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Aim: This study aims to evaluate the trajectory, quality and intensity of one of radiotherapy complications, dysgeusia.

Method: Dysgeusia was evaluated through taste tests using NaCl solutions 0.31mg, citric acid 0.015mg, sucrose 0.49mg and caffeine 0.04mg, without prior disclosure of which was offered to the volunteers. These tests were performed on a sample of 12 patients from Santa Casa de Alfenas - MG, preceding the cancer treatment and 15 days and 6 months after its beginning. The results were placed on a questionnaire in which the patients rated their taste capacity on a scale of 0 to 10 and also reported the amount, frequency and time of treatment by head and neck radiotherapy and / or systemic chemotherapy as well as the use of other medications as well as their habits. In this way, it evaluated whether or not there is relationship between these variables.

Results: It was detected that, when at radiotherapy doses from 50 to 70 Gy there was a significant loss of taste capacity, especially for salty and sweet as the irradiated site approached the lingual region.

Conclusion: It is possible to conclude that dysgeusia can manifest itself in different ways, it depends on the dose and irradiated area. Knowledge of dysgeusia's behavior is important to guide radiotherapy and chemotherapy patients in order to collaborate for their faster recovery without severely impacting their quality of life.

EFFECT OF 5-LIPOXYGENASE ON ALVEOLAR BONE REPAIR POST TOOTH EXTRACTION IN ELDERLY FEMALE MICE TREATED WITH ZOLEDRONATE

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Aim: The purpose of this study was to analyze the influence of (5LO) on alveolar bone post tooth extraction in elderly female mice treated with zoledronate acid and the risk to develop medication related osteonecrosis of jaw (MRONJ)-like lesions.

Method: We used 129/SV wild type (WT) compared to mice lacking the expression of 5-Lipoxygenase (5LOKO). Forty female mice (20 WT and 20 5LOKO), 17 months old, were divided in groups: Control (treated with saline solution, at 0,9%) and ZL (treated with zoledronate 250µg/Kg), both via intraperitoneal injection. They were submitted to the extraction of the right upper incisor and euthanized to collect specimens of the experimental periods (7 and 21 days). Samples were analyzed through microCT and histology.

Results: MicroCT showed higher newly formed bone (BV/TV,%) in WT Control when compared to ZL at 21 days and 5LOKO-ZL displayed a higher newly formed bone in comparison to WT-ZL at the same period. Qualitatively, WT-ZL group showed lower hiperdensity and presence of pathological fracture on the alveolar ridge, while 5LOKO Control and ZL groups showed enhanced hiperdensity in comparison to the WT groups. The histopathological analysis showed that WT-ZL presented MRONJ-like lesions, with irregularities on bony trabeculae, empty osteocyte lacunae and low quantity of TRAP+ cells at 21 days. In contrast, 5LOKO-ZL presented attenuated signs of MRONJ-lesions when compared to WT-ZL, with reduced inflammatory infiltrate and enhanced bone formation.

Conclusion: We concluded that 5LOKO female mice when compared to WT, presented a certain resistance to zoledronate, proving an important role of this enzyme to future studies.

EFFECT OF A NEW BLEACHING GEL CONTAINING HEXAMETAPHOSPHATE AND FLUORIDE ON DENTAL DEMINERALIZATION

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Aim: Evaluate the addition of sodium hexametaphosphate (HMP) in the presence or not of sodium fluoride (F) to a 35% hydrogen peroxide (PH) bleaching gel on the enamel microhardness.

Method: 50 bovine incisor discs were selected by initial hardness (SHI). The treatments were: 1) PH at 35% (PH); 2) PH / 0.1% F (PH / F) 3) PH / 1% HMP (PH / HMP); 4) PH / 0.1% F / 1% HMP (PH / F / HMP); 5) HP Blue. The gels were applied for 40 minutes in 3 sessions. Then, the final hardness (SHF) and percentage of loss of surface hardness (% SHF) were measured. The data were submitted to ANOVA followed by the Student-Newman-Keuls test (p < 0.001).

Results: The treatment with PH / F / HMP showed a lower % SH, being statistically lower than the PH group and HP Blue (p < 0.001)

Conclusion: The addition of HMP and F to a bleaching gel reduced the mineral loss of the enamel when compared to its counterpart and the commercial HP Blue gel.

EFFECT OF AIR ABRASION AND CHEMICAL TREATMENT ON THE SHEAR BOND STRENGTH OF RESIN CEMENTS TO SUPER-TRANSLUCENT ZIRCONIA

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Aim: The purpose of this study was to evaluate the effect of surface treatment on the shear bond strength (SBS) of resin cements to super-translucent zirconia (STML).

Method: The SBS of three commercial resin cements (Panavia V5, PV5, Kuraray Noritake Dental, Japan; Variolink Esthetic LC, VLK, Ivoclar-Vivadent, Liechtenstein; and Panavia SA, PSA, Kuraray Noritake Dental, Japan) to STML (Katana STML, Kuraray Noritake Dental) after treatment with chemical primers or a combination of air abrasion with Al₂O₃ particles (50µm, BioArt, SP, Brazil) and chemical primers. Sixty STML samples (7 mm x 12 mm x 2 mm) were divided in 6 groups (n= 10) for SBS evaluation. Each cement was evaluated treating the STML surface with the manufacturer indicated zirconia primer and with a combination of air abrasion and the indicated zirconia primer. Two cylinders of the corresponding cement were placed on the STML surface, one for evaluation after 24 hours and the other after 1 year of storage in water. The fracture pattern was analyzed.

Results: At the 24 hours evaluation, there were no differences between the cements for equal STML treatments. After 1-year, the SBS of all cements decreased significantly, except for PV5 associated with air abrasion, that showed the highest SBS of all cements. For all the cements, lower SBS was observed when the STML was not air abraded. A higher rate of adhesive failures was observed when the STML was not air abraded, regardless of the evaluated cement.

Conclusion: Better results are observed when the chemical treatment is combined with the micro-mechanical retention produced by air abrasion using Al₂O₃ particles.

EFFECT OF ARGON PLASMA APPLICATION FOR RESIN COMPOSITE REPAIR

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Aim: This study evaluated the effect of argon plasma (PLA) surface treatment on the micro-shear bond strength (MSBS) of water-aged composite to a two newly placed composites, simulating restoration repair.

Method: Eighty-four light cured plates (20x20x4mm) were fabricated using a nanofilled composite (Z350 XT - 3M Oral Care) and stored in distilled water for 4 months. Afterwards, plates were treated according to the groups (n=6): G1 (negative control / without treatment), G2 (positive control / Sandblasting (SAN) + Silanization + Hydrophobic bonding resin (HBR)), G3 (HBR), G4 (PLA + HBR), G5 (SAN + HBR), G6 (SAN + PLA + HBR) and G7 (PLA). Two newly composite cylinders (1.5x1.5mm) of two composites (Z350 XT, 3M Oral Care and Charisma, Kulzer) were built on each aged plate. The cylinders were submitted to MSBS after 24 hours and 1 year. Data were analyzed by three-way ANOVA and Tukey's s Test (p<0.05).

Results: Simulating the repair with Charisma, the groups G2 (34.4), G3 (34.1), G4 (32.2), G5 (34.9) and G6 (34.3) presented significantly higher MSBS at 24 hours, while G1 (2.8) presented the lowest one. For Z350XT, groups G2 (40.3), G3 (42.1), and G5 (39.0) presented the highest MSBS at 24 hours, while G1 (7.6) and G7 (9.0) showed the lowest one. After 1 year, all groups for both composites demonstrated a significant (p<0.05) MSBS reduction and no differences were observed between Charisma and Z350.

Conclusion: Considering the simplification of the procedures, only the application of the HBR was sufficient to obtain higher MSBS results. PLA application was not beneficial as other methods for composite repairs.

EFFECT OF BIOELECTROMAGNETISM AND PHOTOTHERAPY IN PATIENTS WITH CERVICOBRACHIAL NEURALGIA

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Aim: Evaluate the effects of bioelectromagnetism and phototherapy in patients with cervicobrachial neuralgia.

Method: To participate in the study, volunteers must be over 18 years old and need to report pain related to cervicobrachial neuralgia equal to or greater than 4 on the VAS scale. Pregnant women and pacemakers will be excluded. Before the beginning of the session, a general information questionnaire, registration of the initial VAS (Visual Analogic Scale from a scale ranging from 0 to 10), verification of the circulating energy by the Ryodoraku method of each meridian and total mean in microamperes and measurement of pain by algometry will be carried out in kg/cm² and N/cm². Bioelectromagnetism will be applied using the Kenkobi device, following a specific protocol and using the intensity of 0,055 mT and frequency of 60 Hz. Phototherapy will be applied through a blanket wrapped in Kenkobi emitting long infrared rays between 4 and 14 µm. The selected acupuncture points are: K11, in the sole of the foot for 10 minutes; GV4, in the depression under the L2 spinous apophysis for 5 minutes; GV20, in the top of head for 3 minutes and in the affected area for 15 minutes. The session will last an average of 35 minutes. After the session ends, the parameters will be collected again.

Results: The results obtained through VAS, algometry and Ryodoraku will enable the analysis of the effects of bioelectromagnetism and phototherapy in patients with cervicobrachial neuralgia.

Conclusion: It's expected that bioelectromagnetism and phototherapy will be able to generate relief for these patients, improving their quality of life.

EFFECT OF BLEACHING AGENTS ON ROUGHNESS, FLEXURAL STRENGTH AND ELASTIC MODULUS OF BULK FILL COMPOSITES

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Aim: The aim in this study was to evaluate the effect of at-home bleaching agents on the surface roughness, flexural strength, and elastic modulus of resin composites.

Method: Four bulk fill composites (Filtek Bulk Fill - 3M ESPE, Aura Bulk Fill - SDI, Tetric N-Ceram Bulk Fill - Ivoclar Vivadent, and Admira Fusion X-tra - Voco), a conventional composite (Filtek Z350 - 3M ESPE), and two bleaching agents (Pola Night 22% and Pola Day 9.5% - both SDI) were used. Specimens (n = 10) were carried out in form of cylinder (5 x 2 mm) for roughness and bar (7 x 2 x 1 mm) for flexural properties, which were bleached with one of two products or unbleached (control). Surface roughness was measured with a 0.25 mm cut-off using a roughness tester before and after bleaching procedure. Flexural strength and elastic modulus were obtained by three-point bending test using a universal testing machine after bleaching. Data were submitted to ANOVA and Tukey's test (α = 0.05).

Results: ANOVA showed a significant difference only for material factor (p < 0.05) for roughness, flexural strength, and elastic modulus. Bulk fill composites showed lower flexural properties compared to conventional composite, except for Filtek Bulk Fill, which was statistically similar. Admira X-tra Fill showed the highest roughness, but all composites showed roughness below the critical threshold of 0.2 µm for plaque accumulation.

Conclusion: Bleaching agents did not affect the mechanical properties of resin composites, so after bleaching restorations in non-esthetic areas would not need to be replaced.

EFFECT OF CASEIN PHOSPHOPEPTIDE-AMORPHOUS CALCIUM PHOSPHATE, FLUORIDE AND TRIMETAPHOSPHATE ON CARIES: AN IN VITRO STUDY

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Aim: The aim of this study was to evaluate in vitro the effect of different anti-carries agents containing casein calcium phosphate amorphous phosphopeptide (CPP-ACP), sodium trimetaphosphate (TMP) and fluoride (F) and treatment protocols, in remineralizing initial carious lesions.

Method: Bovine enamel blocks (n=60) with artificial caries lesions divided into 5 treatment groups (n = 12): 1) Dentifrice without F, TMP, CPP-ACP (Placebo); 2) Dentifrice with 1100 ppm F (DF); 3) DF + Neutral Gel with 9000 ppm F (DF+ Gel F); 4) DF + Neutral Gel with 4500 ppm F + 5% TMP (DF + Gel TMP) and 5) DF + MI Paste Plus® (DF + MI Paste Plus®). The blocks were subjected to 6 pH cycles for 6 days. For 3 and 4 groups, the gels was applied only once for 1 minute, initially to the study, and for group 5 after treatment with DF, MI Paste Plus® was applied 2x / day for 3 minutes. After pH cycling, determined to calculate the percentage of surface hardness recovery (%SHR), integrated subsurface hardness loss (Δ KHN) and profile