

Extracorporeal shockwave therapy versus exercise program in patients with low back pain: short-term results of a randomised controlled trial.

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Abstract

The physiotherapy treatment of low back pain (LBP) with physical stimulation offers different possibilities of application. Until now, the physical therapies used in LBP are laser therapy, ultrasonotherapy and currents. We conducted a clinical trial in order to verify whether shockwave therapy, which is very effective in treating tendinopathies and fracture consolidation delays, leads to clinical and electromyographic improvement in patients affected by LBP. We randomized thirty patients affected by LBP treated with shock waves (shockwave group) or a standard protocol characterized by rehabilitative exercises (control group). At one and three months, the patients treated with shockwave therapy showed clinical improvement measured by VAS scales ($p=0.002$; $p=0.02$), and disability evaluated with Roland scales ($p=0.002$; $p=0.002$) and Oswestry ($p=0.002$; $p=0.002$). At three months, the patients treated with shock waves, showed a significant improvement in terms of values of amplitude of the sensory nerve conduction velocity (SNCV) of the plantar medialis nerve (left: $p=0.007$; right: $p=0.04$), the motor nerve muscular conduction (MNCV) of the deep peroneal nerve (left: $p=0.28$; right: $p=0.01$) and recruitment of motor units of finger brevis extensor (left: $p=0.02$; right: $p=0.006$). In the control group, there was a trend to increase the clinical and electromyographic results without statistical significance. The preliminary results suggest a good applicability of shockwave therapy in the treatment of LBP, in accordance with the antiinflammatory, analgic, decontracting effects and remodeling of the nerve fiber damage verified in previous studies conducted on other pathological models. Future research will allow us to verify the integration of this therapy into a rehabilitation protocol combined with other physical therapies.

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