

PubMed

**Format:** Abstract

J Biol Regul Homeost Agents. 2016 Apr-Jun;30(2 Suppl 1):87-97.

Oxygen high level laser therapy is efficient in treatment of chronic periodontitis: a clinical and microbiological study using PCR analysis.

Caccianiga G¹, Rey G², Paiusco A¹, Lauritano D¹, Cura F³, Ormianer Z⁴, Carinci F⁵.

Author information

- 1 School of Medicine and Surgery, University of Milan-Bicocca, Milan, Italy.
- 2 Ecole Dentaire Garancière, University of Paris Diderot, France.
- 3 Department of Experimental, Diagnostic and Specialty Medicine, University of Bologna, Bologna, Italy.
- 4 Department of Oral Rehabilitation, Tel-Aviv University, Tel-Aviv, Israel.
- 5 Department of Morphology, Surgery and Experimental Medicine, University of Ferrara, Ferrara, Italy.

Abstract

In periodontology, lasers have been suggested for the photodynamic **therapy** (PDT). Such **therapy** can be defined as the inactivation of cells, microorganisms or molecules induced by light and not by heat. The aim of our study is to assess the effect of Oxygen high-level **laser therapy** (OHLLT) in removing all bacterial deposits on root or implant surface by means of mechanical instrumentation and **laser** irradiation. OHLLT has two effects on targeted bacteria and tissues, **decontamination** and biostimulation. A total of 33 patients were randomly selected with a diagnosis of chronic periodontitis. The patients enrolled were 16 females and 17 males, six smokers and 4 diabetic patients. For each patient a periodontal charting was performed, assessing probing depth, plaque index and bleeding on probing at baseline and after 6 months. Microbiological analysis were performed with PCR Real Time, using paper tips to withdraw gingival fluid in periodontal pockets before and after treatment, at baseline and after 6 months. All patients were treated with OHLLT at baseline, after 1 week, after 2 weeks and every month for 6 months. After 6 months, all periodontal pockets were treated successfully, without complications and no significant differences in results. All clinical parameters showed an improvement, with a decrease both of plaque index (average decrease of 75%), bleeding on probing (average decrease of 62%) and probing depth (average decrease of 1.8 mm). After the treatment, a remarkable decrease in bacteria amount, both for each

species and for total bacteria was observed except for *Aggregatibacter actinomycetemcomitans* and *Porphyromonas gingivalis* demonstrating that this **laser** protocol is effective on periodontitis treatment. OHLLT is efficient in treatment of chronic periodontitis as demonstrated by clinical and microbiological parameters, going beyond the traditional periodontal **therapy**.

PMID: 27469554

[Indexed for MEDLINE]

Publication type, MeSH terms, Substance

LinkOut - more resources