

Efficacy of low level laser therapy on neurosensory recovery after injury to the inferior alveolar nerve

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Abstract

Background

The most severe complication after the removal of mandibular third molars is injury to the inferior alveolar nerve or the lingual nerve. These complications are rather uncommon (0.4% to 8.4%) and most of them are transient. However, some of them persist for longer than 6 months, which can leave various degrees of long-term permanent disability. While several methods such as pharmacologic therapy, microneurosurgery, autogenous and alloplastic grafting can be used for the treatment of long-standing sensory aberrations in the inferior alveolar nerve, there are few reports regarding low level laser treatment. This paper reports the effects of low level laser therapy in 4 patients with longstanding sensory nerve impairment following mandibular third molar surgery.

Methods

Four female patients had complaints of paresthesia and dysesthesia of the lip, chin and gingiva, and buccal regions. Each patient had undergone mandibular third molar surgery at least 1 year before. All patients were treated with low level laser therapy. Clinical neurosensory tests (the brush stroke directional discrimination test, 2-point discrimination test, and a subjective assessment of neurosensory function using a visual analog scale) were used before and after treatment, and the responses were plotted over time.

Results

When the neurosensory assessment scores after treatment with LLL therapy were compared with the baseline values prior to treatment, there was a significant acceleration in the time course, as well as in the magnitude, of neurosensory return. The VAS analysis revealed progressive improvement over time.

Conclusion

Low level laser therapy seemed to be conducive to the reduction of long-standing sensory nerve impairment following third molar surgery. Further studies are worthwhile regarding the clinical application of this treatment modality.