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Early results of low-level laser application for masticatory muscle pain: a double-blind randomized clinical study

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Abstract

Background: To evaluate the effect of Low Level Laser (LLL) application at the points of greatest pain in patients with chronic masticatory muscle pain.

Methods: A total number of 30 (21 women, 9 men, with a mean age of 39.2) were selected after the diagnosis of MPDS according to the Research Diagnostic Criteria for Temporomandibular Disorder (RDC/TMD). The patients were randomly divided into three groups; laser group I (n = 10); patients received the LLL at the point of greatest pain, laser group II (n = 10); patients received LLL at pre-established points in the effected muscles and placebo group (n = 10). LLL and placebo were applied three times

per week, for a total of 12 sessions. Mandibular mobility was examined, masticator muscles tenderness were assessed and PPT values were obtained. Subjective pain levels were evaluated using VAS. The measurements performed before the treatment and after the completion of the therapy. Descriptive statistics (mean, standard deviation, and frequency) Student's t-test, Mann-Whitney U-test and paired-sample t-tests were used for analysis.

Results: In both laser groups, there was a statically significant reduction in PPT values of the muscles, number of muscles without any pain on palpation increased significantly, mandibular movements' ranges were improved. Laser group I demonstrated statistically better results than the Laser group II in all of the measured values. Plasebo group did not show any statistically difference in any of the measured values.

Conclusions: LLLT can be accepted as an alternative treatment modality in the management of masticatory muscle pain and direct irradiation seems to effect better.