

Effect Of EMG-BF On Treating Carpal Tunnel Syndrome

Objective

The aim of the study was to investigate the effect of **electromyography biofeedback (EMG-BF)**, which in addition to conventional electrophysical therapy (EPT) commonly used in the symptomatic treatment of carpal tunnel syndrome (CTS), on motor parameters such as strength and reaction time and symptomatic functional parameters such as pain and function of the upper extremity.

Results

After treatment, VRT, ART, HGS, and Quick DASH were significantly better in favour of the EPT +EMG- BF group. After training, the S -values were better in favour of the EPT +EMG- BF – group. Although EPT applications provide effective results in the rehabilitation of CTS, EMG-BF applications together with EPT applications provide more meaningful results in the rehabilitation process.

Participants and Researchers

The study started with 85 patients, but nine patients were excluded from the study due to early discontinuation of treatment; 76 patients (88 hands) aged 18-65 years who volunteered to participate in the study, were diagnosed at CTS, and met the inclusion criteria were included.

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Methods

All patients completed the treatment and evaluation. Patients diagnosed by electrodiagnostic tests (electroneuromyography ENMG) as having CTS were randomized by lottery. Group 1 was defined as the group receiving only conventional electrophysical therapy (EPT) (control group, 46 hands), and Group 2 as the group in which EMG-BF was used in addition to conventional EPT (research group, 42 hands).

In the protocol EPT; 20 minutes of TENS EPT was used five days per week (15 sessions) for three weeks. In the group in which EMG-BF was applied in addition to EPT, 15 sessions, five days for three weeks, were performed using electrical stimulation (TENS).

The **Neurotrac Myoplus Pro** device (Verity Medical) was used for the **EMG-BF** application. The device was connected to the computer using **Neurotrack EPT 4.00** software, and all data were recorded. On the device, the application EMG-BF was selected, and the work-rest mode was chosen, in which electrical signals were sent at 10-second intervals and rested for ten seconds.

The full abstract can be found at

https://www.researchgate.net/publication/369452182_Effect_of_electromyography_biofeedback_treatment_on_reaction_time_pain_hand_grip_strength_and_upper_extremity_functional_status_in_patients_with_carpal_tunnel_syndrome