

## Poster Session

per ml, on rat isolated vas deferens contractions (RVIEV) induced by noradrenaline and electric field stimulation had no effect on dopamine-induced RIEVD contractions.

**Conclusion:** These preliminary results support that BoNT/A has an important action on microglial cells. New experiments, with higher concentrations of botulinum toxin type A need to be carried out in vas deferens isolated from rats.

### P-003

**Pablo Betancourt, Francisco Rubio, Federico Wienecke, Josep Arnabat Dominguez, Pablo Betancourt** (Chile)

**Category:** Case report

**Title:** PHOTOBIO-MODULATION THERAPY AND ENDODONTIC TREATMENT OF TEETH WITH APICAL PERIODONTITIS USING 940-nm DIODE LASER. REPORT OF TWO CASES

**Aim:** The aim of this article was to report two cases of teeth with asymptomatic apical periodontitis (AAP) treated with PBMT and disinfection protocol by 940-nm diode laser (DL).

**Case description:** This work presents two cases of pulp necrosis/asymptomatic apical periodontitis (AAP) that were treated with 940-nm DL, administered both to disinfect the root canal and to apply photobiomodulation therapy (PBMT) to the periradicular tissues. The cases were analysed by Cone-Beam Computed Tomography (CBCT).

**Discussion:** DL has become widely accepted due to its high antimicrobial effectiveness and its ability to accelerate the repair of large apical lesions by biostimulation. Nevertheless, differences of opinion persist within the scientific community due to the lack of standardized endodontic protocols.

**Conclusion:** The application of 940-nm DL, both for disinfection of the root canal system and for PBMT, is an effective treatment in non-vital teeth with large periapical lesions. In both cases reported, bone neoformation were found at the 6-month check-up.

### P-004

**Larissa Couto de Freitas, Fabianne Soares Lima, Luciane Hiramatsu Azevedo, Alyne Simões** (Brazil)

**Category:** Case report

**Title:** USE OF ANTIMICROBIAL PHOTODYNAMIC

THERAPY AND HIGH-POWER Er:YAG LASER IN THE TREATMENT OF BONE NECROSIS INDUCED BY DRUGS OR RADIATION: CASE SERIES

**Aim:** The objective of this work is to describe three cases in which there was an association of the use of low- and high-power lasers for the management and treatment of bone necrosis.

**Case description:** Two cases of medication-related osteonecrosis of the jaw and one case of osteoradionecrosis were diagnosed and treated with a combination of low- and high-power lasers. In both cases, there were complaints of significant painful symptoms and exposure of intraoral necrotic bone tissue after extraction. In only one case the jaw was affected and the patient was using Alendronate orally to treat osteoporosis. In the other two cases, there was mandibular involvement, with one of the patients using Alendronate, orally, and the other underwent radiotherapy. All patients were initially subjected to treatment with photobiomodulation therapy, using a low-power laser at red wavelength, being irradiated at 0.5 J/point in the region of bone exposure, and at infrared wavelength, being irradiated 2,0 J/point around the wound, in addition to antimicrobial photodynamic therapy, through irradiation of 4,0 J/point, after the use of 0.01% methylene blue, in a pre-irradiation period of 3 minutes. After improvement in clinical appearance, the patients underwent removal of the remaining bone sequestration with a high-power Er-YAG laser, with 15 Hz, 4W and 250mJ. In both cases of MRONJ, there was complete resolution of the condition and, in the case of ORN, there was partial resolution.

**Discussion:** In all three cases, osteonecrosis appeared after tooth extraction, explained by the fact that oral health conditions are the main risk factors for the development of these conditions. The combination of low and high power lasers has been presented as a treatment alternative, as PBMT and aPDT can prepare the tissue before surgical intervention. The choice of the erbium laser is explained by its mechanism of action, as the energy is transported close to the ablated tissue, presenting fewer harmful effects. It is readily absorbed by the main bone components, presenting excellent ability to remove necrotic bone, in addition to its biomodulation effect.

**Conclusion:** The treatment of ORN through the association between low and high power lasers is

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still little publicized, and the surgical management of bone necrosis through the use of the Er-YAG laser is rarely found in the scientific literature. The outcome of the clinical cases presented suggests that the use of lasers is a safe and effective alternative therapy.

### **P-005**

**Fabio Klassmann, Valdir Gouveia Garcia, Letícia-Helena Theodoro, Edilson Ervolino**  
(Brazil)

**Category:** Systematic or narrative review

**Title:** A RANDOMISED TRIAL OF THE BONE FORMATION AFTER MAXILLARY SINUS FLOOR AUGMENTATION WITH BOVINE HYDROXYAPATITE (CERABONE®) AND PHOTOBIO-MODULATION: HISTOMORPHOMETRIC AND IMMUNOHISTOCHEMICAL ANALYSIS

**Aim:** The use of non-autogenous biomaterial to increase bone height in the maxillary sinus has been shown to be effective, but the results are still inconclusive.

**Material and methods:** Eight participants were selected and included in the research. After surgical access with osteotomy on the lateral wall of both maxillary sinuses, these were filled with Cerabone® (São Paulo-SP, Brazil). Then, by blind randomization, they received one of the following treatments: Filling with Cerabone® (Control group); treatment with Photobiomodulation (PBM), filling with Cerabone® and treatment with low-power laser (PBM group). Biopsies were obtained 30 days after the surgery, using a 2.8 mm internal diameter trephine bur. Qualitative and quantitative histological analyzes were performed and immunohistochemical analyzes of osteocalcin (OCN) and tartrate-resistant acid phosphatase (TRAP) were performed with scores for each of the biological events.

**Results:** The Cerabone® biomaterial demonstrated a high degree of biocompatibility. New bone formation was observed in both groups. In the PBM group, there was greater bone formation and newly formed tissue in an advanced state of bone maturation. The immunostaining of OCN was greater at 30 days in the PBM group than in the control. There was no significant difference in TRAP immunostaining at 30 days between the groups.

**Conclusion:** Low-power laser-mediated by PBM

promoted greater bone formation; the newly formed tissue showed a more advanced state of bone maturation in maxillary sinuses filled with Cerabone® biomaterial and treatment with PBM, within the 30-day evaluation period.

### **P-006**

**Ana Luisa Amaral, Ana Luisa Amaral, Sérgio Araújo Andrade** (Brazil)

**Category:** Case report

**Title:** EROSIVE LICHEN PLANUS MIMICKING ORAL CANCER: USE OF WIDE-FIELD FLUORESCENCE AS A DIFFERENTIAL DIAGNOSTIC TOOL

**Aim:** To demonstrate the use of wide-field optical fluorescence imaging (WOF) for the differential diagnosis and follow-up of erosive oral lichen planus.

**Case description:** A 19-year-old man presented with a persistent erythroleukoplakic lesion characterized by elevated and irregular borders, bleeding induced by superficial scraping with gauze, and initial diagnostic hypothesis of oral squamous cell carcinoma.

The WOF examination was performed with the device Evince®, which has a high-power LED with emission centered at  $400 \pm 10\text{nm}$ , maximum irradiance of  $0.040 \pm 0.008\text{ W/cm}^2$ , and an optical filter that allows visualization of fluorescence. Intraoral camera model DP6 Scope® and the Deluxe Handheld Digital Microscope® were used for capturing clinical images and fluorescence images, respectively. To measure the lesions, the Tii's® device was used. The protocol consisted of a clinical evaluation and WOF examination, histopathological analysis, fungal culture, and monthly follow-up.

The initial WOF image showed areas of fluorescence loss contrasting with intense reddish fluorescence larger than that observed clinically. Histopathology revealed squamous mucosa showing hyperplasia of the epithelium adjacent to the ulceration with granulation tissue formation. The stroma exhibited fibrosis, vascular congestion, and a dense chronic inflammatory infiltrate. Fungal culture results identified the presence of *Candida albicans*. Thus, the diagnosis was established as erosive lichen planus. During the follow-up consultation, characteristic striae of lichen planus were clinically observed, and the WOF examination of the area revealed numerous dark areas of fluorescence loss standing out