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ABSTRACT BOOK

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Low-level laser therapy in recovering the orofacial sensitivity after orthognathic surgery on the individuals with repaired cleft lip and palate: a pilot study.

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Background: Individuals with cleft lip and palate frequently present dentofacial alterations and need orthognathic surgery for the functional and esthetic correction. However, postoperative disturbances of the orofacial sensitivity are common after the surgery. The bioestimulation of the tissue through the low-level laser therapy has been used in the regeneration of the neural sensitivity after the orthognathic surgery.

Aims: To investigate the effectiveness of the low-level laser therapy in the early recovering of the orofacial sensitivity after the orthognathic surgery in individuals with repaired cleft lip and palate.

Methods: This study was approved by the institutional review board. Pilot study randomized controlled trial carried out with 12 patients with repaired cleft lip and palate, aged 23 years on average, undergone to orthognathic surgery, divided into 2 groups: experimental group (6 patients) and control group (6 patients). All the patients were undergone to the orofacial myofunctional evaluation for the sensitivity test of the tongue, lips, incisive papilla and mental region, 2 days before (preoperative), and 3 months later (post-operative) the surgery. The sensitivity test was performed through the esthesiometer consisting of a set of six monofilaments of colored nylon and different diameters which touch the tested area and produce different pressures. A score is assigned for each monofilament from 0 (thinner filament) indicating best sensitivity to 5 (thicker filament) indicating worse sensitivity. Only experimental group was undergone to low-level laser therapy after inferior alveolar nerve exposition during orthognathic surgery, and in four post-operative sessions with interval of 12 hours between each application. The results were analyzed through descriptive analysis considering the percentage of changes of the orofacial sensitivity in both groups after surgery.

Results: Before surgery, all patients (6) of the experimental group presented adequate sensitivity in tongue, lips, mental region and cheeks and, 2 (33%) patients presented mild altered sensitivity on the papilla. After surgery, there was an improvement in the sensitivity of the papilla area. One (16%) patient changed to adequate sensitivity and one maintained mild altered sensitivity. In the control group, before surgery, all patients (6) presented adequate sensitivity in tongue, lips, mental region and cheek, and 2 (33%) patients presented mild/moderate altered sensitivity in papilla. After surgery a higher number of changes in the orofacial sensitivity was observed in the control group as compared to the experimental group. Three (50%) patients changed the sensitivity in the papilla area: 1 (6%) changed from mild to mild/moderated altered sensitivity and, 2 patients (33%) changed from adequate to mild/moderate altered sensitivity. In the mental region, 66% (4) patients presented mild altered sensitivity. One of these patients also presented mild altered sensitivity in papilla and cheek.

Summary/Conclusion: These preliminary results showed that low-level laser therapy was effective in recovering orofacial sensitivity in a short term (3 months) after orthognathic surgery in patients with repaired cleft lip and palate.