Abstract

Objective: Charcot-Marie-Tooth disease (CMT) is the most common hereditary motor and sensory neuropathy. Genetic mutation causes neurological disorder of peripheral nervous system. Diseases most common signs and symptoms are distal muscle weakness, foot deformities and somatosensory defect. One of the most notable consequences of the disease is balance disorder. The goal of this study was to ascertain impact of one-off application of vibration therapy on postural stability in CMT and referential group.

Method: There were 16 patients diagnosed with CMT that participated in the research, 15 of which finished all procedures (average age 44.3 years, age ranges from 25 to 57 years, 12 woman and 3 men). Referential group was composed of healthy people of similar sex and age. All probands underwent measuring on Balance Master before vibration therapy, immediately after and 30 minutes later. The therapy take place in standing position in the Power Plate, therapy lasted for 5 minutes.

Results: A significant improvement of Endpoint Excursion, Maximum Excursion, Movement Velocity and Sway velocity parameters was established after applying one-off vibration therapy in group of patients diagnosed with CMT. This effect endured 30 min after vibration therapy. Also we discovered that vibration therapy has stronger impact on patients with CMT than healthy people.

Conclusion: Postural stability of patients diagnosed with CMT had improved after applying one-off vibration therapy. These findings should be subjected to further research.