

A pilot study of Er,Cr:YSGG laser therapy used as an adjunct to scaling and root planing in patients with early and moderate periodontitis

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SUMMARY

Objectives: The study aim was to compare the results of an Er,Cr:YSGG laser therapy used in adjunct to scaling and root planing (SRP), and of SRP alone, in a small group of patients with early to moderate periodontitis. **Materials and methods:** ten adult patients with periodontitis were treated according to split-mouth design, using Protocol A (SRP alone) or, Protocol B (Er,Cr:YSGG laser therapy combined with SRP). At baseline, and 3 months after the treatment the following periodontal parameters were evaluated: bleeding on probing (BOP), probing depth (PD), plaque index (PI). **Results:** no statistically significant difference in plaque levels was noted before and after the treatment between the treated quadrants, however a tendency of a more pronounced decrease in plaque levels was noted in the group of laser-SRP treated teeth. After three months, 60-68% decrease of BOP-positive teeth compared to baseline status was noted in all treated quadrants, without significant difference between the treatment modes. The decrease of mean PD values was measured after three months compared to baseline: on the lingual surfaces in 'SRP' group the mean PD improvement value was $0,94 \pm 12$, and in the laser-SRP group it was $1,96 \pm 11$, ($p < 0,001$); on the vestibular surfaces the mean improvement values were $0,99 \pm 0,14$ and $2,03 \pm 0,11$, respectively ($p < 0,001$). **Conclusions:** Non-surgical periodontal therapy using both an Er,Cr:YSGG laser + SRP and SRP alone, lead to significant improvements in all the investigated clinical parameters. The combined treatment using laser as an adjunct to root scaling and planing seemed to be advantageous when compared to SRP alone, due to more efficient attachment level restoration.

Key words: laser therapy, periodontal attachment, periodontitis, root planing, scaling.

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