucidated.