

Schwarz F, Bieling K, Bonsmann M, et al. Nonsurgical treatment of moderate and advanced periimplantitis lesions: a controlled clinical study. Clin Oral Investig 2006;13

Purpose: to evaluate the effectiveness of an Er:YAG (erbium-doped:yttrium, aluminum, and garnet) laser for nonsurgical treatment of periimplantitis lesions.

Materials and Methods: A controlled, parallel design clinical study with 20 patients (40 implants) each patient with at least one implant with moderate (a) and advanced periimplantitis (b). 2 weeks before treatment, all patients received supragingival implant/tooth cleaning using rubber cups and prophy paste OHI. additional scaling and root planing using hand instruments on teeth exhibiting BOP or purulence. A supragingival professional implant/tooth cleaning and reinforcement of OH was also performed at baseline as well as 1, 3, 6, and 12 months after treatment.

Subjects were randomly instrumented nonsurgically using either (group 1) an Er:YAG laser (100 mJ/pulse, 10 Hz) device (LAS) or (group 2) mechanical debridement using plastic curettes and antiseptic therapy with CHX (0.2%) (group C). In the C group, the postoperative care consisted of rinses with CHX solution for 2 postoperative weeks. Clinical parameters measured at baseline, 3, 6, and 12 months after treatment: plaque index, bleeding on probing (BOP), probing depth, gingival recession, and clinical attachment level (CAL).

Findings: Mean BOP improved significantly in both groups at 3, 6, and 12 months. After 3 and 6 months, the mean BOP reduction was significantly higher in the LAS group when compared to the C group. At 3 and 6 months, both groups revealed significant CAL gains at a- and b- lesions. In both groups, however, the mean CAL at a- and b- lesions was not significantly different from the respective baseline values at 12 months.

Conclusion: Although treatment of periimplantitis lesions with laser resulted in a significantly higher BOP reduction than C, its effectiveness seemed to be limited to a period of 6 months, particularly at b- lesions.