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Laser acupuncture in patients with temporomandibular dysfunction: a randomized controlled trial

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Abstract

A prospective, double-blind, randomized, and placebo-controlled trial was conducted in patients with chronic temporomandibular disorder (TMD) to check the analgesic efficacy of infrared low-power GaAlAs diode laser applied to acupuncture points. Forty female subjects, ranging in age from 20 to 40 years, with diagnoses of chronic myofascial pain and arthralgia were randomly allocated to two groups: an experimental group (EG) who received the laser acupuncture as adjunct to reversible occlusal splint therapy and a control group (CG) who received a placebo laser associated with occlusal splint therapy. Both approaches were applied once a week for 3 months. Laser acupuncture was defined by the following parameters: 50-mW continuous radiation for 90 s to acupoints ST6, SI19, GB20, GB43, LI4, LR3, NT3, and EX-HN3; defining 4.5-J energy; 1250-W/cm(2) density point; and 112.5-J/cm(2) total density. The outcome measurements included a symptom evolution assessment carried out by checking spontaneous and palpation pain intensity, which was indicated on a visual analog scale (VAS). All evaluations were made by an assessor who was blind to the treatment. The symptom reduction was significant in both groups (EG: VAS = 0, n = 20; CG: VAS between 2 and 4, n = 18). The

measurements showed significantly faster and lower pain intensity values in the EG ($p \leq 0.002$), where there was a higher proportion of patients with remission of symptoms related to the action of laser acupuncture. For patients in whom conservative treatment was adopted, the laser acupuncture is a secure, noninvasive, and effective treatment modality because it improves the chronic pain associated with TMD and has no side effects.