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Treatment of Periodontal Pockets With A Diode Laser

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Background and Objective: **The aim of this study is to examine the long-term effect of diode laser therapy on periodontal pockets with regard to its bactericidal abilities and the improvement of periodontal condition.**
Study Design/Materials and Methods: **Fifty patients were randomly subdivided into two groups (laser-group and control-group) and microbiologic samples were collected. There have been six appointments for 6 months following an exact treatment scheme. After evaluating periodontal indices (bleeding on probing, Quigley-Hein) including pocket depths and instruction of patients in oral hygiene and scaling therapy of all patients, the deepest pockets of each quadrant of the laser-group's patients were microbiologically examined. Afterwards, all teeth were treated with the diode laser. The control-group received the same treatment but instead of laser therapy were rinsed with H_2O_2. Each appointment also included a hygienic check-up. After 6 months the final values of the periodontal indices and further microbiologic samples were measured. The total bacterial count as well as specific bacteria, such as Actinobacillus actinomycetemcomitans, Prevotella intermedia, and Porphyromonas gingivalis, were assessed semiquantitatively.**
Results: **The bacterial reduction with diode laser therapy was significantly better than in the control group. The index of bleeding on probing improved in 96.9% in the laser-group, whereas only 66.7% in the control group. Pocket depths could be more reduced in the laser group than in the control group.**
Conclusion: **The diode laser reveals a bactericidal effect and helps to reduce inflammation in the periodontal pockets in addition to scaling. The diode laser therapy, in combination with scaling, supports healing of the periodontal pockets through eliminating bacteria. Lasers Surg. Med. 22:302–311, 1998.**
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