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The effect of extracorporeal shock wave therapy on flexor spasticity in stroke patient

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Background & Purpose: Spasticity is a disabling complication of stroke. Different non-invasive modalities of treatment were used to reduce muscle hypertonia. The purpose of this study was to investigate the effect of extracorporeal shock wave therapy on spasticity of hand and wrist in stroke patients.

Subjects: A total of 30 stroke patients with moderate spasticity in hand and wrist muscles participated in this study.

Methods: The patients were divided randomly into two equal groups. The study group received four successive sessions of extra corporal shock waves as one session per week over flexor carpi ulnaris, flexor carpi radialis and intrinsic muscles of the hand. The control group received placebo treatment sessions of extra corporal shock wave. Both groups received a selected physical therapy program for stroke patients for total four weeks as three sessions per week. Modified Ashworth scale, hand dynamometer and electrophysiological studies were performed for all patients before and after treatment sessions.

Results: The results revealed that, patients of the study group (A) showed greater improvement in flexor tone of wrist and fingers compared with placebo stimulation group. Regarding to the modified Ashworth scale, a significant decrease of muscle tone was noted in all patients receiving active treatment than the control group regarding to H/M ratio results revealed that there was no statistical significance between both groups. Hand grip strength using hand dynamometer showed more improvement in the study group compared to the control group.

Conclusion: Extracorporeal shock wave therapy reduces hypertonicity of the wrist and hand muscles in stroke patients.

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