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Abstract

Diabetic neuropathy is the most common complication and greatest source of morbidity and mortality in diabetic patients. Thirty male and female patients with painful diabetic neuropathy and abnormal results from nerve conduction studies participated in this study. Their ages ranged from 45 to 60 years with a mean of $52.1 \pm SD 4.7$ years.

Patients were randomly assigned into two equal groups of 15, an active laser group (laser group) and a placebo laser group (control group). The laser group received scanning helium neon (He-Ne) infrared laser with wavelength 850 nm and density of 5.7 J/cm^2 , applied to the lumbosacral area and the plantar surface of the foot for 15 min each site/session three times per week for four weeks (i.e. 12 sessions).

Pain intensity via visual analogue scale, bilateral peroneal motor nerves, sural sensory nerves conduction velocity and amplitude and foot skin microcirculation, were measured pre- and post-treatment for both groups.

Pain was significantly decreased ($p \leq 0.05$) and electrophysiological parameters and foot skin microcirculation were significantly improved ($p \leq 0.05$) in the laser group, while no significant change was obtained in the control group.

Conclusion

Low level laser therapy within the applied parameters and technique could be an effective therapeutic modality in reducing pain and improving neurovascular function in patients with diabetic polyneuropathy.

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