Randomized Controlled Trial

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Low-level laser therapy and myofacial pain dysfunction syndrome: a randomized controlled clinical trial

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Abstract

Myofacial pain dysfunction syndrome (MPDS) is the most common reason for pain and limited function of the masticatory system. The effects of low-level lasers (LLLs) for controlling the discomfort of patients are investigated frequently. However, the aim of this study was to evaluate the efficacy of a particular source producing 660 nm and 890 nm wavelengths that was recommended to reduce of the pain in the masticatory muscles. This was a double-blind and placebo-controlled trial. Sixteen MPDS patients were randomly divided into two groups. For the laser group, two diode laser probes (660 nm (nanometers), 6.2 J/cm(2), 6 min, continuous wave, and 890 nm, 1 J/cm(2) (joules per square centimetre), 10 min, 1,500 Hz (Hertz)) were used on the painful muscles. For the control group, the treatment was similar, but the patients were not irradiated. Treatment was given twice a week for 3 weeks. The amount of patient pain was recorded at four time periods (before and immediately after treatment, 1 week after, and on the day of complete pain relief). A visual analog scale (VAS) was selected as the method of pain measurement. Repeated-measures analysis of variance (ANOVA), the t-test and the paired t-test were used to analyze the data. In each group the reduction of pain before and after the treatment was meaningful, but, between the two groups, low-level laser therapy (LLLT) was more effective (P = 0.031) According to this study, this type of LLLT was the effective treatment for pain reduction in MPDS patients.