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Randomized study on the effects of different strategies of intermittent pneumatic compression for lower limb claudication

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Background. The aim of the present study was to evaluate the efficacy of different strategies of intermittent pneumatic compression (IPC) for the treatment of lower limb claudication.
Methods. Five study groups were prospectively studied. Group 1: 9 patients not undergoing IPC; Group 2: six patients undergoing IPC 1 hour/thrice-a-day/4 months; Group 3: six patients undergoing IPC 2 hours/once-a-day/4 months; Group 4: six patients undergoing IPC 1 hour/thrice-a-day/2 months; Group 5: six patients undergoing IPC 2 hours/once-a-day/2 months.
Results. All patients completed the planned treatment schedule and stated a compliance of 33% in group 2, 83% in group 3, 66% in group 4 and 100% in group 5. Peak systolic velocity of the popliteal artery blood flow increased over baseline values particularly when IPC lasted 4 months (group 2: 85%, group 3: 81% vs. group 4: 76%, group 5: 73%). These beneficial effects lasted 10 months and vanished 14 months after the end of IPC treatment. The absolute claudication distance increased at the end of the treatment of 101% in group 2, 94% in group 3, 86% in group 4, and 83% in group 5, and it was still increased over the baseline values 14 months after the end of the treatment. No differences have been observed whether the treatment was performed once- or thrice-a-day.
Conclusions. IPC treatment performed two hours once-a-day for four months provide excellent results with satisfactory treatment compliance. However, these effects are not durable and vanish about one year after the end of IPC treatment.

Key words: Limb critic ischaemia – Intermittent pneumatic compression