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THE EFFECT OF LOW LEVEL LASER THERAPY IN CARPAL TUNNEL SYNDROME PATIENTS

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Abstract

As an alternative of conservative treatment options for CTS, Low Level Laser Therapy (LLLT) has been developed. Several studies in peripheral nerve activities after LLLT in CTS, showed conflicting evidence on nerve conduction velocities. The objective of this study was to analyze the difference of median nerve sensory distal latency between pre and post LLLT in CTS patients. This study was a pre experimental study with pre test & post test design of the CTS patients who received LLLT in Rehabilitation Medicine outpatient clinic, Dr. Soetomo Hospital, Surabaya, from July to November 2006. The median nerve sensory distal latency pre and post LLLT was measured. Twenty subjects underwent 6 treatment sessions of LLLT (3 times a week for 2 weeks) with a GaAlAs laser. There was a reduction of the percentage of patients in clinical manifestation (symptoms, sensory deficit, and positive provocation tests) post LLLT. The mean of median nerve sensory distal latency became faster post LLLT, from 5.265 msec to 3.305 msec with sensory nerve conduction velocity (NCV) from 34.72 to 45.4 m/sec. There was also reduction of VAS from 5.55 to 3. While the sensory nerve action potential (SNAP) amplitude increased from 14.53 uV to 22.325 uV. There was significant difference in sensory distal latency and sensory NCV of the median nerve, and VAS between pre and post LLLT (p < 0.05). However, the difference in SNAP amplitude between pre and post LLLT was not statistically significant (p > 0.05). There was no significant correlation (p > 0.05) between median nerve sensory distal latency and VAS pre and post LLLT, and also between the difference of sensory distal latency pre-post LLLT and the difference of VAS pre-post LLLT. In conclusion, the study result showed that after LLLT in CTS patients, there was statistically significant difference of median nerve sensory distal latency between pre and post LLLT, with reduction of median nerve sensory distal latency.

Keyword : sensory, distal, latency, median, nerve, low, level, laser, therapy, carpal, tunnel, syndrome,

Daftar Pustaka: