JRD

ABSTRACTS 4TH ENDO SUMMIT SUL

RESUMOS 4º ENDO SUMMIT SUL

SCIENTIFIC RESEARCH

USE OF ANTIBIOTICS IN DENTISTRY: A CROSS-SECTIONAL STUDY

MILLENA MACHADO BECKER, BRUNA FERON, PEDRO HENRIQUE FERREIRA DE MENEZES, MAGDA DE SOUSA REIS, MÁRCIA WAGNER e RONISE FERREIRA DOTTO

Antibiotics are used in clinical practice for treatments of orofacial risks and antibiotic associated prophylaxis, minimizing the possible associated risks.

In this way, dentists must be able to carry out an adequate qualification. The most common allergy becomes common throughout the resistance world. The aim of this study was to investigate the prescription of antibiotics in Dentistry in a region Southern Brazil.

To carry out this cross-sectional study, a study based on other articles published in the last 5 years was applied, using the Google Forms application. This research with 121 participants, which included undergraduate students and professors of the Dentistry course at a university in the south of Brazil, dentists from the public and private network of the same region.

The survey results indicated that 60.3% of the participants prescribe antibiotics. Being the first choice, amoxicillin 500 mg, prescribed for 7 days. Other points observed were, in which situations dentists prescribe antibiotics, for what period, how many days the medication would be prescribed, as well as indicating alternatives for the consequences of the excessive use of these drugs.

In addition, the survey addressed the use of these drugs in cases of pulpitis, symptomatic and chronic apical periodontitis, pericoronitis, alveolitis, use in trauma, surgery and many other situations, totaling 73 responses.

Thus, concluding that dentists still have difficulties in performing adequate prescription, which can cause bacterial resistance.

In this context, the use and prescription of antibiotics still need to be studied, as they are reasons for many complications due to inadequate prescriptions.

SCIENTIFIC RESEARCH

DOES ORTHODONTIC MOVEMENTS OF TRAUMATIZED TEETH INDUCE PULP NECROSIS? – A SYSTEMATIC REVIEW

THEODORO WEISSHEIMER, PEDRO HENRIQUE MARKS DUARTE, RICARDO ABREU DA ROSA, MARCUS VINICIUS REIS SÓ

The aim of this systematic review was to evaluate whether orthodontic movements of traumatized teeth induce pulp necrosis. Searches were performed until July 21th, 2022, without restriction of language or year of publication, in the following databases: MEDLINE/PubMed, Cochrane Library, Scopus, LILACS, Web

of Science, EMBASE, SciELO, and Gray Literature Report. Eligibility criteria were based on the PICOS strategy, as follows: (P) patients with a history of dental trauma; (I) patients undergoing orthodontic movement; (C) patients without orthodontic movement; (O) pulp necrosis; (S) longitudinal studies. The Cochrane Risk of Bias in Nonrandomized Studies of Interventions (ROBINS-I) tool was used to assess the risk of bias. The overall quality of the evidence was assessed using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) tool. In total, six studies were included. The teeth evaluated were central and lateral maxillary incisors. Trauma involved enamel and enamel/dentin fractures, concussions, subluxations, lateral, extrusive and intrusive luxations. Orthodontic appliances evaluated were appliances for intrusion, extrusion, removable and fixed. Time between trauma and orthodontic movement ranged from three months to one year. Assessment of pulp status was performed by clinical and radiographic examinations in all studies, cold thermal testing in four studies, and electrical testing in two studies. Moments of the evaluations were in the initial and final visit, and when there was evidence of pulp necrosis. In general, studies demonstrated that traumatized teeth are more susceptible to pulp necrosis during orthodontic movements. Teeth with total pulp cavity obliteration appear to be more susceptible to necrosis. All studies had a serious risk of bias. The overall quality of evidence was low. Based on the available evidence, it can be concluded that orthodontic movements of traumatized teeth can lead to pulp necrosis, but this information should be interpreted with caution.

Keywords: Orthodontic movements; Pulp necrosis; Dental trauma.

SCIENTIFIC RESEARCH

PULP STONES FOLLOWING ORTHODONTIC TREATMENT: A CASE-CONTROL STUDY

PRESCILA MOTA OLIVEIRA KUBLITSKI, HELENA STREMEL, JACKELLINE RIBEIRO BONIFACIO, GIULIANA MARTINA BORDIN, ADRIANE SOUZA SIQUEIRA, ALEXANDRE MORO, JOÃO ARMANDO BRANCHER e MARILISA CARNEIRO LEÃO GABARDO

The aim of this study was to analyze the incidence of pulp nodules (PN) after orthodontic treatment. With a case-control design, 49 patients from a private orthodontic clinic in Curitiba, PR, Brazil, of both sexes, aged between 14 and 26 years, who underwent orthodontic intervention between the years 2000 and 2020, participated in this study. premolars and molars were analyzed from initial and final panoramic radiographs. Demographic and clinical data were collected from the patients' charts. After the descriptive analysis, followed by the t test for independent samples, the chi-square test was applied to look for possible associations between the explanatory variables and the outcome of interest (post-treatment PS). The values with a significant difference were those with $p < 0.05$. Nineteen cases and 30 controls participated, being 26 men and 23 women. There was no difference between groups for age ($p = 0.114$) and treatment time ($p = 0.204$). There were no significant differences between cases and controls in association with the other variables ($p > 0.05$). In the studied sample, there was no increase in the incidence of PN after orthodontic treatment.

Keywords: Endodontics; Orthodontic treatment; Pulp stone.

This study was approved by the institutional Research Ethics Committee, under registration No. 2,805,133.

SCIENTIFIC RESEARCH

INFLUENCE OF SODIUM HYPOCHLORITE CONCENTRATION ON PAIN AFTER ENDODONTIC TREATMENT: A SYSTEMATIC REVIEW.

RAYSSA SABINO DA SILVA, IHAN VITOR CARDOSO, FILIPE COLOMBO VITALI, ANA MARIA HECKE ALVES, ,BEATRIZ DULCINEIA MENDES SOUZA, EDUARDO ANTUNES BORTOLUZZI, LUCAS DA FONSECA ROBERTI GARCIA e CLEONICE DA SILVEIRA TEIXEIRA

This systematic review (SR) searched the literature to answer whether different concentrations of sodium hypochlorite (NaOCl) used in endodontic treatment interfere with the occurrence of postoperative pain. Two reviewers independently searched the following electronic databases: Cochrane Library, EMBASE, LILACS, MEDLINE (PubMed), Scopus and Web of Science. Additionally, a search was performed in gray literature. It was included randomized clinical studies that evaluated the influence of different concentrations of NaOCl on postoperative pain. Studies that were not randomized clinical trials, or included retreatments, primary teeth or incomplete root formation or e with fractures and resorptions or even studies that did not use NaOCl were excluded. 705 studies were initially identified and, after reading the titles and abstracts, eighteen studies were selected for full reading. After applying the eligibility and exclusion criteria, nine studies were included in this SR. After that, NaOCl concentrations were dichotimized into high concentration (above 3%) and low concentration (between 0.5% and 3%). The risk of bias assessment was performed using the Cochrane Collaboration's Risk-of-Bias Assessment Tool 2.0. The prevalence of postoperative pain was assessed through proportion meta-analysis using the MedCalc software.

The overall quality of evidence was assessed using the GRADE tool. In assessing risk of bias, three studies were judged as 'high risk' and one as 'some concerns'. The overall pooled prevalence of postoperative pain was 36.31% for NaOCl at higher concentrations and 45.35% for NaOCl at lower concentrations. After 7 days, none of the participants reported moderate or severe pain.

Keywords: Postoperative pain. Sodium hypochlorite. Systematic review."

SCIENTIFIC RESEARCH

ASSESSING THE PREVALENCE OF S-SHAPED ROOT CANALS AND GENES ASSOCIATES IN HUMANS

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Multiple signaling molecules have been shown to play crucial roles in development. Therefore, we aim to investigate the prevalence of S-shaped roots and whether single nucleotide polymorphisms (SNPs) in RUNX2 (rs59933488 and rs1200425) are associated with these S-shaped roots in humans. This is a cross-sectional phenotype-genotype association study that used radiographs to determine phenotypes, and DNA to investigate SNPs in RUNX2. On radiographs, teeth that had doubly curved root canals were considered S-shaped roots. SNPs in RUNX2 were genotyped blindly by real-time PCR using the TaqMan assay. The relative and absolute frequency of S-shaped roots were calculated and the chi-square test was performed.

used to compare genotype distributions between control and S-shaped groups. Among the 578 subjects selected for the phenotype, 61 (10.6%) had at least one tooth with an Sshaped root, the premolar being the most affected and in the mandible. Therefore, SNPs in RUNX2 were not associated with S-shaped root risk.

Research Ethics Committee protocol No. 3,150,551

Keywords: Anatomy, genotype, endodontics.

SCIENTIFIC RESEARCH

EVALUATION OF ENDO 10® MOBILE APPLICATION FOR ENDODONTIC DIAGNOSIS: PRELIMINARY RESULTS

ALLAN ABUABARA, JULIANA PIERDONA DE CASTRO, FLARES BARATTO-FILHO.

Endodontic diagnosis can be compared to a puzzle, requiring the interpretation of a series of clinical and imaging data for its establishment. This work aims to report a new mobile application (app), Endo 10® app, designed to assist in endodontic diagnosis based on the patient's signs and symptoms and radiographic data.

Twenty-one cases were analyzed, comparing the interpretation of clinical and radiographic data conducted by endodontic postgraduate specialization students who used the Endo 10® app, and the evaluation of the professor in endodontics (specialist) who established the final diagnosis. The initial diagnosis using the app converged with that of the specialist in 62% (13) of cases. In 38% (8) of cases, there was a difference between the initial diagnosis proposed by the app, according to the student's assessment, and the final diagnosis established by the specialist. The differences were associated with student's misinterpreting the patient's data in 7 cases: 4 in the radiographic examination, 2 in the vitality test and 1 in the clinical examination (palpation). In 1 case, the patient presented root resorption and fracture and no option for selection was found in the app. When the app was filled in with the clinical and radiographic data interpreted by the specialist, the diagnosis agreement found was 95% (20 of 21).

The Endo 10® app is among the first mobile applications to evaluate the patient's data and suggest an endodontic diagnosis. The found inconsistencies are related to inaccurate interpretation by the student at the time of evaluation of signs, symptoms and radiography. The preliminary results of this study are promising regarding the professional use of the app as a second opinion, in addition to its potential use as a training tool. The continuity of the study may suggest improvements in the app.

Keywords: Dental Informatics; Endodontics; Diagnosis.

SCIENTIFIC RESEARCH

EFFECTS OF ESTROGEN DEFICIENCY ON THE PROGRESSION OF APICAL PERIODONTITIS. SYSTEMATIC REVIEW OF PRECLINICAL STUDIES.

ANGÉLICA FENSTERSEIFER LEMOS, BARBARA ROMAGNA ROSSETTI, BRUNA BARCELOS SÓ, THEODORO WEISSHEIMER, MANOELA DOMINGUES MARTINS e MARCUS VINÍCIUS REIS SÓ

The aim of this systematic review was to verify whether estrogen deficiency can influence in the progression of apical periodontitis. Searches were performed in MEDLINE/PubMed, Cochrane Library, Scopus, Web of Science, EMBASE and Gray Literature Report databases, without restriction of language or year of publication. Eligibility criteria were based on the PICOS strategy, as follows: (P) estrogen-deficient animals; (I) induction of apical periodontitis; (C) animals without estrogen deficiency (control group or

sham surgery); (O) two-dimensional and/or three-dimensional measurements of apical periodontitis progression; (S) studies in animal models. The risk of bias was assessed using the SYRCLE Risk of Bias tool. The overall quality of evidence was assessed using the GRADE tool. In total, 12 studies were included. All studies (100%) demonstrated that estrogen deficiency influenced the progression of apical periodontitis. Most studies performed a histomorphometric analysis evaluating bone loss area (58.3%), radiographic bone loss area (41.7%), bone volume assessment with microcomputed tomography (25%), fluorescence microscopy lesion area in mm2 (16.7%), and radiographic density assessment in one study (8.3%). The most frequent period of analysis was 21 days after lesion induction (75%). GRADE assessment showed a moderate certainty of evidence. The included studies demonstrated several limitations regarding randomization, blinding, and description of baseline characteristics. All studies have shown that a hypoestrogenic condition can favor an increased progression of apical periodontitis, generating larger lesions compared to healthy animals. Clinical studies are needed to confirm this correlation.

Keywords: Animal models; Apical periodontitis; Estrogen deficiency.

SCIENTIFIC RESEARCH

ROOT ISTHMUS SEALING USING DIFFERENT CEMENTS AND OBTURATION TECHNIQUES WITH EVOL DX SOFTWARE

MATEUS AFFONSO BERNARDES, ANDRÉ LUIZ GOMIDE MORAIS, MIKE BUENO, RÉGIS AUGUSTO ALEIXO ALVES, LUCAS RODRIGUES ARAUJO ESTRELA e CARLOS ESTRELA

This study evaluated the sealing ability of root isthmuses with different sealers and obturation techniques using the e-Vol DX cone beam computed tomography (CBCT) software. A total of 120 lower molars were used, divided into 6 groups: G1: AH Plus® + lateral condensation technique; G2: AH Plus® + Tagger's hybrid technique; G3: AH Plus® + single cone technique; G4: BioRoot RCS + lateral condensation technique; G5: BioRoot RCS® + Tagger's hybrid technique; and G7: BioRoot RCS® + single cone technique. The teeth were instrumented with the Wave One Gold® reciprocating system, irrigated with 2.5% sodium hypochlorite and 17% EDTA (using ultrasonic passive irrigation). The following root canals have been sealed. The CBCT images were then acquired in DICOM format using a PreXion 3D Elite tomograph, analyzed with the e-Vol DX software, and a specific artifact reduction filter (Blooming artifact reductiom, BAR). Mann Whitney, Kruskal-Wallis and post hoc DunnBonferroni tests were used. To compare scores obtained with and without the BAR filter, the Wilcoxon test was used. A significance level of 5% was considered. The results showed significant differences in sealing the isthmus with endodontic sealers in the apical third with BAR, with higher values for AH Plus®. Regarding the sealing of the isthmus with and without the use of the BAR filter, there were significant differences, with higher values without the use of the BAR in all thirds. The ability to seal root isthmus using different sealers and filling techniques applying the e-Vol DX software, the best combination was the use of AH Plus cement and Tagger's hybrid technique. The use of the BAR filter of the CBCT e-Vol DX software showed more void spaces in the obturator mass due to reduced white expansion in the CBCT images.

Keywords: Endodontic sealer, Root canal isthmus, Cone-beam computed tomography

SCIENTIFIC RESEARCH

ANXIOLYTICS IN DENTISTRY: AN UPDATED VIEW

BRUNA FERON, PEDRO HENRIQUE FERREIRA DE MENEZES, MILLENA MACHADO BECKER, RONISE FERREIRA DOTTO, MAGDA DE SOUSA REIS E MARCIA HELENA WAGNER

Anxiety is an emotional state that is most often temporary. However, it causes stress and discomfort, evolving into a disorder when it interferes with the individual's daily life. In dentistry, a considerable number of patients can manifest this behavior, either from previous unpleasant experiences or reports from third parties. Anxiety associated with dental care interferes with the oral health of individuals, resulting in resistance to going to the dentist or finishing treatments. Our objective was to investigate the prescription and use of anxiolytics in Dentistry in cities in a region of RS. This cross-sectional study was developed through a Google Forms research instrument (questionnaire), based on articles published in the last 5 years, using databases such as U.S. National Library of Medicine (PubMed), Scientific Electronic Library Online (Scielo) and Portal of Periodicals of the Coordination for the Improvement of Higher Education Personnel (CAPES). A total of 121 people participated in the research, UNISC students and dentists from the public and private network.

It was observed that a small part of these professionals prescribe anxiolytics, and only for very anxious patients, with Diazepam, with oral presentation of 5 to 10mg for adult patients and 1 to 2.5mg for children, the most prescribed. Sedation lasts for around 30 to 45 minutes, also promoting muscle relaxation and an anticholinergic effect. We conclude that pharmacological treatments are safe and effective, an excellent alternative to minimize anxiety

disorder. It is important to always check the level of anxiety before dental care, through questions, preventing unpleasant complications in the consultation and helping the professional in the face of an anxious patient. However, the dentist, in order to be safe in the administration of this medication, needs to have pharmacological knowledge and mastery of the techniques used in dentistry, always taking into account a good anamnesis, patient age group and the duration of the consultation.

Descriptors: Anxiety, anxiolytics, dentistry

SCIENTIFIC RESEARCH

MANDIBULAR BONE HISTOMORPHOMETRY IN WISTAR RATS WITH MENOPAUSE INDUCED BY OOPHORECTOMY AND TREATED WITH MELATONIN

LETICIA CAPOTE DOS SANTOS, RAFAELA CERON, FATIMA CORREA SANDMANN AFONSO, CAROLINA AGUIAR MOREIRA, MILAINE MARCELINO POULMANN, LUIS FERNANDO SCHIBULSKI AZZOLIN, MARIA ISABEL VANELLI e LILIANE ROSKAMP

Osteoporosis is a disease that has been growing in the general population. In post-menopausal women, the disease is caused by a reduction in estrogen levels, simultaneously with a reduction in the synthesis of melatonin by the pineal gland. This hormonal change negatively influences bone metabolism, impairing its structure. Bone histomorphometry is considered the gold standard technique to perform bone remodeling analysis and, consequently, assist in the diagnosis of metabolic diseases. It consists of the early marking of the tissue to be evaluated, thus allowing its analysis and measurement. To propose a protocol to evaluate the metabolic effects and parameters of microstructure and bone remodeling in the mandible, through the histomorphometry technique, in rats with menopause induced by oophorectomy, treated and not treated with different doses of melatonin. 80 (eighty) female Wistar rats (Rattus norvegicus albinus) were selected. 40 (forthy) underwent oophorectomy and the other 40 (forthy) underwent sham surgery. Menopause induction was performed, and the rats were treated with melatonin and calcein for bone tissue marking and subsequent dynamic analysis by bone histomorphometry. The rats were euthanized. The samples obtained from the mandible were dissected, fixed in 70% alcohol and soaked in methacrylate, and the pieces were cut in a rotating microtome. Subsequently, the slides were stained with toluidine blue, and the slides were mounted with etellan and sealed with a coverslip. The histomorphometric analysis of the samples was performed with the help of the osteomesure software. Currently, this research is in the phase of cutting blocks in methyl methacrylate. The obtained slides will be demonstrated in the presentation of this work. It is expected to obtain results of evaluation of the effectiveness or not of melatonin until the end of the developed program in "Centro de Pesquisa do Instituto Pró-Renal de Curitiba".

Keywords: Histomorphometry; Methyl methacrylate; Menopause

SCIENTIFIC RESEARCH

EFFECT OF MUSIC DURING ENDODONTIC TREATMENT ON PATIENT ANXIETY: A SYSTEMATIC REVIEW OF RANDOMIZED CLINICAL TRIALS

LETÍCIA TAINÁ DE OLIVEIRA LEMES, CAROLINA HORN TROIAN MICHEL, LILIAN TIETZ, ALINE TEIXEIRA MENDES, PEDRO HENRIQUE MARKS DUARTE, THEODORO WEISSHEIMER, RICARDO ABREU DA ROSA e MARCUS VINICIUS REIS SÓ

Endodontic treatment is one of the procedures that most generate anxiety in patients between dental procedures. This systematic review aims to answer the following question: “Can music therapy reduce patient anxiety during endodontic treatment?”. A search was performed in the following electronic databases: PubMed, Cochrane Library, Scopus, Web of Science, EMBASE and Open Gray for articles published until April 2022. The following terms were combined 'Endodontics', 'Root Canal Therapy', ' Root Canal Treatment', 'Music Therapy', 'Auditory Stimulation', 'Anxiety', 'Dental anxiety', 'Dental Fear'. Eligibility criteria, based on the PICOS strategy, were (P) patients undergoing endodontic treatment, (I) exposure to music, (C) no music, (O) patients' anxiety state, (S) randomized controlled trials. The risk of bias was analyzed according to the Cochrane Risk of Bias tool for randomized controlled trials (RoB 2). The strength of evidence of the included studies was assessed using the Grading of Assessment, Development, and Assessment Recommendations (GRADE) tool. Five eligible studies were retrieved, with an estimated risk of moderate to high bias. Descriptive analysis showed an effect in favor of musical intervention, with differences between anxiety state, heart rate and blood pressure. Despite the very low quality of evidence from the studies, dental professionals may consider using background music during endodontic treatment as it is a cost-effective and easy way to reduce patient anxiety about endodontic treatment.

Keywords: Endodontics, Music Therapy, Dental Anxiety, Systematic Review.

SCIENTIFIC RESEARCH

RESISTENCE TO CYCLIC FATIGUE OF DIFFERENT NICKEL TITANIUM INSTRUMENTS

GABRIELE ZANONA TORNAVOI, THAIS SOBRAL, ALISON KIRCHHOFF, NATHALY MORAIS DIAS, NATANAEL HENRIQUE MATTOS, CAMILA PERIN MATTOS, LUIZ FERNANDO FARINIUK e FLARES BARATTO FILHO

The objective of this study was to evaluate the dynamic cyclic fatigue resistance of the instruments X1 Blue File (25.06), Pro-R (25.08), Reciproc R25 (25.08) and Reciproc Blue R25 (25.08). 48 instruments ware used, divide into 4 groups (n=12) according to the system test. The dynamic cyclic fatigue test was performed on a specially designed device that performed controlled axial movements. The instruments were activated with reciprocating movement in an artificial zirconia channel, with an angle of 60º, 5 mm radius of curvature and an internal diameter of 1.5 mm. The artificial root was kept submerged in water simulating body temperature (37 ± 1 °C). The instruments were driven until fracture, with the time until failure occurred. The One- Way ANOVA test was used for multi-comparison of samples and the Turkey test was used for two-by-two comparison. A significance level of 5% was adopted. The Pro-R and Reciproc Blue instruments showed a longer time to fracture than the other evaluated instruments (p<0,05). The Reciproc instrument had a longer time to fracture than the X1 Blue File (p<0,05). It can be concluded that the Pro-R and Reciproc Blue instruments were more resistance to cyclic fatigue than the Reciproc and X1 Blue File instruments.
Keywords: Endodontics. Cyclic fatigue. Titanium nickel.

SCIENTIFIC RESEARCH

CYCLIC AND TORSIONAL FATIGUE RESISTANCE OF A NEW ROTARY FILE ON A ROTARY AND RECIPROCATING MOTION.

CHARLES ANDRÉ DALL AGNOL JÚNIOR, GABRIEL BARCELOS SÓ, GIOVANA SIOCHETA, PEDRO CALEFI, MURILO ALCALDE, RODRIGO RICCI VIVAN, MARCO ANTÔNIO HÚNGARO DUARTE, MARCUS VINÍCIUS REIS SÓ e RICARDO ABREU DA ROSA

This study aimed to evaluate the resistance to cyclic and torsional fatigue resistance of a new nickel-titanium (Flat File 25.04) instrument on continuous and reciprocating motion. Sixty instruments of the ProDesign Logic2 25.03 and 25.05 (Easy Equipamentos Odontológicos, Belo Horizonte, Brazil), and MK Flat File 25.04 (n=20) (MK Life, Porto Alegre, Brazil) were used. For the cyclic fatigue test, an artificial stainless steel simulated canal with an angle of 60° and a radius of curvature of 5mm located 5mm from its tip was used. Torque and angle of rotation at failure of instruments on torsional fatigue test was based on the ISO 3630-1 protocol, in which the 3mm tip of each instrument was fixed and connected to an electric motor and a load cell. Data were analyzed using a 1-way analysis and Tukey's test with a significance level of 5%. Flat File 25.04 had lower cyclic fatigue in both kinematics than the Logic instruments (P < .05). Reciprocating motion improved the cyclic fatigue of the tested instruments (P < .05). Flat File 25.04 had similar torque to Logic2 25.05 (P < .05), and both were superior to Logic2 25.03 (P < .05). The angular deflection values were different for the three tested instruments (P < .05), in the following order: Logic2 25.03, 25.05, and Flat File 25.04. Flat File presented acceptable resistance to cyclic and torsional fatigue resistance. Reciprocating motion improved the cyclic fatigue resistance of the instruments and can be considered when using programmable motors.
Keywords: Endodontics. Cyclic fatigue. Torsional resistance. NiTi instruments.

SCIENTIFIC RESEARCH

"DOES THE PRE-ANAESTHETIC MEDICATION IMPROVE THE ANALGESIA OF MANDIBULAR MOLARS WITH IRREVERSIBLE PULPITIS? AN UMBRELLA REVIEW".

GABRIEL BARCELOS SÓ, ISADORA AMES SILVA, THEODORO WEISSHEIMER, MARCUS VINÍCIUS REIS SÓ e RICARDO ABREU DA ROSA

Determine whether the use of premedication increase the anaesthetic efficacy of the inferior alveolar nerve in teeth with symptomatic irreversible pulpitis, through the review question: Does the use of premedication increase the efficacy of the anaesthetic technique of inferior alveolar nerve block on teeth with symptomatic irreversible pulpitis?. Systematic reviews with and without meta-analyses that evaluated the influence of premedication on anaesthetic efficacy of the inferior alveolar nerve in symptomatic irreversible pulpitis of mandibular molars were systematically searched in six electronic databases (MEDLINE/PubMed, Scoupus, Web of Science, Cochrane Library, EMBASE and Open Grey), without restriction of language or year of publication. A Measurement Tool to Assess systematic Reviews (AMSTAR 2) was used to evaluate the quality of the included studies. Twelve systematic reviews were included. Only one did not performed meta-analysis. The AMSTAR 2 overall confidence ranged from very low to high quality. The main findings of the systematic reviews were that non-steroidal anti-inflammatory drugs (e.g., ibuprofen, oxicam, diclofenac, association of ibuprofen with paracetamol, and

ketorolac) increased the success of the inferior alveolar nerve block. From the 'very low' to 'high' quality evidence available, this umbrella review concluded that NSAIDs as premedication acts through cyclooxygenases pathways and block the synthesis of specific prostaglandins that difficult the mechanism of action of the anaesthesia, increasing the success rate of the anaesthetic technique of inferior alveolar nerve block efficacy in cases of mandibular molars with symptomatic irreversible pulpitis.

Keywords: Endodontics; Pre-anaesthetic medication; systematic review

SCIENTIFIC RESEARCH

PHARMACOLOGICAL MANAGEMENT OF ANXIETY ON PAIN OCCURRENCE DURING ROOT CANAL TREATMENT: A SYSTEMATIC REVIEW

RAFAEL NESELLO, ISADORA AMES SILVA, CHARLES ANDRÉ DALL AGNOL JÚNIOR, LEONARDO THOMASI JAHNKE, WESLEY MISAEL KRABBE, THEODORO WEISSHEIMER, MARCUS VINICIUS REIS SÓ e RICARDO ABREU DA ROSA

This study aims to answer the question: "Does the pharmacological management of dental anxiety influence on pain occurrence during root canal treatment?"

Searches on MEDLINE/PubMed, Cochrane Library, Web of Science, Scopus, EMBASE and Open Grey were conducted until February 2021. Only randomized clinical trials were included. Cochrane risk of bias tool for randomized trials (RoB 2) was used. Overall quality of evidence was assessed through the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) tool.

Initial screening resulted in 510 studies. 43 were excluded for being duplicates. Of 467 eligible papers, ten studies met the inclusion criteria and were selected for full-text reading and four studies were included for final analysis. GRADE analysis demonstrated a low quality of evidence.

There is no sufficient evidence to determine whether the pharmacological control of anxiety can influence in the intraoperative pain occurrence.

SCIENTIFIC RESEARCH

DOES PERIODONTAL INTERVENTION TIME INFLUENCE PERIAPICAL/PERIODONTAL REPAIR IN ENDODONTIC-PERIODONTAL LESIONS? A SYSTEMATIC REVIEW

DAYANA MARA SILVA CHAVES, FERNANDA FRIEDRICH, SIMONE ARGENTA SCALABRIN, THEODORO WEISSHEIMER, CASSIANO KUCHENBECKER RÖSING, GABRIEL BARCELOS SÓ, RICARDO ABREU DA ROSA, MARCUS VINICIUS REIS SÓ

The aim of this study was to investigate if the time of periodontal intervention influence the periapical/periodontal repair in endodontic-periodontal lesions. Six electronic databases were systematically searched for studies published up to April 2022, without restriction of language or year of publication, following the PIOS strategy: (P) adult patients with a diagnosis of endodontic-periodontal lesions; (I) endodontic and periodontal treatment; (O) periapical and periodontal healing; (S) clinical studies. Risk of bias assessment was performed with the revised Cochrane risk of bias tools for randomized trials (RoB 2) and nonrandomized interventions (ROBINS-I). The overall quality of evidence was assessed through the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) tool. Three studies (one prospective, one retrospective, and one randomized clinical trial) were included in the present review. Nonrandomized studies had a critical and serious risk of bias. The randomized clinical trial had some concerns risk of bias. Nonrandomized studies pointed that the endodontic intervention should be performed previous to the periodontal intervention. Randomized clinical trial reported improvements when endodontic and periodontal interventions were performed simultaneously. GRADE analysis showed a very low quality of evidence for both randomized and nonrandomized studies. Based on the evidence from the included studies, it was not possible to determine whether the time of periodontal intervention influence in periapical/periodontal repair of endodontic-periodontal lesions. Evidence suggests that although the endodontic intervention should be the first therapy of choice, it was not possible to specify the best time to perform the periodontal intervention.

SCIENTIFIC RESEARCH

DOES THE ULTRASONIC ACTIVATION OF CALCIUM SILICATE-BASED SEALERS AFFECT THEIR PHYSICOCHEMICAL PROPERTIES?

LEONARDO THOMASI JAHNKE, ISADORA AMES SILVA, GABRIEL BARCELOS SÓ, THEODORO WEISSHEIMER, LINA NAOMI HASHIZUME, MARCUS VINICIUS REIS SÓ e RICARDO ABREU DA ROSA

This study aimed to evaluate the influence of ultrasonic activation (UA) on the physicochemical properties of calcium silicate sealers. Nine experimental conditions were created based on the calcium silicate sealers (Bio-C Sealer, Sealer Plus BC, and Bio Root RCS) and the ultrasonic activation (no activation, 10 seconds, and 20

seconds). Then the experimental groups were BC-NA, BC-10, BC-20, SPBC-NA, SPBC-10, SPBC-20, BR-NA, BR-10, and BR-20. The sealers were handled according to the manufacturer's instructions. A 3 mL syringe was adapted to receive 1 mL of sealer. Activation was performed with an ultrasonic insert 20/.01. The mold for the physicochemical analysis was filled and evaluated according to the ANSI/ADA specification nº. 57: initial and final setting time, flow, radiopacity and solubility. Tests were also performed to evaluate pH and calcium ion release with experimental periods of 1, 24, 72, and 168 hours with a pH meter and colorimetric spectrophotometer. Data were analyzed by one-way analysis of variance and post-hoc Tukey tests. The significance level was set at 5%. The time of UA progressively delayed the initial setting time for all calcium silicate sealers ($P < .05$). Twenty seconds of UA increased the mean flow values of Sealer Plus BC and Bio-C Sealer compared to NA ($P < .05$). UA did not influence the radiopacity and solubility of the tested sealers ($P > .05$). UA for 20 seconds enhanced the pH levels and the calcium ion release of Sealer Plus BC and Bio-C Sealer at 168h ($P < .05$). UA for twenty seconds interferes with some physicochemical properties of calcium silicate sealers.

Keywords: Calcium silicate sealer; ultrasonic activation; physicochemical properties

SCIENTIFIC RESEARCH

EVALUATION OF THE PHYSICO-CHEMICAL PROPERTIES OF EMDOGAIN AS A VEHICLE FOR MINERAL TRIOXIDE AGGREGATE

WESLEY MISAEL KRABBE, ISADORA AMES SILVA, RAFAEL RAMOS DE OLIVEIRA, DAIANA ELIZABETH BÖTTCHER E RICARDO ABREU DA ROSA

The aim of this study is to evaluate the physico-chemical properties of Mineral Trioxide Aggregate (MTA) associated with Emdogain as a vehicle. The samples were divided into 3 experimental groups: MTA/Emdogain, MTA/distilled water and MTA/Emdogain/distilled water. The respective proportions were performed using the powder/liquid ratio of 2:1. The specimens followed ANSI/ADA specification number 57 for evaluation of initial and final setting time, radiopacity and solubility. Tests were also performed to evaluate pH and calcium ion release with experimental periods of 1, 24, 72 and 168 hours with pHmeter and colorimetric spectrophotometer, respectively. Data were analyzed by analysis of variance and Tukey's post-hoc tests. The significance level was set at 5%. The initial and final setting times in descending order were: MTA/Emdogain/water, MTA/water and MTA/Emdogain ($P<0.05$). The use of Emdogain decreased the radiopacity values of MTA ($P<0.05$). MTA/Emdogain showed lower solubility values ($P<0.05$). The pH values increased over the experimental periods for the MTA/Emdogain and MTA/water groups ($P<0.05$). At 168 hours, the MTA/water/Emdogain combination presented the lowest pH values ($P<0.05$). The release of calcium ions increased over the experimental periods for the MTA/Emdogain and MTA/water groups ($P<0.05$). In conclusion, the addition of Emdogain altered the physicochemical properties of MTA, decreasing the setting time, radiopacity, solubility and release of calcium ions. The pH values were similar at 168h.

SCIENTIFIC RESEARCH

INTRODUCTION OF NICKEL TITANIUM ROTARY INSTRUMENTS FOR UNDERGRADUATE STUDENTS: A FOUR-YEAR CLINICAL EXPERIENCE

MILAINE MARCELINO POULMANN, GABRIELLE MARIA DE LIMA DE OLIVEIRA, NATANAEL HENRIQUE RIBEIRO MATTOS, LILIANE ROSKAMP, ALLAN ABUABARA, FLARES BARATTO-FILHO , MARIA CAROLINA BOTELHO PIRES DE CAMPOS, CAMILA PAOLA DA COSTA XAVIER e CAMILA PAIVA PERIN

This study evaluated the performance of undergraduates in their first contact with rotary root canal instrumentation concerning the findings of the final periapical radiograph, and the post endodontic treatment pain. A longitudinal observational study was performed on periapical radiographs of 491 teeth from 450 patients submitted to root canal treatment by undergraduate students from 2015 to 2018. The analysis of the length of root canal filling followed the criteria: (i) acceptable, if periapical radiograph presents root filling ending 0 - 1 mm short of radiographic apex; (ii) over, if periapical radiograph presents root filling ending beyond the radiographic apex; and (iii) under, if periapical radiograph presents root filling ending > 1 mm short of radiographic apex. Evaluation of postendodontic treatment pain was categorized into either absence or presence of pain. Adequate length root canal filling was observed in 65.9% of the cases (324 teeth). Periapical lesions presence and dimensions did not interfere to the obturation quality. Statistical relation was found between the pulp condition and postendodontic treatment pain. The presence of pain was observed in 4.7% of the vital teeth and 0.3% of non-vital teeth. The presence of periapical lesion did not influence postoperative pain. Adequate length root canal filling was observed in most cases and NitTi rotary instrumentation had applicability in undergraduate programs, even with novice operators. Besides that, pulp condition had an effect on postendodontic pain.

Descriptors: Endodontics. Undergraduate. Root Canal Preparation.

The Ethics Committee in Human Research of the Universidade Tuiuti do Paraná approved this study by the process number 772157.7.0000.8040.

CASE REPORT

USE OF GUIDED ENDODONTICS FOR UPPER PREMOLAR TREATMENT: A CASE REPORT

CARLOS HENRIQUE GASPARINI, WALBER MAEDA, ALEXANDRE LUIS BORTOLOTO e RODRIGO GONÇALVES RIBEIRO

Guided endodontics involves merging cone-beam computed tomographic imaging and surface a scan of the tooth to create a guide to perform a drilling path in the apparently obliterated root canal. The objective of this case report was to demonstrate the use of guided endodontics in a maxillary right second premolar with the buccal and lingual canals obliterated. A 42-year-old patient was referred for endodontic treatment of the upper right premolar with pain on percussion and the cold and hot tests were negative. At first, an attempt was made to access the canals with an active-tipped trunk conical drill, but without success in both canals, after some attempts it was proposed to use an endodontic surgical guide to access the canals. After planning and making this guide, it was checked for adaptation and stability, followed by execution of the procedure through access with a Neodent NSG Guide Glamp drill with a length of 28 mm and a diameter of 1.3 mm. After accessing the canals, endodontic treatment was followed with a rotary file up to tip 25 and taper 04. The two canals were filled with calcium hydroxide and after 30 days, filling was performed with gutta percha cones and ah plus cement from dentisply®. The use of the surgical guide for this treatment facilitated the negotiation of these channels, avoiding possible root perforations due to deviations made with the conical trunk drill.

Descriptors: Guided endodontics, obliteration

CASE REPORT

RESOLUTION OF EXTENSIVE CYSTIC LESION WITH ASSOCIATED ENDODONTICS.

VINICIUS VIDAL CARVALHO, ISABELLA STEDILE DOS SANTOS E MILENA PERRARO MARTINS

Extensive periapical radiolucent areas can often lead to tooth resorption. Due to the cystic extension, previous endodontics may often be necessary to be able to resect the lesion.

A 45-year-old male patient, asymptomatic, underwent a panoramic radiograph for evaluation and extraction of the wisdom teeth. The radiograph showed an extensive periapical radiolucent area involving teeth 45, 46, 47 and also associated with the impacted 48. Then a tomography was prescribed for evaluation and treatment and the oral-maxillofacial surgeon referred the patient to an endodontist to treat the root canal of teeth 45, 46 and 47. A biopsy was performed and it was detected that it was a dentigerous cyst .

The patient ended up being submitted to a second opinion by another oral and maxillofacial surgeon, who proposed the technique of marsupialization of the cyst after the endodontics of the related teeth.

The endodontics were performed with instrumentation with Reciproc Blue files, 2.5% sodium hypochlorite, and the canals were filled with an apical plug of Bioceramic PBS HP cement from CIMMO in all the canals of the related teeth and then brushed AHPlus Jet cement was used. in the wall and gutta-percha alpha inserted with a gutta-percha thermal injection device.

About a year later, the patient still had not extracted the impacted wisdom and a considerable bone repair in the region of the lesion was already observed on tomography and periapical radiography. Patient has lost some bone on the buccal aspect of tooth 47 because of marsupialization and is awaiting surgery to remove impacted tooth 48. Endodontics can help and prevent serial extractions in teeth with dentigerous cysts.

Descriptors: Endodontics, Dentigerous Cyst, Root Canal Obturation.

CASE REPORT

PARENDODONTIC SURGERY FOR CERATOCISTS REMOVAL - case report.

TAÍS ANDRESSA ZACARIA, LETÍCIA TAINÁ DE OLIVEIRA LEMES, RENATA DEBONA CRESPI, SILVIA BALZAN, YASMIN PORTELA MOLSSATO e TIAGO LANGE DOS SANTOS

The aim of this paper is to report a clinical case of a patient who underwent parendodontic surgery due to the impossibility of removing the intra-rooted retainer and had a probable odontogenic tumor keratocyst in the apical region of element 21. Patient M. T. P., female, 52 years old, came to the clinic reporting an alteration in the left maxilla region, without painful symptoms. Radiographic examination showed a radiolucent area associated with element 21, compatible with an odontogenic keratocyst tumor. This element presented endodontic treatment and a very bulky and long cast metal core and rehabilitation with a metal-ceramic crown. The patient was anesthetized and underwent

parendodontic surgery for removal of the tumor and retrofilling of the apical third, followed by bone grafting and membrane to cover the flap. With correct planning and execution of the surgery, it is concluded that the decision of the parendodontic surgery is efficient for the removal of the etiologic agent. Proservation with periodic radiographs proved the success of the treatment.

Keywords: Endodontics. Retreatment. Intraradicular retainer. Root canal treatment. Parendodontic surgery.

CASE REPORT

CASE REPORT: FAILURE DUE TO EXCESSIVE DENTIN REMOVAL RELATED TO PERFORATION AND GUIDED ENDODONTICS

LISA YURIE ODA, LÍGIA INFANTE VIEIRA ABBAS e BRUNO CAVALINI CAVENAGO

The objective is to report a clinical case of failure related to excessive dentin removal caused by buccal perforation and limitation of the guided endodontic technique in face of a cone-beam computed tomography (CBCT) scan with a resolution incompatible with the need. A.R.D., a 37-year-old male patient came with the chief complaint of persistent keloid in the buccal region after having endodontic treatment of tooth 22 3 weeks ago. During clinical examination, he reported that his tooth had become darkened and asymptomatic after suffering an accident when he was young. The radiographic image showed unsatisfactory treatment, extrusion of the gutta-percha cone, perforation, and calcification of the root canal. In the initial consultation, an attempt was made to traction the cone through the canal, but without success. In the second session, to remove the cone, a surgery was performed with a semilunar incision, removal of the cone, preparation of the perforation, and sealing with MTA. After 8 months, the patient returned without the keloid, and to locate the canal associated with a small periapical lesion, a CBCT scan, an intraoral scan, and an endodontic access guide were requested. Even with the guide, it was not possible to access the canal, so a new CBCT scan was requested, which showed an error in the guide planning due to distortions and limitations of the first CBCT scan, generating excessive dentin removal and weakening of the palatal region. Along with the patient, it was decided to seal the tooth with a glass-ionomer cement and wait for evolution before planning a new guide. After 2 weeks, the patient returned with a lesion, crack, and fracture in the buccal region. It was concluded that the perforation of the tooth, together with excessive dentin removal and coronal stress due to the endodontic access guide resulted in tooth loss. The planning of the guided endodontic should consider the risks when there is already other wear on the tooth.

Keywords: endodontics, tooth calcification, cone-beam computed tomography

CASE REPORT

DIFFERENT THERAPEUTICS IN OPEN-APEX INCISORS: CASE REPORT

MELISSA SCHEPANSKI, LETÍCIA DELLAMEA E LIGIA INFANTE VIEIRA ABBAS

Aiming to evidence the anatomical knowledge and indication of endodontic treatment in open-apex incisors, we report a case of a 21-year-old asymptomatic and healthy patient. Five years after suffering a trauma in maxillary central incisors and onset endodontic treatment at his native country, the patient presented to continue the therapy. In the clinical examination, it was identified that teeth #8 and #9 had the endodontic cavity exposed to the oral cavity due to the absence of coronal restoration. In tooth #8, grade I horizontal mobility and mild pain on horizontal percussion were identified, radiographic examination showed no periapical lesion. During the exploration in the endodontic treatment, it was possible to identify a wider diameter at the foraminal outlet, being larger than the corresponding k-type hand file #140.The instrumentation technique was manual with pressure against the walls up to the working length, and it was decided to perform an apical plug with MTA (ANGELUS) and obturation by the lateral condensation technique with rolled cone and Sealer Plus cement (MK LIFE) at the same appointment. The tooth #9 responded to the horizontal percussion test with pain and radiographically it was possible to identify a broad foramen with a periapical lesion. During the initial exploration with a manual file, it had a smaller anatomical diameter than tooth #8 and could be instrumented by the telescopic staging technique up to a K-type hand file #140.Treatment was with intracanal medication exchange between calcium hydroxide paste and propylene glycol for 15 days. Afterwards, the filling was done using the rolled cone technique and Sealer Plus cement (MK LIFE). Irrigation was performed with 2% chlorhexidine and saline. Following a monthshowing successful treatment, the patient was asymptomatic, without mobility in tooth 11 and regression of the lesion in tooth 21.

Keywords: UPPER INCISORS, OPEN-APEX, ENDODONTICS

CASE REPORT

DENTAL AVULSION AND REIMPLANTATION OF LEFT SIDE INCISOR: FOLLOW UP OF 22 YEARS

WESLEY MISAEL KRABBE, LEONARDO THOMASI JAHNKE, RAFAEL NESELLO, CHARLES DALL AGNOL JÚNIOR, JÚLIA VALKIMIL TAVANIELLO, LUANA RAITER ZUCUNI, MÁRCIA HELENA WAGNER e RICARDO ABREU DA ROSA

The aim of this study is to report the treatment of a case of tooth avulsion where replantation and endodontic treatment were performed on tooth 22 and its follow-up for 22 years. A 9-year-old female patient suffered alveolar-dental trauma at school. Tooth 22 avulsed and remained approximately one hour and 10 minutes out of the mouth, stored in a dry medium. Then it was reimplanted and immobilized in a semi-rigid way with nylon thread and resin. The patient took antibiotics for seven days and was immunized against tetanus. After 10 days, the retainer was removed and the endodontic treatment of the tooth was started with coronal opening, root canal emptying and mechanical chemical preparation up to a #55 K file, using 2.5% NaOCI as an irrigating solution. Then, the canal was dried and filled with calcium hydroxide paste. Three years after the trauma, the patient started orthodontic treatment that lasted for another three years. Therefore, during the period of six years, tooth 22 remained with the intracanal medication, whose changes were every 6 months in the first 3 years and annually in the following 3 years. Three months after the removal of the orthodontic appliance, the root canal of tooth 22 was filled by the lateral condensation technique and with cement based on zinc oxide and eugenol. After three years, tooth 22 was clinically and radiographically examined and was found to be asymptomatic and without periapical alterations. A new control radiograph was taken 22 years later and tooth 22 is in periapical health, now rehabilitated with a fiberglass post and porcelain veneer. In cases of dental trauma, the long-term prognosis is doubtful, so clinical and radiographic follow-up is essential to assess the success of the treatment.

Keywords: Dental trauma. Avulsion. Endodontic

CASE REPORT

ENDODONTIC MANAGEMENT OF INVASIVE CERVICAL RESORPTION - A CASE REPORT

LUANA KUHN DUPONT e ALEXANDRE LUÍS BORTOLOTO

The aim of the present study is to report the treatment of invasive cervical resorption (ICR) in a lower molar, using a non-surgical approach. Patient R.P., female, 25 years old, attended a dental office for an evaluation of her oral health, as she had painful symptoms in element 46, which had a normal clinical appearance. A thermal pulp vitality test was performed, in which she responded positively and normally to the percussion test. A complementary periapical radiographic examination was also carried out, in which it was possible to verify the presence of a radiolucent lesion with a "moth gnawed" aspect, characteristic of ICR, located in the crown of the tooth, initiating at the mesial wall and extending to the pulp chamber. As a predisposing factor, the patient reported during the anamnesis that she had already undergone orthodontic treatment and external bleaching. In view of all the information, the diagnosis of ICR was concluded and the non-surgical endodontic treatment followed by sealing the resorption region was indicated. Endodontic treatment was performed, and the ICR region was removed with the aid of drills and the defect was sealed with bioceramic repair cement. After 26 months of follow-up, radiographs were taken, and clinical examination performed. No recurrence of the lesion was observed. ICR is characterized by a pathological event in which an aseptic resorption process occurs, usually asymptomatic and poor in clinical signs in its initial and intermediate phases, so patients with predisposing factors should be followed up with clinical and radiographic examinations. for early diagnosis and a favorable prognosis.

Keywords: Diagnosis; Endodontics; Root Canal Therapy.

CASE REPORT

RESIDUAL ROOT BURIAL IN PATIENT WITH A HISTORICAL OF HEAD AND NECK CANCER: CASE REPORT

LUIZ FERNANDO MONTEIRO CZORNOBAY, GABRIELA PASQUALIN GHIDINI, MARIA EDUARDA PAZ DOTTO, JULIA MENEZES SAVARIS, MARIANA COMPAROTTO MINAMISAKO, PAULO MARCELO RODRIGUES, VICENTE RIBEIRO NETTO, CLEONICE DA SILVEIRA TEIXEIRA, EDUARDO ANTUNES BORTOLUZZI e LUCAS DA FONSECA ROBERTI GARCIA

Radiotherapy reduces the tissue vascularization potential. Therefore, tooth extraction in irradiated patients has a high risk of osteoradionecrosis. This case report described endodontic treatment followed by residual root burial of two mandibular teeth in a patient undergoing radiotherapy. A 60-year-old female patient underwent radiotherapy in 2018 for the treatment of oropharyngeal squamous cell carcinoma. Teeth 43 and 44 had extensive coronal destruction and indication for tooth extraction. Anesthesia, rubber dam isolation, access to the root canals, negotiation and patency with a #15 K-file (Dentsply) were performed. After electronic odontometry, mechanical preparation was performed with R50 instrument of the Reciproc system (VDW) and irrigation with ultrasonic-activated 2.5% sodium hypochlorite

solution. Calcium hydroxide was used as intracanal dressing. After 15 days, the intracanal dressing was removed, and final irrigation with 17% EDTA and 2.5% sodium hypochlorite solution was performed. The root canals were dried with absorbent paper points. Root canal obturation was performed by the lateral condensation technique with epoxy resin-based cement (AH Plus, Dentsply). The entrance of the root canals was sealed with composite resin and residual root burial was performed for subsequent rehabilitation with a lower complete denture. After 12 months of follow-up, the patient was asymptomatic and the periapical region did not present areas of bone rarefaction. Endodontic treatment was successful and it should be indicated in patients undergoing radiotherapy in order to avoid tooth extraction and the development of osteoradionecrosis.

Descriptors: Endodontics, Radiotherapy, Mouth Neoplasms;

CASE REPORT

HELP OF HIGH-DEFINITION TOMOGRAPHY AND MAGNIFICATION IN COMPLEX CASES OF ENDODONTICS - CASE REPORT

ANDRE LUIS DIAS CARVALHO, RODRIGO GONÇALVES RIBEIRO e ALEXANDRE LUIS BORTOLOTO

The maxillary first molar is a tooth that presents great morphological variation, being that, in Brazil the incidence of the mesio buccal canal 2 is 82.4% (MARTINS, et.al.,2018). This reflects in a higher rate of clinical failure. The advantage of tomography and magnification in endodontics are an important aid in the resolution of complex cases. The aim of this study is to report a clinical case showing the advantage of tomography locating a root canal that is difficult to visualize. A 25-years-old patient came to the office reporting constant pain in the tooth 16, answering positively to percussion tests, inconclusive tomographic exam, with suggestive image of the presence of a supposed mv2 root canal not yet treated, reason why the symptomatology was still present. A new tomography with superior quality (x800 morita) was performed and the presence of the same was observed, being atresic and with calcified embouchure. With the assistance of microscopy, wear was performed with ultrasound and Finder tip, shaping, disinfection and obturation from this root canal. Achieving successful treatment. It is concluded that after the treatment performed the use of tomography and image magnification are indispensable for all cases as the reported.

Keywords: Tomography, Magnification, Root Canal

CASE REPORT

ENDODONTIC TREATMENT AND PROSERVATION OF A FIVE CHANNEL LOWER MOLAR WITH SYMPTOMATIC APICAL PERIODONTITIS: CASE REPORT

DAYANA MARA SILVA CHAVES, AMANDA BINSFELD CANAL, SILVIA BALZAN, RENATA DEBONA CRESPI, LETÍCIA TAINÁ DE OLIVEIRA LEMES E TIAGO LANGE DOS SANTOS

Endodontic treatment aims to reduce the number of microorganisms present in the root canal system and enable the healing of periapical tissues. The shaping and cleaning of root canals are directly linked to the success of subsequent steps. However, knowledge of internal dental anatomy becomes necessary, as different types of teeth and possible variations are considered routine challenges. This paper aims to present a clinical case report and follow-up after endodontic treatment in a lower first molar with 5 canals and symptomatic apical periodontitis. Patient C.R.G., sought the D.P office complaining of discomfort when chewing on element 36. After clinical and radiographic examinations, the presence of a periapical lesion in the mesial root diagnosed with necrotic pulp was found. After the patient's consent, endodontic treatment was started. During the access surgery with the aid of the clinical operating microscope, the presence of 5 canals was observed: three in the mesial root (mesiobuccal, mesiomedial and mesiolingual), and two in the distal root (distobuccal and distobuccal). -lingual). The PQM was performed with Logic 25.01 and 25.05 rotary instruments, and irrigated with 2.5% NaOCl. Ultracal was used as intracanal medication for 15 days. In the second session, the canals were re-instrumented with files of larger caliber, for the mesial canals 35.03 and in the distal canals 35.05. The obturation was performed using the hybrid tagger technique, and provisionally sealed with CIV. Radiographic follow-up 12 months after treatment revealed regression of the lesion. Adequate planning, as well as knowledge of dental anatomy, use of technology such as operative microscopy allowed to obtain better results, with a conservative approach, keeping the dental structure healthy and with a good prognosis for the patient.

CASE REPORT

“THE IMPORTANCE OF MAGNIFICATION IN ENDODONTIC TREATMENT WITH THE PRESENCE OF INTERNAL RESORPTION: CASE REPORT”.

CAMILA MAGGI SILVEIRA, BEATRIZ JANSEN KRAVCHYCHYN , ROBERTA MICHETEN DIAS

This case report describes the use of magnification and computed tomography as an adjunct to the endodontic treatment of an acute

abscess with internal resorption.Female patient, 31 years old, Caucasian, with good general and oral health. During the intraoral physical examination, the presence of a lesion in the region of the hard palate was observed, with an extension located between elements 21 and 23. As for the clinical characteristics of the lesion, it had a circular appearance with delimited edges, covered by epithelium with normochromic staining; on palpation, the content was of a liquid consistency, being classified as a bubble because it was larger than 3mm.As he did not report a history of trauma, we resorted to pulp vitality tests, with element 22 being the only one with a negative result, in addition to having a floating appearance. We continued, with periapical radiography of the region, we observed a radiolucent lesion with a circular appearance and delimited edges, located at the apex of element 22, and we also observed the presence of internal resorption.The initial conduct of treatment was the performance of aspiration puncture of the bubble present in the hard palate. The patient returned after 3 days to perform the endodontic treatment, however, due to the present internal resorption, it was not possible to perform it in the conventional way.Therefore, Computed Tomography was requested in order to assess whether the internal resorption had compromised the root canal wall. Upon receiving the examination report, we concluded that the canal wall was not broken.Then, endodontic treatment was performed with Magnification. The use of the microscope contributed extremely satisfactorily in our case, as it enabled the issue of the present anatomic anomaly to be circumvented, providing visual aid in the operative environment. It is concluded that Computed Tomography and Magnification is of significant importance for treatment and diagnosis. Seven months after the operation, the patient showed considerable improvement in the lesion.

Keywords: (Acute abscess; Internal resorption; Magnification; Computed tomography; Endodontic treatment)

CASE REPORT

ENDODONTIC TREATMENT OF MANDIBULAR MOLAR WITH SUPPLEMENTARY ROOT: CASE REPORT

LUIZ FERNANDO MONTEIRO CZORNOBAY, MATHEUS ARAÚJO DOS SANTOS, MARIA EDUARDA PAZ DOTTO, JULIA MENEZES SAVARIS, LUIZ CARLOS DE LIMA DIAS JUNIOR, TAYNARA SANTOS GOULART, CLEONICE DA SILVEIRA TEIXEIRA, EDUARDO ANTUNES BORTOLUZZI, THAÍS MAGESTE DUQUE e LUCAS DA FONSECA ROBERTI GARCIA

A proper knowledge of the dental anatomy and its variations is one of the factors that determine the success of endodontic therapy. The first permanent lower molar may have a third root, when located in the buccal region. It is named radix paramolaris and, when located at the lingual region, radix entomolaris. The incidence of this anatomical variation is controversial (1 to 33%). The aim of this case report was to describe the endodontic treatment of a mandibular first molar with a supplementary root (disto-lingual). A 29-year-old male patient complaining of moderate to severe pain in tooth 46 was diagnosed with acute irreversible pulpitis. During the initial radiographic examination, the presence of the additional root was observed. Mechanical preparation was performed with SRF Sequence (MK Life) and ProDesign Logic 2 (Easy Equipment) rotary instruments. Irrigation was performed with 2% chlorhexidine gel and saline solution. The accessory root canal was prepared with a ProDesign Logic 2 rotary file number 25/.04. Root canal obturation was performed with epoxy resin-based cement (AH Plus-Dentsply) by the single-cone technique and hydraulic compression. The treatment was performed in single-session. Afterwards, the tooth was restored with composite resin. Patient is asymptomatic and under clinical and radiographic follow-up. Knowing this unusual root morphology of the mandibular first molar was essential to perform a proper radiographic examination. The inability to recognize and treat this accessory root canal may lead to endodontic failure.

Descriptors: Endodontics, Anatomy, Anatomic variation

CASE REPORT

ENDODONTIC TREATMENT OF IMMATURE PERMANENT TOOTH WITH PULP REVASCULARIZATION TECHNIQUE: CASE REPORT

LEONARDO THOMASI JAHNKE, CAROLINA FABIANA CENTENARO, WESLEY MISAEL KRABBE, RAFAEL NESELLO, CHARLES ANDRÉ DALL AGNOL JÚNIOR E RICARDO ABREU DA ROSA

The endodontic treatment aims to prevent or treat periapical alterations originated after pulp injuries. In immature permanent teeth, the treatment presents some peculiarities. Among the treatment approaches used in this cases pulp revascularization can be cited. The aim of this study was to describe a case report where it was performed pulp revascularization in an immature permanent tooth with pulp necrosis and periapical lesion. A seven years old girl with a historic of dental trauma seven months ago presented pulp necrosis in a left maxillary central incisor with incomplete root formation. After clinical and radiographic examination, the diagnosis was chronic periapical abscess. The proposed treatment was pulp revascularization. Two

appointments were performed, according to the American Association of Endodontists. In the first appointment it was performed the coronal opening, disinfection protocol using 2.5% NaOCl and root canal dressing with calcium hydroxide-based paste for fifteen days. In the next appointment, the canal dressing was removed, the bleeding was induced, blood clot was created, the mineral trioxide aggregate was positioned, and restoration was performed. This case has been followed up for 30 days. The patient did not present any signal or symptom of persistent infection. After 3 years, a new clinical and radiographic follow-up was carried out, and the pulp revascularization after dental trauma of the left maxillary central incisor with chronic periapical abscess can be considered successful.

Keywords: Immature permanent tooth; pulp necrosis; pulp revascularization

CASE REPORT

ENDODONTIC TREATMENT OF A TOOTH WITH POST-TRAUMA ROOT CALCIFICATION: A CASE REPORT

CHARLES ANDRÉ DALL AGNOL JÚNIOR, LEONARDO THOMASI JAHNKE, WESLEY MISAEL KRABBE, RAFAEL NESELLO, THAYLA HUBER ANTES E RICARDO ABREU DA ROSA

Root canal calcification is a process that may occur after dental trauma or may develop slowly as a result of physiological dental aging. It is characterized by the deposition of hard tissue in both the pulp chamber and root canal. This condition can be diagnosed by periapical radiographs and computed tomography.

In some cases, it may be associated with pulp necrosis and presence of periapical lesion and then, the treatment may be considered quite complex. This case study reports the symptomatic endodontic treatment of element 21, with root canal obliteration and pulp necrosis, as a result of dental trauma. The proposed treatment was the conventional endodontic treatment, following the crown-apex technique and the use of intracanal medication during the sessions. The technique was successfully performed and after the conclusion of the case, after two years, it was possible to observe absence of symptoms and healing of periapical tissues.

Keywords: root canal calcification, root canal obliteration, dental trauma, pulp necrosis, periapical lesion.

CASE REPORT

ENDODONTIC TREATMENT IN MANDIBULAR MOLAR WITH SUBGINGIVAL CARIOUS LESION AND IRREVERSIBLE PULPITIS DIAGNOSIS

THALITA AYRES ARRUÉ, LUIZA ABREU MARTINS, LILIAN TIETZ, LUCAS SILVEIRA MACHADO, FLAVIA LOBATO e MARCUS VINICIUS REIS SÓ

This case report aims to describe an endodontic treatment performed in a lower molar with diagnosis of irreversible pulpitis and subgingival carious lesion. Due to previous third molar impaction, a carious cavity developed on the second lower molar distal surface, on the cervical portion of the distal root and towards the pulp chamber. Because of a difficult access and tooth isolation, in addition to painful symptoms, the procedure was divided into stages. In the first visit, a Tofflemire matrix was used to perform a temporary glass ionomer cement restoration on the distal surface, however with limited cervical margin sealing. In the second visit, the inferior alveolar nerve block with 2% mepivacaine/epinephrine 1:100 000 and local anesthesia with 4% articaine/epinephrine 1:100 000 were necessary to perform the pulpectomy due to persistent painful symptoms. After the pulpectomy and patient's pain control, it was possible to build a vertical custom matrix associated with the Tofflemire matrix and perform the composite resin restoration under rubber dam isolation. In the last visit, being the tooth properly restored, the endodontic treatment was completed, followed by the occlusal surface composite resin restoration. The carious lesion location and extension were the complex parameters in this case. The crown lengthening surgery and even tooth extraction were considered as possible treatment planning at the beginning. Furthermore, it is challenging to treat a patient with mandibular molar irreversible pulpitis. The correct execution of the planned clinical techniques allowed the tooth's carious lesion removal, the adequate composite resin restoration and the endodontic treatment with no need to perform invasive procedures. Combining clinical and radiographic exams with a good treatment planning and careful execution of techniques, it is possible to achieve clinical success in complex cases in a conservative way.

Keywords: Pulpitis, Dental Restorations, Permanent, Root Canal Therapy

CASE REPORT

ENDODONTIC TREATMENT ASSOCIATED WITH SURGICAL INTERVENTION FOR PERIAPICAL CYST REMOVAL: CASE REPORT

LETÍCIA TAINÁ DE OLIVEIRA LEMES, LARISSA PETROLI PINTO, SILVIA BALZAN, RENATA DEBONA CRESPI e TIAGO LANGE DOS SANTOS

The study aims to report a clinical case of endodontic treatment combined with surgical intervention of a periapical cyst, describing the endodontic treatment step by step and the finalization of the case with the

surgical part. Patient, H.S, 11 years, after suffering a dental trauma involving elements 11 and 12, pulp necrosis of these teeth occurred, with the postponement of conventional endodontic therapy, a periapical cyst was created, to reverse this case a combined treatment was performed, first of all, endodontic therapy was chosen for teeth 11 and 12, then surgical removal of the cyst and ending with removal of the apical portion and sealing with biodentine. However, the solution for this type of case must be an interdisciplinary treatment, first, endodontic therapy to keep these elements in the mouth longer and surgical therapy to remove the periapical cyst, so that there can be a gradual recovery of the case.

Keywords: pulp necrosis, endodontics, periapical cyst, dental trauma.

CASE REPORT

CASE REPORT: GUIDED ENDODONTICS IN ANTERIOR TOOTH WITH CALCIFICATION AND ATRESIC CANAL

MARIA EDUARDA GEMBARSKI e LIGIA INFANTE VIEIRA ABBAS

The objective is to present a case report, in which the guided endodontic technique was used for a tooth with a calcified canal up to the middle third. Patient I.W., 36 years old, female, attended the reffered report of not locating the canal in tooth 11 with painful symptoms on vertical percussion and palpation. In the anamnesis, it was reported that he had never suffered falls or trauma in the region, clinically, no changes were observed beyond those already provided. Radiographically, it was possible to visualize extensive mineralization with small root canal lumen in the apical third. A conical beam computed tomography was requested, confirming calcification up to the middle third and up to the apical third with an atresic root canal. An intraoral scan was requested to prepare the guide. After 10 days, the patient returned to the guide adaptation test and the procedure was performed with a 1.3 drill (NEODENT), the canal was accessed with a #8 C-Pilot file (VDW) and instrumented until 25.06 with the X1 Blue system (MK LIFE). The filling was performed by unique cone with Guta Percha cone and AH PLUS cement, the corony sealing followed with Twinky Star Flow Blue resin (VOCO) and A2 Charisma composite resin (KULZER) in the same consultation. After six months, a follow-up consultation was performed with periapical radiography demonstrating regression of the lesion, the patient was reported as asymptomatic. The case demonstrated that for calcifications at the middle level, guided endodontics can obtain an excellent result, preserving the maximum amount of tooth structure.

Keywords: Guided endodontics, calcification, atresic canals.

LITERATURE REVIEW

BIOACTIVITY AND BIOCOMPATIBILITY OF BIOCERAMIC CEMENTS IN ENDODONTICS: NA INTEGRATIVE REVIEW

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In order to create an ideal filling cement, bioceramics were developed, signifying a breakthrough in endodontic therapy. Several studies have shown that bioceramic cements have excellent physicochemical properties, such as biocompatibility and bioactivity.

The objective of this work was, through an integrative literature review, to raise and discuss the works on this new class of endodontic materials.

The systematic plan for carrying out this integrative review consists of four steps. In the first one, a bibliographic survey was carried out in the Portal de Periódicos Capes database. As an advanced search, documents published in the period from 2017

to 2022 were used, found in the “advanced search” mode, using crosses with the keywords cements and endodontology AND endodontics AND bioactivity and biocompatibility. Only documents published in full were published. In the second stage,

the titles and abstracts of the articles were read. In the third, the selection of words that included the same or approximate e3 key-key proposed words. And a fourth step consists of reading the texts in full, followed by the verification of duplicity and construction of a table with the information collected. In the first stage, 23 articles were obtained. After reading the titles and abstracts, a total of 21 were obtained. After the selection of those that included 3 to 5 keywords, with the same or similar formulation to the proposed keywords, 10 articles remained.

One article was excluded for duplication. In the end, nine articles met the exclusion and inclusion criteria and were selected to be part of the integrative review.

The selected studies showed that bioceramic endodontic cements perform well in endodontic therapy. However, to advance its clinical application, more in vivo studies with precise methods are needed to obtain more reliable data on its properties

LITERATURE REVIEW

TECHNICAL ADAPTATIONS OF MANUAL AND ROTARY INSTRUMENTS FOR PREPARING A GIANT CANINE TOOTH.

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Teeth with extraordinary length are a rare condition that complicates endodontic procedures due to the difficult in being reached the working length and making the adequate preparation of the root canal, once there are no endodontic instruments longer than 31 mm commercially available. This study presents description of technical adaptations for endodontic preparation of a maxillary canine with 39.59 mm of length. The procedures adopted were based on the consultation of the literature regarding the treatment of long teeth and included endodontic instrument adaptation and changing the reference point of the instrument. This study shows that extremely long teeth can be successfully instrumented endodontically using the described clinical techniques.

Keywords: Radiculomegaly; Root canal preparation; Canine tooth

LITERATURE REVIEW

ASSOCIATION BETWEEN APICAL PERIODONTITIS AND DIABETES MELLITUS: literature review

TAÍS ZACARIA e TIAGO LANGE DOS SANTOS

Apical periodontitis is an inflammatory response of the periapical periodontal tissues to infection of the root canal system with pulpal origin. Simultaneously there is a significant increase in systemic conditions and in the levels of inflammatory mediators, which are potential factors in modulating the pathology of endodontic origin. Different clinical conditions and therapeutic factors may interfere in the process of periapical repair, such as diabetes mellitus. In diabetic patients, an increased risk of infection and pulpal necrosis is expected, due to impaired collateral circulation and reduced microvascularization of pulpal tissues. However, the evidence supporting the pathogenesis, progression and resolution of endodontic infections in patients with Diabetes Mellitus is still inconclusive. The aim of this paper is to determine to what extent diabetes mellitus interferes with the treatment of apical periodontitis. The study is characterized as an integrative literature review. For data collection, scientific articles were searched in the Bireme and Pubmed databases, using the descriptors (Decs/Mesh) apical periodontitis/ apical periodontitis AND diabetes mellitus/ diabetes mellitus, published in the last 20 years. Eleven articles were selected that indicated that diabetes mellitus is significantly associated with a higher prevalence of periapical lesions in endodontically treated teeth and is a modifying factor in the preoperative prognosis of endodontic treatment. Professionals should be aware of the relationship between the outcome of endodontic treatment and diabetes and should maintain current data on the diabetic status of their patients, informing them of the risks involved in endodontic therapy. Therefore, although the results found so far are not conclusive, they suggest an association between diabetes mellitus and apical periodontitis.

Keywords: Apical periodontitis. Endodontics. Diabetes mellitus.

LITERATURE REVIEW

MANAGEMENT OF DENTAL TRAUMATOLOGY ACCORDING TO THE INTERNATIONAL ASSOCIATION OF DENTAL TRAUMATOLOGY (IADT): RECENT UPDATES

LUIS HENRIQUE GABARDO, CAMILA PAIVA PERIN e LILIANE ROSKAMP

The objective of this literature review was to compare the guidelines of the International Association of Dental Traumatology (IADT) published in 2012 and 2020, to define the set of changes found, emphasizing the ideal and current measures to be taken in the care of patients who suffered alveolar-dental trauma. The IADT guidelines published in 2012 and 2020 and articles related to alveolar-dental trauma were searched on the online platforms: PubMed and Google Scholar. Those classified as Q1 and Q2 were selected using the Scimago Journal Rank (SJR) indicator. Then the data were tabulated in Microsoft Excel, to be discussed throughout the study. Among the injuries studied, those with the worst pulp prognosis are root fractures and intrusive and extrusive dislocations. In cases of root fracture, if there is a viable vascular supply to the pulp after the injury, maintaining pulp vitality is favorable, otherwise, endodontic treatment is indicated up to the fracture line. Dislocation lesions have the worst prognosis, because there is damage to the periodontal fibers and the vascular-nervous bundle, and pulp necrosis may be inevitable. Intrusion was the lesion that underwent the most changes in its approach, the main ones being highlighted, such as: the time to wait for spontaneous re-eruption, which changed to 4 weeks in immature teeth and 8 weeks in teeth with root formation. complete; orthodontic traction as the only method of repositioning immature teeth, regardless of the degree of intrusion; surgical repositioning as the main alternative for teeth that have suffered severe intrusion. The prognosis of lesions tends to be better when there is an early and correct management, and

the guidelines published by the IADT are the best source of guidance for dentists.

Keywords: Dental trauma; dental pulp; Dental pulp necrosis.

LITERATURE REVIEW

BONE METABOLISM IN PERIAPICAL LESIONS: LITERATURE REVIEW

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The apical lesion is related to the occurrence of caries or dental trauma, which lead the pulp to inflammation and necrosis, resulting, in some cases, in tooth loss. The study discusses how after the pulp necrosis phenomena occurs, the apical bone resorption and repair process takes place, in order to understand how the instrumentation and cleaning of the root canal system can contribute to bone neoformation in the periapical lesion. For the development of the study, the integrative literature review method was used. Objective: To describe the bone resorption process and its stages, highlighting the importance of RANK, RANKL and OPG receptors, which have significant importance in the regulation of hard tissue metabolism. Methodology: Data collection was performed from scientific articles published in Portuguese and English from the Educational Resources Information Center, Scientific Electroctronic Library Online – sciELO, PubMed/MEDLINE, CAPES/MEC Periodicals and Cochrane Library databases between April and May 2021, with a temporal criterion for the year of publication between the years 2000 and 2021. They were defined according to the Health Sciences Descriptors – DeCs: In Portuguese – Bone, Pulp necrosis, Osteoprotegerina, RANKL, Periapical lesion. In English: Bone, Dental pulp necrosis, Osteoprotegerin, RANKL, Periapical lesion. The Boolean operator used was OR (OR). Results: Intra-channel calcium hydroxide medication has high efficiency for eliminating bacteria, mainly anaerobic ones. Conclusion: To achieve the repair of the periapical lesion, it is necessary to act by modulating the immuno-inflammatory reaction at the site, removing pathogens, and using techniques and products that stimulate the binding of RANKL/OPG, thus favoring the stimulation of blast cells, that will promote the repair of bone tissue.

LITERATURE REVIEW

DENTAL AVULSION PROTOCOL ACCORDING TO THE INTERNATIONAL ASSOCIATION OF DENTAL TRAUMATOLOGY (IADT): RECENT UPDATES.

LUIS HENRIQUE GABARDO, MYLENA SUMOCOSKI DE FRANÇA, PETERSON RICARDO DOBRUSKI, NATANAEL HENRIQUE MATTOS, CAMILA PAIVA PERIN e LILIANE ROSKAMP

The objective of this literature review was to compare the latest protocols of the International Association of Dental Traumatology (IADT) and evaluate the evolution of the treatment, emphasizing the ideal and current measures to be taken in the care of patients who have suffered dental avulsion. The latest IADT guidelines and articles related to tooth avulsion were searched on the digital platforms: PubMed and Google Scholar. An analysis was performed to classify the articles found using the Scimago Journal Rank (SJR) indicator. Studies that presented Q1 and Q2 ratings were included. Regarding the storage media for the avulsed tooth, Hanks' Balanced Saline Solution (HBSS), saliva or saline and milk are the most suitable culture media. In the current 2020 guideline, there is no recommendation regarding the use of topical antibiotics prior to tooth replantation. Regarding antibiotic therapy, the systemic antibiotic of first choice recommended was amoxicillin and penicillin, and tetracycline as an alternative. Endodontic treatment in teeth with a closed apex should be performed immediately after replantation or within two weeks. In teeth with incomplete apex, revascularization may occur, and endodontic treatment should be performed only if there are clinical and radiographic signs of pulp necrosis and root infection. In 2020, it was recommended to remove the clot with saline solution before reimplantation, regardless of the stage of apicogenesis, as long as the tooth has been kept in physiological storage and extra alveolar time of less than 60 min. The prognosis of tooth avulsion tends to be better when there is an early and correct management, and the guidelines published by the IADT are the best source of guidance for dentists.

Keywords: Dental avulsion; Dental replantation; Guidelines.