Abstract

BACKGROUND: The effectiveness of high-voltage pulsed current (HVPC) treatments in humans as a means of controlling edema and post-traumatic pain has not yet been established. Objective: To analyze the effects of HVPC plus conventional treatment on lateral ankle sprains. METHODS: This was a randomized, controlled, double-blind clinical trial with three intervention groups: CG (control group with conventional treatment); HVPC(-) group (conventional treatment plus negative polarity HVPC); HVPC(+) group (conventional treatment plus positive polarity HVPC). Twenty-eight participants with lateral ankle sprain (2 to 96h post-trauma) were evaluated. Conventional treatment consisted of cryotherapy (20min) plus therapeutic exercises. Additionally, the HVPC(-) and HVPC(+) groups received 30min of electrical stimulation (submotor level; 120 pps). Pain, edema, range of motion (ROM) and gait were assessed before the first treatment session and after the last treatment session. RESULTS: At the final evaluation, there were no significant differences between groups. Nevertheless, the HVPC(-) group had greater values in all assessed parameters. The data analysis showed that the HVPC(-) group had greater reductions in volume and girth, and greater recovery of ROM and gait velocity. This group also reached the end of the treatment (1.7 weeks; range 1.2-2.2) faster than the HVPC(+) group and the CG (2.2 weeks; range 1.8-2.6). CONCLUSIONS: There were no differences between the study groups, but the results suggest that HVPC(-) can accelerate the initial phase of recovery from ankle sprain.

Keywords

electrical stimulation, sprain, inflammation