

HUBER PROPRIOCEPTIVE TRAINING AND ALPHA-LIPOIC ACID: A NEW APPROACH IN OPTIMIZING NERVE FUNCTION IN PATIENTS WITH CHRONIC LOW BACK PAIN

Aldijana Kadric, Edina Tanovic, Damir Celik, Dzevad Vrabac, Ena Gogic

¹ Clinic for Physical Medicine and Rehabilitation, Clinical Center of University of Sarajevo, Bosnia and Herzegovina
e-mail: aldijanakadic@gmail.com

Background and Aims

While there is evidence supporting the potential of Alpha-lipoic acid (ALA) to improve nerve conduction parameters in certain neurological conditions, its specific effects on nerve conduction in chronic low back pain (CLBP) patients have not been directly addressed in the current context. There is a connection between proprioceptive system deficits and movement control dysfunction in patients with CLBP, but the exact mechanism of this link is unknown. To analyze the effectiveness of the proprioceptive rehabilitation method using the Huber system of exercises and to describe the nerve conduction study findings in a patient with CLBP treated with ALA.

Methods

A quasi-experimental, pre-test post-test repeated measures design was used to include 15 patients at the Clinic for Physical Medicine and Rehabilitation, Clinical Center of the University of Sarajevo, in a three-week follow-up period. The patients were treated with 600 mg of ALA supplementation per day and participated in Huber proprioception training five days per week. Patients were followed for the next three weeks, with two study visits: one at baseline and one at the end of the study. The study visits included Electromyography and Nerve Conduction Studies.

Results

Out of the total patients ($n = 15$), 11 (73.3%) were male. The most commonly affected levels were L4/L5 (87%), followed by L3/L4 (6.5%) and L5/S1 (6.5%). There was a statistically significant median increase after three weeks in both proximal ($z = -3.298$, $p < .001$) and distal peroneal M wave amplitude ($z = -3.415$, $p < .001$). A statistically significant median increase was also observed in proximal ($z = -3.408$, $p < .001$) and distal tibial M wave amplitude ($z = -3.409$, $p < .001$).

Conclusion

Future research should be carried out with a larger sample size to examine the long term effects of the proprioceptive training and ALA supplementation on treatment of CLBP.

Keywords: Electromyoneurographic, activity, proprioceptive, training, Alpha-lipoic