

Improvement of the walking ability in intermittent claudication with supervised exercise and pneumatic foot and calf compression: preliminary results at six weeks of a randomized controlled study.

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Objectives: The purpose of this ongoing prospective randomized study is to compare the effect of supervised exercise, unsupervised exercise and intermittent pneumatic foot and calf compression (IPC foot and calf) on the claudication distance in patients with intermittent claudication due to chronic superficial femoral artery occlusion.

Methods: Nineteen patients with stable intermittent claudication, selected out of 111 patients screened, were randomized. All received aspirin (75 mg/d) and were asked to exercised daily by walking. Eight patients (group 1) had IPC foot and calf (ArtAssist[®] device, model AA-1000, ACI Medical, San Marcos, CA, USA) (3 hr/d), 6 patients (group 2) had supervised exercise on a treadmill in the physiotherapy department (1 hr/d) three time a week and the remaining 5 patients (group 3) unsupervised exercise of a minimum of 1 hour daily. In each patient, initial claudication distance (ICD), absolute claudication distance (ACD) and resting ankle brachial pressure index (r-ABPI), were measured at baseline and six weeks. All results are shown as median and interquartile range.

Results: Over the 6 weeks of active treatment, (1) ICD increased from 55 m (55 m) to 90 m (60 m) in group 1 (p=0.018), from 65 m (16 m) to 80 m (60 m) (p=0.25) in group 2 and from 70 m (25 m) to 90 m (38 m) in group 3 (p=0.35). (2) ACD increased from 145 m (160 m) to 270 m (170 m) in group 1 (p=0.028) and from 133 m (104 m) to 190 m (100 m) in group 2 (p=0.042). ACD did not practically change in group 3, being 115 m (113 m) at baseline and 130 m (112 m) after 6 weeks (p=0.18). (3) median r-ABPI did not change in any group.

% Increases	Initial Claudication Distance	Absolute Claudication Distance
ArtAssist [®]	64	86
Supervised Exercise	23	43
Unsupervised Exercise	29	13

Conclusions: Short-term IPC foot and calf and supervised exercise were more effective than unsupervised exercise in improving walking distance. Long-term results in a larger number of patients will provide valuable information on the optimal treatment modality.