

NON-SURGICAL TREATMENT OF PERI-IMPLANT MUCOSITIS WITH THE ADJUNCTIVE USE OF DIODE LASER: A RANDOMIZED CLINICAL TRIAL

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Laser therapy for the treatment of peri-implant infections has been proposed in recent years due to several advantageous characteristics such as its anti-bacterial action, hemostatic effects or easy handling.

Whilst mechanical therapy alone has been the main treatment modality around implants, current data also indicate that resolution of inflammation was not achieved in all patients. Thus, this study hypothesized that if mechanical therapy is enhanced by antibacterial effects of laser it should result in a more successful outcome.

The aim of this study was to assess the clinical outcomes and to make a comparative evaluation of professionally administered plaque removal with or without the adjunct of diode laser (DL) for the treatment of peri-implant mucositis (PIM).

A total of 220 patients diagnosed with PIM were selected and contributed to 1 implant each. Patients were randomly assigned to either test (n=110) or control group (n=110). In the test group, patients were treated with a conventional non-surgical therapy in combination with 980nm DL application while patients in the control group received only conventional non-surgical therapy. Clinical parameters were measured at 6 sites per implant at baseline, 30 days and at 3 months after professional treatment. The primary endpoint was defined as disease resolution i.e. absence of bleeding upon probing at the diseased sites at 3 months with probing depth (PD) \leq 6mm.

Both therapeutic modalities gained similar clinical improvements with comparable reduction in the number of BoP-positive sites, plaque scores and PD values at 3 months (all P-value > 0.05). Complete disease resolution was achieved in 34.5% of the treated implants in the test group compared to 30.9% of control implants at 3 months.

Based on the present results, adjunctive therapy of PIM with DL has demonstrated no statistically significant additional improvement in clinical parameters as compared to mechanical therapy alone.