Clinical Effect of Different Doses of Low Level Laser Therapy on Healing of Recurrent Aphthous Ulcer and Oral Ulceration in Behcet's Disease

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Abstract

As the exact etiology of recurrent aphthous ulcer (RAU) remains unknown, therapeutic measures are challenging and difficult and might be used for palliation and directed primarily at pain reduction and decreasing the duration of the ulcers. Low level laser therapy use in based on the concept that certain doses of specific wavelengths can turn on or off certain cellular components or functions as well as aid in healing and reducing pain and swelling of oral lesions.

The main objective of this study was to evaluate the clinical effect of low energy Gallium-Arsenide semiconductor diode laser, 904 nm, continuos mode, on the healing process of recurrent aphthous ulceration and oral ulceration in Behcet's disease.

This study was performed on 51 patients, age range 12-58 years, with RAU lesions irradiated by laser into two doses (in alternative day), and divided into the following groups:

- Control group: RAU patients without any treatment.
- Group one: RAU in Behcet's disease irradiated with 1.5 Joule laser.
- Group two: RAU only, irradiated with 1.5 Joule laser.
- Group three: RAU only, irradiated with 2.1 Joule laser.

The results obtained account for duration of lesions, size measurement, pain symptoms, and presence of erythema in three visits.

The clinical results showed that no difference in the healing process of RAU and oral ulcer in Behcet's disease when compared with the control group after low level laser therapy, however when the lesion is less than 24 hours old, it was healed faster than control group. In addition to that, pain symptoms disappear soon after laser therapy, or it regains in low intensity.

Statistically there is no significant difference on comparison between 1.5 Joule and 2.1 Joule of laser irradiation.