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THE 18th CONGRESS OF THE WORLD FEDERATION FOR LASER DENTISTRY

ABSTRACT BOOK

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Oral Presentation

For each case the loss intensity ratio (LIR) was calculated. It is the ratio between emission intensity of necrotic bone at 500 nm and emission intensity of the control point at 500 nm.

Results: A total of 192 areas were analyzed. 96 areas resulted in necrotic bone, 96 control points resulted in vital bone. Mean LIR resulted 38%. It means that necrotic bone is 4,2 times less fluorescence in comparison to viable bone at the same wavelength. Parametric and non-parametric tests provided statistically significant results (Student T and Wilcoxon W test <0.001).

Conclusion: The use of AF to identify margins during surgical resection of necrotic bone is highly promising. This approach, using a spectrofotometric setup, is objective and will allow to achieve excellent outcomes.

Isabella Berlingieri Polho, Juliana Guedes Gomes, Pedro Soares, Luciane Hiramatsu Azevedo, Patricia Moreira de Freitas Costa e Silva (Brazil)
Category: Clinical human studies
Title: EFFECT OF PHOTOBIOMODULATION ON THE TREATMENT OF INFERIOR ALVEOLAR NERVE PARESTHESIA IN PATIENTS UNDERGOING ORTHOGNATHIC SURGERY AND THIRD MOLAR EXTRACTION: RANDOMIZED, TRIPLE-BLIND, CONTROLLED CLINICAL TRIAL

Aim: This study aims to evaluate and compare whether different low level laser energy protocols help the healing of the affected nerve, improving the sensation of tingling and loss of sensitivity in the face.

Material and methods: Participants were divided into 3 groups: 2 laser groups (G1-808 nm, 100 mW, 40s/point, 4J de energy/point; G2- 660 e 808 nm, simultaneously, 100 mW, 20s/point, 2J de energy/point of each wavelength) and 1 sham group. All participants underwent 8 laser therapy sessions and 2 assessments, one before starting treatment and another after the 8 sessions. A sensitivity test that quantified paresthesia, the Oral Health Impact Profile (OHIP-14) questionnaire and the visual analog scale (VAS) were used for the assessments.

Results: In both laser groups, the average number of points at which individuals reported perfect sensitivity increased after the 8 sessions.

Conclusion: Laser tends to improve paresthesia, but a larger sample is needed for better conclusions.

Izabela Fornazari Delamura, Mirela Caroline Silva, Stefany Barbosa, Leticia Helena Theodoro, Leonardo Perez Faverani (Brazil)
Category: Preclinical
Title: ANALYSIS OF THE SYNERGISM IN THE APPLICATION OF OZONIZED OIL AND ANTIMICROBIAL PHOTODYNAMIC THERAPY IN THE PREVENTION OF MANDIBULAR OSTEONECROSIS IN SENESCENT RATS

Aim: The objective of this study was to evaluate the synergistic potential of antimicrobial photodynamic therapy (aPDT) and ozonized sunflower oil (OZ) in the prevention of medication-related osteonecrosis of the jaws (MRONJ) in senile female rats treated with Zoledronate (ZOL).

Material and methods: Fifty senile female rats (18 months old) were divided into five experimental groups (n=10): the Vehicle (VEH) group, where animals received applications of a 0.9% sodium chloride solution; the ZOL group, with systemic application of Zoledronate (100 µg/kg), without local therapy; the ZOL+aPDT group, which received ZOL and aPDT; the ZOL+OZN group, which received ZOL and local therapy with OZ (600 mEq/kg) at a concentration of 0.3 mg/kg for 2 minutes at 0, 2, and 4 days postoperatively; and the ZOL+aPDT+OZN group, which received ZOL, aPDT, and OZ therapies following the same protocols. aPDT was performed in the alveolus at 0, 2, and 4 days postoperatively, initially applying methylene blue (100 µg/mL) with a pre-irradiation time of 60 seconds, followed by low-power laser irradiation (Thera Lase DMC; InGaAlP; 660 nm; 35 mW; 2.1 J/point; 60 seconds; 74.2 J/cm²; 1.23 W/cm²) with a spot size of 0.0283 cm². Euthanasia was performed 28 days after the extraction of the lower first molar.

Results: The associated therapies showed larger regions of newly formed bone tissue compared to the ZOL and ZOL+OZN groups (P<0.05), with the ZOL+aPDT group showing improved results compared to the VEH and ZOL groups. All groups that received therapies, either in combination or alone, had smaller regions of non-vital bone tissue compared to the ZOL group (P<0.05).