

A pilot study into the effect of low-level laser therapy in patients with chronic rhinosinusitis.

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Abstract

Chronic rhinosinusitis (CRS) is a common inflammatory disease of the nose and paranasal sinuses that has a significant impact on patients' quality of life. No study has examined the effectiveness of applying low-level laser therapy (LLLT) locally over the sinuses in patients with CRS. The aim of this study was to evaluate the effect of LLLT in patients with CRS. Fifteen adult patients with CRS participated in this pilot pretest-posttest clinical study. Patients were treated with a 830-nm Ga-Al-As laser in continuous-wave mode at a power output of 30 mW and energy dose of 1 J. Laser irradiation was delivered on six points over each maxillary or frontal sinus with 33 sec irradiation for each point and a total treatment duration of 198 sec for each sinus. Patients were given LLLT three times per week for ten treatment sessions. Patients were asked to score their symptoms in accordance with a four-point scale (0-3), and a total symptom score (TSS) for each patient was calculated. Percentage improvement of TSS was considered as the primary outcome measure. TSS was calculated at baseline (T0), at 2 weeks (T1) and at 4 weeks (T2). The TSS was improved significantly at T1 (39%) and at T2 (46.34%). A large effect size for LLLT was found ($\eta p(2) \eta p(2) = 0.63$). The therapeutic effect was sustained for a mean of 5 months. This pilot study indicates that LLLT applied for 4 weeks improves symptoms in patients with CRS.