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Effects of soft laser application and local application of NBF gingival gel in reducing pain, swelling and wound healing after pre-prosthetic surgical procedures

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Objectives: The aim of this study was to explore the effect of soft laser therapy and local application of the NBF Gingival Gel on post-surgical wound healing, pain and swelling in an investigative comparative-efficiency study.

Study Design & Methods: Seventy eight pre-prosthetic surgical cases are included in this study, divided into three groups. After suturing, 39 patients (Group A) received laser treatment of the operative site with an 800 nm—at power output of 45mW and irradiation time of 160 seconds using the Medio Laser Combi (Iskra Medical, Ljubljana, Slovenia), and postoperatively at the 3 and 6 day. Second group (Group B), consisted of 39 patients received irradiation without laser activation and surgical wound treatment with NBF Gingival Gel (NanoCureTech Institute, Seoul, South Korea) right after suturing, and postoperatively after 24 hours, 3 and 6 day.

Main outcome measures: Surgical wound healing was assessed at the 1, 3 and 7th day postoperatively. Patients were instructed to evaluate their postoperative pain utilizing VAS scale for each day successively for 7 days after surgery. Swelling was evaluated using 5 standard measuring craniofacial lines. Wound healing was evaluated using wound healing scale 1 – 10 by blinded investigator.

Results: The differences in pain level were significant only at the first day (Mann – Witney U-test, $p < 0.05$), however major disparity was noted as far as swelling at the 3 day between Group A and Group B ($p < 0.05$). No statistically significant difference were observed between Group A and Group B regarding wound healing ($p > 0.05$).

Conclusion: The use of soft laser irradiation achieves better postoperative analgesic effect and slight reduction of swelling. Its clinical usefulness demands additional trials.

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