

Pulsed magnetic field versus ultrasound in the treatment of postnatal carpal tunnel syndrome: A randomized controlled trial in the women of an Egyptian population

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Abstract

The aim of this study was to compare the effects of pulsed electromagnetic field versus pulsed ultrasound in treating patients with postnatal carpal tunnel syndrome. The study was a randomized, double-blinded trial. Forty postnatal female patients with idiopathic carpal tunnel syndrome were divided randomly into two equal groups. One group received pulsed electromagnetic field, with nerve and tendon gliding exercises for the wrist, three times per week for four weeks. The other group received pulsed ultrasound and the same wrist exercises. Pain level, sensory and motor distal latencies and conduction velocities of the median nerve, functional status scale and hand grip strength were assessed pre- and post-treatment. There was a significant decrease ($P < 0.05$) in pain level, sensory and motor distal latencies of the median nerve, and significant increase ($P < 0.05$) in sensory and motor conduction velocities of the median nerve and hand grip strength in both groups, with a significant difference between the two groups in favor of pulsed electromagnetic field treatment. However, the functional status scale showed intergroup no significant difference ($P > 0.05$). In conclusion, while the symptoms were alleviated in both groups, pulsed electromagnetic field was more effective than pulsed ultrasound in treating postnatal carpal tunnel syndrome.

Keywords: Carpal tunnel syndrome, Electromagnetic field, Pulsed ultrasound, Pregnancy, Postnatal, Pain, Nerve conduction velocity