Therapeutic Effects of Peripheral Magnetic Stimulation on Traumatic Brachial Plexopathy: Pilot Study

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Abstract:

OBJECTIVE: To evaluate the therapeutic effects of peripheral repetitive magnetic stimulation (rMS) on recovery of traumatic brachial plexopathy. MATERIAL AND METHODS: Thirty four patients who presented with traumatic brachial plexopathy were studied. Strength of different muscles of upper limbs was evaluated neurologically. Assessment of nerve conduction study (NCS) and F wave of upper limbs visual analogue scale (VAS) for each pain. They were assigned randomly into two groups with a ratio of 2:1; each patient received conventional physiotherapy modalities and active exercises as well as real rMS or sham rMS applied over the superior trapezius muscle of the affected limb daily for 10 sessions. They were reassessed after the 5th, 10th session and then 1 month after rMS treatment using the same parameters. RESULTS: No significant differences between groups were recorded at base line assessment. Significant improvement was observed (time X groups) after real rMS in comparison to the sham group (p = 0.0001 for muscle strength and 0.01 for VAS). These improvements were still present at 1 month after the end of treatment. In accordance with the clinical improvement, a significant improvement was recorded in the neurophysiological parameters in the real versus the sham group. CONCLUSIONS: The results show that peripheral rMS for 10 sessions may have positive therapeutic effects on motor recovery and pain relief in patients with traumatic brachial plexopathy, and is a useful adjuvant in the therapy of these patients.

Keywords:

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