Background

This study’s objective was identification of additive benefits of a novel pneumatic compression therapy, the Lymphapod® (Lymphapress®, Glen Mills PA), to a conventional therapy plan for the treatment of lower extremity lymphedema and associated impairments in the severely overweight.

Method

This 12-week, randomized, home-based pilot study began in May 2011. Eligibility included BMI greater than 39 and lower extremity lymphedema. All subjects (n=10) received an adjustable static compression system (FarrowWrap). Half of the subjects (n = 5) were randomly assigned to pneumatic compression and utilized the Lymphapress calibrated gradient compression device with Lymphapod® appliance for up to 3 hours daily. Outcome measurements included body weight, limb circumferences and volumes, Short Physical Performance Battery (SPPB), and the Impact of Weight on QOL questionnaire.

Main Points

Patients receiving treatment with Lymphapress® and the Lymphapod® appliance had:

- Greater losses in body weight compared to static compression garment alone
- 1000 times greater circumference reduction of the affected limb compared with static compression.
- A trend towards increased functional performance.

Results

Four week analyses indicated the pneumatic compression group had greater losses in body weight compared to the static compression group (p=0.014). Average bilateral limb circumference reduction from pneumatic compression was 1000 times greater with an average loss of 10±4% compared to 0.01±0.1% with static compression therapy (p=0.008). A trend toward increased functional performance was observed in the pneumatic compression group compared to the static compression group (p=0.08) based on SPPB summary scores. No difference in quality of life was detected based on compression modality (p>0.05).

Conclusion

Preliminary analyses indicated that the novel pneumatic compression therapy with Lymphapod® had an additive effect on losses in body weight and limb measurements compared to static compression alone. The sample size limited the effect size. Therefore additional research is needed.