The effect of 300mW, 830nm laser on chronic neck pain: a double-blind, randomized, placebo-controlled study.

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ABSTRACT

Aim: To determine the efficacy of 300mW, 830nm laser in patients with chronic neck pain.

Methods: We conducted a randomized, double-blind, placebo-controlled study of low-level laser therapy (LLLT) in 90 subjects with chronic neck pain. Subjects were randomized to receive a course of 14 treatments over 7 weeks with either active or sham laser to tender areas in the neck. The primary outcome measure was change in a 10cm Visual Analogue Scale (VAS) for pain. Secondary outcome measures included a Self-Assessed Improvement in pain (SAI), measured by VAS, Short-Form 36 Quality-of-Life questionnaire (SF-36), Northwick Park Neck Pain Questionnaire (NPNQ), Neck Pain and Disability Scale (NPAD) and the McGill Pain Questionnaire (MPQ). Measurements were taken at baseline, at the end of 7 weeks’ treatment and 12 weeks from baseline. Analysis was by ordinal regression of VAS scores.

Results: We found a systematic trend in pain relief in the treated group, from base line to 12 weeks after the initial treatment, OR = 8.00 (95% CI 3.09 - 20.69). Eighty-four percent of subjects in the active group improved compared with 40% of the control group. Significant improvements were seen in the active group compared to placebo for SAI, SF-36-Physical Score (SF36 PCS), NPNQ, NPAD and MPQVAS. The results of the SF-36 - Mental Score (SF36 MCS) and other MPQ component scores (afferent and sensory) did not differ significantly between the two groups.

Conclusion: Low-Level Laser Therapy (LLLT), at the parameters used in this study, was efficacious in providing pain relief for patients with chronic neck pain for at least 3 months.