ABSTRACTS OF THE 1ST INTERNATIONAL STUDENT CONGRESS - HACETTEPE UNIVERSITY, FACULTY OF DENTISTRY HELD ON 5-6 APRIL 2019, ANKARA, TURKEY

ORAL PRESENTATIONS

OP1
EFFECT OF DIFFERENT KINEMATICS ON THE APICALLY EXTRUDED DEBRIS


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ABSTRACT

Background and Aim: The aim of this study was to evaluate the influence of different instrument kinematics on the amount of extruded debris.

Materials and Methods: A total of 36 extracted single rooted maxillary anterior teeth were selected. The teeth were randomly assigned to the three groups (n=12) as follows: Adaptive motion, Reciprocation and Rotation. Root canals were prepared with Wave One Gold Large instrument system. 10 ml distilled water was used in each canal during the preparation. The extruded debris during the instrumentation was collected into Eppendorf tubes, which were weighed and then stored in an incubator at 70°C for seven days to evaporate the irrigant. After the incubation process, the Eppendorf tubes were weighed again. The difference between these two measurements, the first one before and the second one after the incubation process, was calculated. Data were statistically analyzed, and the significance level was set at p<0.05.

Results: There was no significant difference among tested kinematics.

Conclusion: All instrument kinematics allowed for the apical extrusion of the debris.

OP2
AWARENESS ABOUT THE INFECTION CONTROL OF THE PATIENTS AND PATIENT RELATIVES, OVER 18 YEARS OLD, WHO APPLIED TO HACETTEPE UNIVERSITY FACULTY OF DENTISTRY

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ABSTRACT

Background and Aim: To determine awareness of the patients about infection control and the effects of the patients’ demographic data on this issue.

Materials and Methods: This study was conducted in Hacettepe University Faculty of Dentistry between 10 February-5 March 2019. A survey consisting of 15 questions was applied to 218 patients and patient relatives that over 18 years old, who applied to our faculty for treatment. A total of 5 surveys, 3 of which were incompleted and 2 of which did not state the age, were excluded from the study.

Results: Of the 213 survey, 119 were female and 94 were male. The educational level of the participants in our study was as follows: 39 of them were elementary school graduated, 44 of them were high school graduated, and 128 of them were university graduated. Participants were between 18 and 78 years old and the mean age is 32.54. The average age of female participants was 31.55 and the average age of male participants was 33.79. 178 participants (84%) answered the questions about hygiene correctly: no significant difference was found regarding age, sex and education. 151 participants (71%) answered the question about childhood diseases correctly. 82 participants (38.5%) answered the question about hepatitis B vaccination correctly. 99 participants (46.5%) responded correctly to the question about viral hepatitis and AIDS which are blood-borne diseases. According to hand hygiene and infectious diseases questions, it is found that the number of correct answers increased as the participants’ education level increased, while the correct answers decreased as the participants’ age increased. There is no significant difference detected about the knowledge level regarding gender. The most correctly answered question is about general hygiene knowledge with the 178 (84%) correct answer. The least correctly answered question is about hand hygiene with the 64 (30%) correct answer.

Conclusion: Spread of infection is a major public health problem. The consciousness of not only the health workers but also the whole society is very important about this issue. It is thought that our society should be informed much more about infection control in accordance with the obtained data in the study.
THE EFFECT OF SOCIOECONOMIC STATUS ON ORAL HEALTH OF DENTISTRY STUDENTS: A QUESTIONNAIRE STUDY

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ABSTRACT

Background and Aim: The aim of this study was to evaluate the effect of socioeconomic status on oral health of dentistry students.

Materials and Methods: Three hundred and eighty-one students of Ondokuz Mayıs University Faculty of Dentistry, in the 1st until the 3th years of education were included in the study. A comprehensive social, cultural and dental assessment questionnaire was distributed among students. With this questionnaire oral health status, oral health knowledge and socioeconomic status of students was evaluated. The questionnaire contained questions about sociodemographic conditions, oral health behavior and also dental anxiety. The data of the study were evaluated using Pearson Chi-Square test.

Results: According to the results, there is a relation between gender and tooth brushing, dental floss/interdental brush usage frequency, dental visit frequency, dental anxiety, bruxism and night guard usage. Also, it’s shown that dental anxiety and having prosthetic restoration are related to the last graduated school. Mother’s education level and dental visit frequency, and level of income and dental floss/interdental brush usage frequency are directly proportional.

Conclusion: Based on the results of this study it can be concluded that socioeconomic status may have a slight effect on oral health of dentistry students.

EVALUATION OF THE REMOVAL EFFICIENCY OF FILLING MATERIAL FROM ROOT CANALS OBTURATED WITH DIFFERENT TECHNIQUES

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ABSTRACT

Background and Aim: To compare the amount of remaining filling material in root canals obturated with single cone (SC), cold lateral compaction (CLC) or warm vertical compaction (WVC) techniques after the removal protocol applied during retreatment.

Materials and Methods: Thirty-six teeth with straight and single-root canals were decoronated. The root canals were instrumented up to F3 file with the ProTaper rotary file system. Irrigation was performed with sodium hypochlorite (NaOCl) between each instrument. Final irrigation was performed with NaOCl, ethylenediaminetetraacetic acid (EDTA) and saline solution. The roots were then randomly divided into 3 groups according to the obturation technique and the root canal fillings were completed (n = 12): SC, CLC and WVC. An epoxy resin-based paste was used as a root canal sealer. The filling materials were removed using the ProTaper retreatment rotary file system after 1 week. Thereafter, the root canals were instrumented with # 25, 30 and 35 H-type hand files circumferentially. Final irrigation was performed with NaOCl, ethylenediaminetetraacetic acid (EDTA) and saline solution, respectively. The roots were divided longitudinally to assess the amount of remaining filling material. Coronal, middle and apical parts of each root half were examined under stereomicroscope and scoring was performed by 2 groups of examiners using 4-digit scoring system. The Kappa test was used to analyze the correlation between the examiner groups and data was evaluated with Kruskal Wallis and Friedman tests.

Results: A good level of agreement was found among the examiner groups (K=0.769, p<0.001). When the roots were examined as a whole, there was no difference between the groups in terms of remaining filling material (p> 0.05). In the WVC group, there was more filling material in the coronal region than in the CLC group (p <0.05). There was a similar amount of filling material in the coronal, middle and apical parts of TK group (p > 0.05). In the CLC group, there were fewer remnants in the middle region than the apical region (p <0.05), whereas in the WVC group there were fewer remnants in the apical region than in the coronal region (p < 0.05).

Conclusion: Root canal filling materials could not be completely removed in any group. Better techniques should be developed for effective removal of root canal filling materials during retreatment.
EVALUATION OF THE CONSISTENCY OF THE IMAGES OBTAINED WITH THE DIAGNOCAM DEVICE IN THE DIAGNOSIS OF INTERPROXIMAL CARIES BETWEEN DIFFERENT OBSERVERS

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ABSTRACT

Background and Aim: The Fiber Optic Transillumination System is an x-ray-free diagnostic method, which allows the detection of early caries in interproximal faces that are difficult to diagnose clinically and radiographically. The aim of this study is to evaluate the effectiveness of caries diagnosis from the images obtained with Diagnocam working with this system and to evaluate the effectiveness of different interobserver consistency in clinical use.

Materials and Methods: For this purpose, patients who have bite-wing radiographs for the detection of interproximal caries in treatment planning (between the ages of 18-80) who applied to Hacettepe University Faculty of Dentistry Department of Oral and Maxillofacial Radiology were included. One of the conditions is the presence of molar and premolar teeth in patients. The image of 262 teeth with or without initial decay was obtained with Diagnocam. The images obtained were evaluated separately by three experienced radiologists and four students who had completed their clinical internship. Weighted and Fleiss kappa tests were performed by SPSS 20.0 program and interobserver compliance ratio was determined.

Results: The kappa value among the observers of the experienced radiologists was 0.76 and the kappa value of the students was 0.62.

Conclusion: According to the results of the study, the overall interobserver agreement was found to be high in the evaluation of Diagnocam images and it shows the availability of images obtained by Diagnocam in dental practice. The high compliance of radiologists in evaluating diagnostic images indicates that the consistency of experience and image evaluation increases.

EVALUATION OF DENTAL ESTHETIC SELF-PERCEPTION OF DENTAL STUDENTS

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ABSTRACT

Background and Aim: The aim of the present study was to evaluate dental esthetic self-perception of under graduate and postgraduate students, attending to Kırıkkale University Faculty of Dentistry.

Materials and Methods: A total of 431 under graduate and postgraduate students, attending to Kırıkkale University Faculty of Dentistry were enrolled the study. The participants were being told about the aim of the study and provided informed consent. A questionnaire consist of two parts was applied to participants. The first part of questionnaire contained 15 YES or No questions to measure the patients' self-perception of dental esthetics. In the second part, participants were asked to rate the importance of characteristic features of a face on a 100-mm Visual Analog Scale (VAS) bar. Data were statistically analyzed with Chi-Square, ANOVA and t-test (p<0.05).

Results: The overall mean satisfaction index was 6.86 of the participants. The participants in the postgraduate group were the most satisfied with their dental esthetic characteristics (p<0.05). It has been revealed that females showed more dissatisfaction than the males with their dental esthetic appearance (p<0.05). Among the facial characteristic features, teeth achieved the highest VAS score (86.9) and found to be the most important one to affect facial attractiveness (p<0.05).

Conclusion: The satisfaction levels of dental students in terms of self-perception of dental esthetics are generally high and self-reported satisfaction with their appearance increased as they progressed academically.
OP7
ASSESSING THE RELIABILITY OF ROOT COVERAGE ESTHETIC SCORE

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ABSTRACT

Background and Aim: Mucogingival surgery is defined as non-surgical and/or surgical correction of mucogingival defects with respect to the morphologic characteristics of marginal tissue, position of marginal tissue as it relates to the cemento-enamel junction and mucogingival junction, and/or the amount of soft tissue and underlying bone. Assessments of these outcomes will then be more equivocally based upon the biases, the visual perceptions, and the experience of the beholder. The heterogeneity of measurements and variety of possible treatments precludes the standardization and overall agreement. The root coverage esthetic score (RES) was published in 2009 as an esthetic scoring system to measure visible final outcomes of root coverage procedures performed on Miller I and II recession defects. The aim of our study was to evaluate the reliability of RES when used among dentistry students and faculty members and to determine the effect of experience on RES in periodontology.

Materials and Methods: Photographs from Hacettepe University Faculty of Dentistry Periodontology Department archive that were taken from 50 patients, underwent mucogingival surgery (free gingival graft, connective tissue graft, lateral positioned flap, coronal positioned flap) and followed up 6 months were examined by dentistry student, doctoral student and faculty member and results were recorded using Root Coverage Esthetic Score. Each photograph was shown for 30 seconds, surgical outcomes were evaluated independently and the scores were then recorded on a standardized worksheet grid by examiners. To test intra-examiner reliability, seven of the 50 projections were shown twice. One-way ANOVA was used to determine differences in inter-examiner correlation.

Results: According to the results, no statistically significant difference was found between the examiners (p>0.05).

Conclusion: From this study it can be concluded that RES presented by Cairo et al. may be a reliable scoring system that is independent of examiner’s experience to determine the mucogingival surgery outcomes.

OP8
THE EFFECT OF ADDITION OF BENZALKONIUM CHLORIDE AND ACTIVATION WITH XP ENDO FINISHER FILE ON SODIUM HYPOCHLORITE PENETRATION IN DENTINAL TUBULES

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ABSTRACT

Background and Aim: The purpose of this study was to assess the effect of addition of Benzalkonium chloride and activation with XP Endo Finisher file on sodium hypochlorite penetration in dentinal tubules.

Materials and Methods: 5% sodium hypochlorite and 5% sodium hypochlorite + 0.008% benzalkonium chloride (BAC) solutions were prepared and surface tension was measured by using tensiometer. Forty extracted human single canal mandibular anterior teeth were selected and prepared with Pro Taper Universal Rotary System to F3. The solutions were marked with Rodamin B and were kept at 37° temperature. In the final irrigation stage, the root canals were manually irrigated with 5% NaOCl in group 1, with 5% NaOCl + 0.008% BAC in group 2. The remaining root canals were irrigated with 5% NaOCl activated with XP Endo Finisher File in group 3, 5% NaOCl + 0.008% BAC activated with the XP Endo Finisher File in group 4. Then, 1 mm thick sections were obtained from the middle third of the acrylic-embedded samples and examined by a confocal laser scanning microscope. The maximum penetration depth and penetration percentage were recorded using the Image J program via digital images. Kruskal-Wallis test was used for statistical analysis.

Results: The results have shown that the addition of 0.008% benzalkonium chloride has significantly reduced the surface tension of 5% sodium hypochlorite solution. (p <0.05). No significant difference was found between the groups in terms of penetration percentage. The penetration depth of Group 3 and Group 4 was significantly higher than group 1 (p> 0.05).

Conclusion: Activation of sodium hypochlorite with XP Endo Finisher File can be used to increase dentin tubule penetration.
**OP9**  
**PULP TISSUE DISSOLUTION CAPACITY OF DIFFERENT IRRIGATION AGITATION TECHNIQUES**

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**ABSTRACT**

**Background and Aim:** The aim of this study was to compare the organic tissue removal capacities of 3 different irrigation activation methods (sonic, ultrasonic and laser activated irrigation).

**Materials and Methods:** Thirty extracted bovine incisor teeth were decoronated at cemento-enamel junction by using diamond fissure bur and the both coronal and root pulp were removed carefully. 50 samples were prepared by weighing on an analytical balance and each sample weight was approximately 25 mg. Samples were divided into 5 groups (n = 10): Saline (SF) group, sodium hypochlorite (SH) group, sonic irrigation (SI) group, ultrasonic irrigation (UI) group and laser activated irrigation (LA) group. In SF group; pulp pieces were placed into 10 Eppendorf tubes. Then the tubes were filled with 1.25 mL of SF solution. After waiting for 6 min, the solution was withdrawn by means of a syringe and new SF solution was added. This process was repeated 5 times (total 30 minutes). In the SH group, the same method in the SF group was achieved by replacing the SH by 5 pieces of pulp tissue were placed into Eppendorf tubes. Then the tubes were filled with 1.25 mL of SH solution. Samples in each group were waited in the activated solutions for 5 min after total of 1 min activation period with respective method. Then, all bovine pulp samples were weighed again on the analytical balance. Weight differences between initial and final measurements were obtained. The data were analyzed by ANOVA and post hoc Tukey tests.

**Results:** The difference between the SF group and the other groups was statistically significant (P < 0.05). Although the SH group resolved more tissue than the SF group, the difference was not statistically significant (P > 0.05). The difference between SH group and activated irrigation groups was significant (P < 0.05). While there was no significant difference between the activation groups, the difference between SI and LA groups (P > 0.05) was significant (P < 0.05).

**Conclusion:** Activated irrigation techniques have been found to be effective in resolving bovine pulp tissue. Among these, SI and LA groups were the most effective groups.

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**OP10**  
**EFFECTS OF MODELING AGENTS ON SURFACE MICROHARDNESS, ROUGHNESS, AND COLOR CHANGE OF A NANO-HYBRID COMPOSITE**

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**ABSTRACT**

**Background and Aim:** To evaluate the influence of different modeling agents on surface microhardness, roughness and color change of a nano-hybrid composite with/without exposed to discoloration in coffee.

**Materials and Methods:** Sixty-four cylinder-shaped nano-hybrid composite (Essentia Dark Enamel/GC) specimens were prepared using a Teflon mold dimensions with 12mm diameter x 2mm thickness. The nano-hybrid composite specimens were placed into the molds according to the following groups; Group 1: Control (no modeling agent), Group 2: Modeling Liquid (GC), Group 3: G-Premio Bond (GC), Group 4: OptiBond XTR Primer (KavoKerr). The modeling agents were only applied to the top surface of the specimens during the placement, and a Mylar strip was positioned top of the specimen. The specimens were light-cured with LED curing unit (Woodpecker) for 20 sec, then polished with 2500-3000 grid SiC-papers. Specimens were randomly allocated into 2 groups (n=8) according to the storage media: distilled water/coffee, and kept in an incubator at 37°C. Surface microhardness (VHN) with a Vickers hardness tester, roughness (Ra) with a profilometer, and color change (ΔE) with a digital spectrophotometer using CIE L*a*b* system was measured 24h, 1-week and 6-week after storing. Data were analyzed using SPSS software version 16. Repeated-measures ANOVA and Kruskall Wallis tests (α=5%) were used to analyze the effect of factors “presence of modeling agent”, “storage media and time” on the VHN, Ra and ΔE of groups investigated.

**Results:** Storage time didn’t influence the VHN of the nano-hybrid composite in each group (p>0.05). OptiBond XTR Primer application was affected negatively the VHN at all investigated storage media and time (p<0.05). Modeling liquid application was improved Ra values when the specimens stored in coffee at each storage time (p<0.05). Modeling liquid application was showed the lowest ΔE values in all investigated storage media and time (p<0.05).

**Conclusion:** Different types of modeling agents could affect the surface properties and discoloration of the nano-hybrid composite.
OP11
ASSESSMENT OF DENTAL STUDENTS’ SKILL IN RECOGNITION OF BENIGN, PRECANCEROUS AND MALIGNANT ORAL LESIONS: A PILOT STUDY

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ABSTRACT
Background and Aim: Early diagnosis of malignant lesions definitely influences the survival rate. Thus, undergraduate education in dentistry aims correct recognition of nature of oral lesions. The objectives of this study were to assess the ability of dental students identifying nature of oral mucosal lesions and, to compare their diagnostic ability at different stages of the learning process.

Materials and Methods: A total of 72 volunteer students (of those, 36 were 4th year and 36 were 5th year) were asked to identify the nature of the 20 disorders, which consist of 13 benign, 4 precancerous and 3 malignant oral lesions. Clinical images were presented with the information about patient's history, and clinical findings of cases. Student's t-test was used to evaluate for overall success rate of two groups and chi-square test was used for the analysis of diagnostic performance for each case.

Results: Fifth year students’ overall success rate was higher than those of 4th year students (p<0.05). Benign lesions were classified with high accuracy rate in both groups (p>0.05). The group performances were low and moderate in different among precancerous lesions. 75% of the 4th year students and 91.7% of the 5th year students correctly classified squamous cell carcinoma (p <0.05), however, both groups showed low performance in differentiating melanoma which is another malignant lesion (p>0.05).

Conclusions: The students’ ability to distinguish nature of oral lesions improves with clinical experience. However, both groups have difficulties in identifying rare disorders. It may be beneficial to encourage students to use more visual materials during clinical training.

OP12
THE INVESTIGATION OF THE DENTISTS’ ATTITUDES IN THE CONFLICTING SITUATIONS FACED IN DENTAL PRACTICE

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ABSTRACT
Background and Aim: Dentists face conflicting situations with their patients when performing their profession. Decisions on treatment planning, management of patient expectations, determination of treatment fees are among these issues. The aim of this study is to determine the attitudes of dentists in conflicting situations.

Materials and Methods: The opinions of the dentists were obtained through printed/online questionnaires. The dentists were asked the frequency of the ethical problems encountered with their patients, whether they could benefit from the basic principles of ethics in the solution of these problems, whether the ethical courses they took in the education process were sufficient and their willingness to participate in the studies related to ethics after graduation. In addition, dentists were asked about their decisions for 6 different clinical scenarios.

Results: A total of 49 participants, 28 of whom were female, were included in the study. When asked about the frequency of conflicting situations; 2,9% of respondents expressed “never”, 5.9% “Every day”, 23.5% “Several times a week,” 31.4% “several times a month”, 36.3% “several times a year”. When deciding in conflicting situations with your patients; “Do you think it is useful to find solutions using the basic principles of the ethics” question; 63.7% of participants replied “often”. 70% of the participants stated they would participate in future presentations and trainings about dental ethics.

Conclusion: This preliminary research show dentists often encounter contradictory situations in daily practice. The majority of the respondents stated Ethics courses in dental education weren’t adequate and expressed will to participate in the training courses. Findings obtained from the research in dentistry practice with more comprehensive research on this subject, shows that Ethics education can be better structured for contradictory situations.
OP13
COMPARISON OF THE DENTAL STUDENTS’ PERCEPTION REGARDING DENTAL AESTHETICS AND ORTHODONTIC TREATMENT NEED

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ABSTRACT

Background and Aim: The aim of this study was to compare the dental students’ perceptions regarding their dental appearance and other individuals’ need for orthodontic treatment.

Materials and Methods: The study was conducted in Hacettepe University Faculty of Dentistry between 2018 and 2019. The first and fifth grade dental students were included in the study. A questionnaire was given to the students, and they were asked to indicate their age, whether they received an orthodontic treatment before, and their thought about their orthodontic treatment need. In the continuation of the questionnaire, there were 10 intracranial pictures that constitute the aesthetic component of the Orthodontic Treatment Needs Index. These images represent increasing levels of aesthetic disorders from 1 to 10. The students were asked about which image represent their dental situation mostly. The score was evaluated as the aesthetic score they gave for themselves. In addition, the students were asked which dental images need orthodontic treatment. The smallest image numbers they marked was recorded as the minimum score that the student felt the need for orthodontic treatment. In descriptive statistics, number (percentage), mean ± standard deviation, 95% CI, median (minimum-maximum) values were used. The normality of the variables was evaluated using the Kolmogorov-Smirnov test. For comparison between groups; chi-square test, for parametric variables Student t-test and one-way analysis of variance (ANOVA) were used in the statistical analysis of the parametric data, and Mann-Whitney U test and Kruskal-Wallis test were used for the non-parametric data. The significance was set at p<0.05.

Results: A total of 127, 1st grade and 114, 5th grade students participated in the study. The mean age of the students in first year (19.37±0.68) was found to be significantly smaller than the students in fifth year (23.46±0.67) (p<0.001). While 28.3% of the first-grade students received previous orthodontic treatment, this rate was 45.6% for fifth grade students (p = 0.005). The number of students who thought they need orthodontic treatment and the aesthetic scores given by the students for themselves did not show a significant difference between the groups. However, the minimum scores that were marked for the need for orthodontic treatment in the index were found to be significantly lower for the fifth year students (2.49±1.67) than for the first year students (3.75±2.95) (p = 0.004).

Conclusion: The level of aesthetic disorders that fifth year dental students thought need of orthodontic treatment was lower than that of first year students. Dentistry education changes the students’ perception of dental appearance in terms of the need for orthodontic treatment.
OP15
EVALUATION OF DENTISTS’ ROLE IN SMOKING CESSATION

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ABSTRACT

Background and Aim: Smoking is responsible for the development of cancer, cardiovascular and respiratory diseases, periodontal diseases by damaging many organs in the body. According to the results of a large population study, the prevalence of periodontitis in smokers who smoke 10 cigarettes or less per day compared to non-smokers is 2.79 and this rate rises to 6 times in smokers who smoke 31 or more cigarettes per day. There are few studies evaluating patients’ knowledge and awareness of the effect of smoking on oral health. Studies are mostly related to oral cancer. Therefore, the purpose of this study is to evaluate the awareness of individuals about the effects of smoking on oral health and their attitudes about the role of the dentist in smoking cessation.

Materials and Methods: A total of 50 volunteer participants who applied for periodontal treatment to Baskent University Faculty of Dentistry in the last one month were included. It was asked to answer the question about the effects of smoking on oral health and patients’ attitudes about the involvement of their dentists in smoking cessation activities. Statistical analyses of the data were performed using the SPSS 20.0 statistical package.

Results: A majority of patients showed a very positive attitude to the role of the dentist in smoking cessation. Although most of the participants correctly answered that smoking affects gum disease and wound healing, it was found that participants have poor awareness about the relationship between smoking and implant/teeth loss.

Conclusion: Dentists should inform patients about the oral effects of smoking and should strongly recommend to quit smoking in patients who have been diagnosed with periodontal disease and need surgical treatment.

OP16
ASSESSMENT OF BRUXISM AWARENESS AND POSSIBLE RELATED FACTORS

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ABSTRACT

Background and Aim: The primary objective of this study was to determine the presence and awareness of bruxism in individuals. The second aim was to evaluate the relationship between bruxism awareness and sociodemographic factors, periodontal status and bruxism symptoms.

Materials and Methods: 541 patients who referred to Başkent University Faculty of Dentistry, Periodontology Department for various reasons were examined and this study was conducted on a total of 198 patients diagnosed with bruxism. Age, gender, level of education, number of missing teeth, and periodontal status were recorded. The presence of bruxism in the study population and the awareness of the patients with bruxism were determined. Patients presenting with bruxism are divided into two groups according to their awareness. Age, gender, educational status, number of missing teeth, periodontal status and bruxism were compared between the groups. T-test was used for the comparisons between the two groups whereas the Chi-Square analysis was used for the categorical variables.

Results: As a result of clinical and radiographic evaluation, the presence of bruxism was detected in 36.6% of the patients. The bruxism awareness rate of patients with bruxism was 55%. There were statistically significant differences between the groups in terms of age, gender, number of missing teeth and periodontal status (p <0.05). There was no statistically significant difference in terms of education level (p > 0.05).

Conclusion: This study, which included patients with bruxism, found that 45% of the population was unaware that they had bruxism and there was no relationship between awareness and education level. Patients’ early detection of bruxism will prevent many negative consequences due to bruxism. Therefore, it is important to develop strategies to increase the awareness of bruxism.
OP17
MICRO-SHEAR BOND STRENGTH OF DIFFERENT ADHESIVE SYSTEMS ON ENAMEL PREPARED WITH ER, CR: YSGG LASER OR CONVENTIONAL DIAMOND BUR

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ABSTRACT

Background and Aim: The aim of this in-vitro study was to evaluate the micro-shear bond strength (μSBS) of different adhesive systems to enamel prepared with Er, Cr: YSGG laser or conventional diamond bur.

Materials and Methods: In this study, 28 non-carious human molar teeth were used. Under water-cooling, the teeth were cut into two sections in mesio-distal direction and the buccal or lingual surfaces were placed in acrylic blocks to obtain 56 samples. Accepting the midline of each tooth as reference; the left half of the enamel surfaces were prepared using an Er, Cr: YSGG laser; whereas the right half was prepared with a conventional diamond bur. The samples were then randomly divided into 4 groups (n = 15): [G1] Three-Step Etch & Rinse Adhesive (Optibond FL, Kerr); [G2] Two-Step Self-Etch Adhesive (Clearfil SE Bond, Kuraray), [G3] Universal Adhesive / Etch&Rinse Mode (Prime and Bond Elect, Dentsply), [G4] Universal Adeziv / Self-Etch Mode (Prime and Bond Elect, Dentsply). Composite cylinders with a diameter of 1.3 mm (Harmonized / Kerr) were bonded to the center of the laser and bur prepared parts of all samples. Adhesive interface of one randomly selected representative from each group was examined under a Scanning Electron Microscope. The rest of the samples were subjected to μSBS testing using a universal test machine with a crosshead speed of 1 mm/s. Data were evaluated using Two-Way Analysis of Variance (p = 0.05).

Results: Pre-test failures were observed on 1 sample in Laser-G1, Bur-G1, Laser-G2, Bur-G2 and Laser-G4 groups; and on 2 samples in Bur-G4. When the μSBS data of each adhesive system were compared in terms of the laser and bur preparation method, no significant difference was found between the groups (p > 0.05). Regardless of preparation modes, no statistically significant differences were observed between the adhesive systems (p > 0.05). The interaction of different adhesive systems with different preparation methods did not result in a significant difference on μSBS values (p > 0.05). SEM images were also in accordance with μSBS findings.

Conclusion: Within the limitations of this study, it was concluded that μSBS values of the tested adhesive systems to Er, Cr: YSGG laser or diamond bur prepared enamel surfaces were similar.

OP18
EVALUATING THE MENTAL WELL-BEING OF DENTAL STUDENTS

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ABSTRACT

Background and Aim: The aim of this study was to evaluate the mental well-being of dental students of Başkent University Faculty of Dentistry with the Warwick-Edinburgh Mental Well-being Scale and to investigate sociodemographic factors that may be associated with mental well-being.

Materials & Methods: This study was carried out with 81 dental students (25 females, 56 males) of the Baskent University Faculty of Dentistry, aged between 21 and 25 years. In order to measure the level of mental well-being of the dental students Warwick – Edinburgh Mental Well-being scale was applied and sociodemographic data were collected.

Results: The average score of the Warwick- Edinburgh Well Being Scale was 47.0 ± 11.2. The level of mental well-being was found to be similar in females (45.6 ± 11.8) and in males (49.7 ± 9.8) (p > 0.05). The level of mental well-being of dental students did not differ according to their parents’ educational and income status (p > 0.05). Similarly, it was determined that the mental well-being levels do not differ according to the other tested parameters (p > 0.05).

Conclusion: It can be concluded that the educational and income status of parents and the sociodemographic differences of the dental students do not affect the mental well-being levels. It would be useful to design multi-center studies with larger sample size in order to determine the mental well-being levels of dental students and to develop methods to improve their mental well-being status.
THE EFFECT OF DIFFERENT POLISHING PROTOCOLS ON THE SURFACE ROUGHNESS AND COLOR STABILITY OF THE ENAMEL


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ABSTRACT

Background and Aim: The aim of this study was to assess the effect of three different polishing protocols (pumice flour, prophy paste and air abrasion) on the surface roughness and color stability of the enamel.

Materials and Methods: A total of 30 extracted sound molar teeth without cracks, caries and enamel defects were used for the study. After the teeth were embedded in acrylic blocks, the exposed buccal enamel surfaces were polished using 600A-Grit and 1000-Grit Sandpaper for 30 seconds and 10 seconds, respectively. The teeth were then randomly divided into three groups according to the following polishing protocols (n=10): G1: Pumice flour (PF), G2: Prophy paste (PP), G3: Air abrasion (AA). The baseline surface roughness (Ra) was measured on three different regions using a surface profilometer and the color values were measured using a spectrophotometer (Vita Easy Shade) according to the Commission Internationale d’Eclairage (CIE) L*a*b. After polishing both, surface roughness and color were re-measured. The color change (ΔE) was also calculated. Data were analyzed using the Kruskal-Wallis and Wilcoxon tests (p<0.05).

Results: While no statistically significant differences were detected among the groups for baseline measurements in terms of surface roughness (p=0.13), significant differences were found after polishing protocols (p<0.0001). The differences between PF group vs PP group (p=0.002) and between AA group vs PP group (p=0.002) were statistically significant; the smoothest surface was obtained with the use of prophy paste. Intra-group changes before and after the treatment were found to be significant for all groups (p<0.05). Roughness showed a statistically significant increase after treatment for all groups (p<0.05). When color change values (ΔE) were evaluated, no statistically significant differences were observed among the groups (p>0.05).

Conclusion: It can be concluded that dental professionals should prefer prophy paste for smoother enamel surfaces. The color stability was not affected by prophylaxis protocols.

Awareness of the Patients About Dental Trauma

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ABSTRACT

Background and Aim: Traumatic dental injuries (TDI) include 5% of all injuries requiring treatment in humans. These injuries in teeth vary from simple enamel cracks to complicated fractures and often need a complicated treatment of more than one type of injury. Time spent outside of the mouth and hiding conditions of the teeth are of great importance in the success of replantation. The aim of this research was to investigate the level of the dental trauma awareness of the patients who applied to our faculty for dental treatment.

Materials and Methods: The study sample consisted of 423 individuals who applied to Hacettepe University Faculty of Dentistry. The data was gathered by face-to-face survey with patients.

Results: There were 246 (58.2%) women and 177 (41.8%) men. The mean age of the individuals was 37.05. Only 39.6% of the individuals stated that they would apply to any medical centre if deciduous teeth had trauma and findings suggest that 95% of them would not apply, as the permanent teeth would erupt. In case of fracture of the tooth, 95.5% of the individuals would apply to a dentist. 38.6% of patients’ arrival time was at the time of incident, 27.2% of them was same day and rest of it (23%) would apply to dentist in one week. If the tooth is broken, 44.9% of the individuals would take broken part to the dentist and most of them would put it in water (10.6%), milk (10.1%), iced water (9%) or napkin (6%). When toothache would appeal to the dentist. 35.6% of them bring it in water. If toothache were the only symptom after dental trauma, 91.7% of patients would appeal to the dentist. The arrival times after trauma were 31.8%, 30.2%, 29.2% for at the trauma time, in the same day and in a week, respectively.

Conclusion: As a result of our findings, it was found that the patients’ arrival times were good but the patients’ knowledge of storage conditions of teeth was inadequate. It is recommended to provide social information to fulfil the missing information on that issue.
OP21
MICRO-SHEAR BOND STRENGTH OF DIFFERENT ADHESIVE SYSTEMS TO ARTIFICIAL CARIES-AFFECTED DENTIN

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ABSTRACT

Background and Aim: The aim of this study was to evaluate the microshear bond strength (μSBS) of resin composite to sound and artificial caries-affected dentin using a universal adhesive in etch- and rinse mode or self-etch mode and to compare with a 3-step etch-and-rinse adhesive and a 2-step self-etch adhesive.

Materials and Methods: 96 crowns of intact anterior human teeth were used in this study. The buccal dentin was exposed using 600-grit silicon carbid paper to create a standardized smear layer. The samples were randomly divided into 2 groups as sound dentin and affected dentin (n=48). The demineralizing solution was used to obtain artificially affected dentin surfaces. Sound and affected samples were randomly divided into 4 sub-groups according to the adhesive procedures (n=12): Clearfil Universal Bond Quick (etch-and-rinse mode)(Kuraray, Japan), Clearfil Universal Bond Quick (self-etch mode) (Kuraray, Japan), Optibond FL (etch-and-rinse)(Kerr, Germany), Clearfil SE Bond (self-etch)(Kuraray, Japan). Universal composite resin, Filtek Ultimate (3M ESPE, USA) was applied to the buccal surfaces of samples with the aid of tubes (0.9 mm diameter and 1.2 mm height) and polymerized with LED device. After samples were kept in 37 distilled water for 24 hours, the universal test device was applied a shear bond test at a rate of 0.5 mm/min. Adhesive interfaces were randomly selected from each group and examined in scanning electron microscope. The fractures were examined under 40X magnification under stereomicroscope. The data were analyzed by Kruskal Wallis and Mann-Whitney U tests (α=0.05).

Results: Significant differences were observed between the groups according to the applied adhesive systems (p<0.05). Optibond FL group showed significantly lower bonding values compared to the other groups on sound dentin (p<0.05). While no significant difference was observed between Universal adhesive etch-and-rinse group and Optibond FL group (p = 0.109), Universal adhesive self-etch group showed higher values than Optibond FL group (p=0.06). The μSBS of Clearfil SE Bond to the affected dentin was higher than Optibond FL (p=0.001). Regardless of the adhesive systems, no significant difference was found between the sound and affected groups (p>0.05).

Conclusion: The bonding performance of the adhesive systems applied with different techniques to the affected dentin is similar to the sound dentin. Clearfil Universal Bond Quick showed higher bonding values on dentin than the 3-step etch-and-rinse adhesive, which is considered the gold standard.

OP22
EVALUATION OF MEDICAL EMERGENCY APPROACHES SEEN DURING DENTAL TREATMENT

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ABSTRACT

Background and Aim: To evaluate, awareness about medical emergencies seen at dental clinics such as epilepsy, syncope, orthostatic hypotension, myocard infarctus, angina pectoris, anaphylactic shock and asthma can be seen during the dental interventions at Hacettepe University Faculty of Dentistry. The knowledge of the medical staff about the injection techniques that should be applied during medical interventions was also observed.

Materials and Methods: It was a questionnaire study consisting of short questions and short answers that was applied to medical staff (specialists- doctors, dentist/research assistants, nurses, final year students) at faculty of dentistry. This study was based on voluntariness and general distribution was investigated. The knowledge of the staff about the emergency approaches was also examined with visual analogue scale (VAS) 196 medical staff were included to the study. 95 students, 7 nurses, 45 specialists-doctors and 49 dentist/research assistants were implicated in study.

Results: The knowledge rate about medical emergencies of participants was high but the ratio of being faced with medical emergencies at clinics was seen as low. Many of participants indicated that they could interfere intermediately. It was observed that a few participants could apply intravenous injection to the patients.

Conclusion: The medical emergencies such as; epilepsy, syncope, orthostatic hypotension, myocard infarctus, angina pectoris, anaphylactic shock and asthma can be seen during the dental treatment at any moment. The important point is to apply essential treatment and intervention within our knowledge. The knowledge about treatment options should be reminded periodically. By the way, the intervention could be more controlled and effective when the medical staff encounters with medical emergencies.
ABSTRACT

Background and Aim: Periodontal diagnosis relies primarily on traditional two-dimensional representation of the alveolar bone. Though conventional and digital radiography are very useful and have less radiation exposure, they still cannot determine a three-dimensional (3D) architecture of osseous defects. As a result of scientific development in imaging that provides 3D images with detailed bone structures, diagnostic tools in dentistry have therefore become more precise and reliable. The morphology of the molar extraction socket will determine whether adequate stability for immediate implant placement can be achieved. The septal bone of multirooted molars and the periphery of the socket of molars with fused or converging roots are the primary areas of bone available for immediate implant placement. However, some sockets do not allow for primary implant stability, which necessitates a delayed placement protocol (with or without socket grafting). The aim of this study is to measure the amount and quality of bone in the molar regions for immediate implantation in three dimensions using Cone Beam Computed Tomography (CBCT).

Materials and Methods: CBCTs from Hacettepe University Faculty of Dentistry Periodontology Department were included in the study. Films with at least one of the teeth 36, 37, 46 and 47 were examined using the iCAT Vision program and the following distances were measured for each mandibular molar tooth: between cementoenamel junction (CEJ) - furcation, between furcation - the apex of the tooth (mesial and distal root separately), mesial root length of the tooth, distal root length of the tooth, mesial root width of the tooth (three measurements in the middle of the apical, middle and cervical third), distal root width (three measurements in the middle of the apical, middle and cervical third), interradicular distance (apical triple, middle triple and three measurements in the furcation area), furcation - interseptal bone, interseptal bone - mandibular canal, interseptal bone height, buccal bone width in septum (three measurements in the middle of the apical, middle and cervical third), between cementoenamel junction - bone crest, between furcation crest - buccal bone, between furcation crest - lingual bone and between buccal and lingual bony walls (three measurements in the middle of the apical, middle and cervical third).

Results: The mean number of interradicular distance was 2.08 in the apical third, 2.01 in the middle third and 1.63 in the cervical third. While the distance between furcation and septal bone was 5.4 in the axial sections, the distance between furcation and lingual bone was calculated as 5.35. The distance between the buccal and lingual bone is 10.13 in the apical, 9.85 in the middle third and 9.2 in the cervical third. In vertical measurements, the distance between furcation and apex was 9.33 for mesial root and 9.85 for distal root. The distance between the furcation-interseptal bone was 0.48 and the distance between the interseptal bone and the mandibular canal was 14.93.

Conclusion: In order to place immediate implants, mandibular molar regions require at least 8 mm of bone between the interseptal bone and the mandibular canal, and 6 mm of bone as buccolingually. In the present study, it was found that the minimum amount of bone for immediate implantation in those two distances could be achieved in a certain population in general. Further studies including higher number of CBCTs are needed.
PP1

RADIOLOGICAL IMAGING FINDINGS IN FOUR CHILDREN WITH CHERUBISM

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ABSTRACT

Background and Aim: Cherubism is skeletal dysplasia characterized by bilateral, symmetrical, fibroosseous, multilocular cystic lesions located in the maxilla and mandible. William A. Jones was first described in 1933. The patients were named as cherubism because they were similar to the cherubs that were frequently used in mythological paintings and had a cheeky child angel figure. The aim of this study is to present the clinical and radiological findings of four rare cases of cherubism, a rare fibroosseous disease.

Materials and Methods: Clinical, radiological and histopathological findings were evaluated in four children diagnosed as cherubism. Gender, age and physical characteristics of the cases were recorded. Two-sidedness, localization (mandibula, maxilla and orbita), the extent of involvement, the presence or absence of cortical thinning, the degree of expansion, the presence or absence of periosteal reaction, and trabeculation measurements were included in the radiological findings.

Results: Two boys and two girls were included in the study. The age of the patients ranged from 6 to 12 years (mean age: 9.2 ± 2.3 years). Panoramic radiographic (PR) and computed tomographic (CT) examinations were performed in all cases. In addition, three-dimensional (3D) images were reformatted from axial CT sections. The results of radiological examinations showed bilateral mandibular involvement where mandibular condyles were preserved in all cases. All patients had progressive expansion and trabeculation in the mandible. In addition, one patient had both maxillary and orbital involvement. There was no accompanying periosteal reaction. Results and Conclusion: In young patients presenting with bilateral mandibular swelling, cherubism should be considered in differential diagnosis. Comprehensive clinical, radiological and histopathological evaluation of suspected cases may facilitate the diagnosis of cherubism.

PP2

A CASE OF BILATERAL OROANTRAL FISTULA AFTER DENTAL EXTRACTION

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ABSTRACT

Background and Aim: Oroantral fistula (OAF) is an abnormal aperture between the maxillary sinus antrum and the oral cavity. Most OAFs occur after tooth extraction. Approximately 45% of OAFs are caused by second molar extraction, 40% by first molar extraction, 5% by third molar extraction, and 10% by cysts within the maxillary sinus. It is rarely seen after trauma, radionecrosis and osteomyelitis. In this report, a 42-year-old male patient who was admitted to our hospital with spontaneous intraoral drainage and fluid food intake in both posterior maxillary regions 8 months ago after dental extraction is presented with radiological findings.

Case report: The history of a 42-year-old male patient who was admitted to our hospital with spontaneous intraoral drainage and fluid food intake in both posterior maxillary areas with the presence of intranasal fluid and intermittent pain. Intraoral examination revealed open-backed openings along the alveolar ridge in existing areas. Computed tomography (CT) was recommended to confirm the diagnosis of OAF. In CT examination, coronal, sagittal and three-dimensional (3D) images were obtained from axial CT images. The size of the opening extending into the sinus was 10 mm on the right and 7 mm on the left. CT images revealed bilateral oroantral fistula. Surgical closure of OAF was performed using palatal flap because of the large fistula diameters. The patient’s clinical follow-up was 1, 3 and 6 months later.

Results and Conclusion: OAF after intraoral drainage and / or fluid food intake after dental extraction should be considered in patients with complaints such as intranasal fluid and recurrent sinusitis. CT is the most appropriate examination of the prevalence and diameter of the fistula tract in these patients before operation.
THE EFFECT OF SYSTEMIC DISEASES ON THE HEALING OF CHRONIC PERIAPICAL LESIONS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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ABSTRACT

Background and Aim: When pulpal diseases are not treated onset of the inflammation, current infection progresses towards the root canal and causes destruction of the periapical tissues. Chronic periapical lesions characterized by destruction of bone around the tooth that might heal after successful root canal treatment. It is known that systemic diseases such as diabetes and cardiovascular disease play a role in wound healing mechanism and might delay healing process. In this context, the aim of this study was to systematically review the studies evaluate the effect of systemic diseases on the healing of periapical lesions after root canal treatment and to conduct a meta-analysis.

Materials and Methods: Four researchers scanned Scopus, Web of Science, Medline (Ovid, Pubmed) databases with the relevant keywords, without language restriction, including November 2018. References of the relevant articles were also checked. Clinical studies, case-control studies, cross-sectional or cohort studies which were revealed the clinical and radiographic healing in periapical lesions following endodontic treatment of healthy or systematically diseased individuals.

Results: 1658 articles were obtained as a result of scanning of databases and references. Duplicated articles and the ones who were not related to the subject have been eliminated 13 of these articles were included in the systematic review by providing inclusion criteria. Eight of the studies were evaluated diabetes, 3 were evaluated HIV / AIDS, 2 were evaluated coronary artery disease and hypertension, 1 was evaluated bisphosphonates and the other one was evaluated inflammatory bowel disease effects on the healing of periapical lesions. Eight of the articles were case-control studies and included in the meta-analysis; the remaining 2 were prospective and 3 were retrospective studies. In theses 8 studies, total 284 patients with one of those systemic diseases were endodontically treated; while 292 systematically healthy individuals were treated. Periapical lesions of 60 individuals with systemic diseases were not recovered; while this value was 31 for systematically healthy individuals. The probability of being successful in endodontic treatment in systemically healthy was 1.86 times higher than individuals with systemic diseases (MedCalc software, p = 0.002).

Conclusion: Although there is a lack of randomized, controlled clinical studies; according to the current data, improving disinfection control and increasing the standards of treatment in individuals with systemic disease might contribute to the increase of treatment success.

MAGNETIC RESONANCE IMAGINATION (MRI) IN ENDODONTICS: WHAT WE ARE ABLE TO SEE?

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ABSTRACT

Background and Aim: To show the potential applications of magnetic resonance imaging (MRI) in endodontics and discuss current advantages and limitations in clinical use.

Materials and Methods: A literature review was performed regarding the dental anatomy and endodontic studies performed by using in vivo and in vitro MRI.

Results: MRI has been used to perform diagnosis, treatment planning and to analyze treatment outcome in endodontics. It has been studied on the development of intraoral appliances, improving image quality and visualization of hard tissues. The negative effects of dental materials on MRI and the formation of artifacts have been investigated. It has been reported that composites, amalgam, gold and nickel-titanium alloys cause artefacts; stainless steel brackets or wires create gaps in the signal. It has also been studied in early diagnosis of caries. With 3D UTE MRI technique, better results were obtained in imaging caries. Moreover, the distance of caries to pulp was more accurate with MRI. MRI was able to obtain images of teeth which enamel, dentin, pulp and periodontal tissues could be distinguished. Pulp morphology was constructed in 3D with MRI. Pathological conditions as micro cracks could be defined in MRI. MRI can also distinguish vital and necrotic pulp. It can be used to visualize and prove pulp viability and regeneration after dental injury. It has been reported that periapical periodontitis and cystic lesions can be differentiated from each other without contrast agent.

Conclusion: In future, MRI applications in the field of endodontics are thought to be widespread. Using MRI, without ionizing radiation; caries, pulp morphology, pulp vitality, pulp regeneration and periapical lesions can be seen in high contrast and resolution. Further studies are needed to reduce screening time and improve hard tissue imaging quality.
REPLANTATION AND MAINTENANCE OF PERIODONTALLY HOPELESS TOOTH: A CASE REPORT

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ABSTRACT

Background and Aim: Intentional replantation is defined as intentional removal of tooth and reinsertion into the extraction socket before or after proper endodontic treatment. In these cases replantation may be an alternative choice at least for a period of time, which will help to restore an original tooth to function in the mouth instead of replacing it with prosthesis. The purpose of this case report is to present the results of the replantation tooth with 4 years of follow-up.

Case report: A 26-years-old male patient was referred to Baskent University, Faculty of Dentistry Department of Periodontology with severe periodontal destruction on mandibular left central incisor tooth. Periapical radiography and dental tomography showed that the related tooth lost almost all of supporting alveolar bone. Patient was informed about the treatment options. Root-canal treatment was performed and replantation was performed one week later then the teeth were splinted. To increase keratinized tissue, free gingival graft surgery was performed. The splint was made aesthetically.

Results and Conclusion: Hopeless tooth was retained by replantation and bone gain was noted after radiological evaluations. Keratinized tissue width was increased by free gingival graft and the maintenance of oral hygiene was ensured. The patient was satisfied aesthetically.
COMPARISON OF TWO DIFFERENT METHODS USED IN THE DETERMINATION OF TOOTH COLOR

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ABSTRACT

Background and Aim: The aim of this study is; to determine whether there is a significant difference between the observers in the selection of tooth color by visual method and the color taken by the digital measurement instrument is the determination of the color difference between the observers and to determine the harmony between the color determined by the visual method and the color taken by the digital measuring instrument.

Materials and Methods: In 100 patients with upper natural first incisor and canine teeth, color was measured visually by the four observers independently by the Vita 3D Color Scale and digitally by the digital color measurement instrument (SpectroShade). After color measurements, lightness, MLR (M: medium hue, L: designates greener, R: designates redder) and chroma values are listed for each tooth, four observers and digital devices. Data were analyzed with Kappa and Krippendorffs Alpha coefficients using IBM SPSS Version 23.0.

Results: In the first incisor and canine teeth, it was found that the correlation between the digital color measurement instrument and each observer showed a statistically significantly weak relationship between lightness, MLR and chroma values. Again, when the lightness, MLR and chroma values were compared, statistically significant weakness was obtained in the compatibility of the four observers.

Conclusion: In terms of lightness, MLR and chroma values of the colors taken from both the first and natural teeth of the first cutter and canine teeth, the fit between the observers and the observers and the digital color measurement instrument is low.
HOW THE MODELING AGENTS INFLUENCE THE SURFACE PROPERTIES AND COLOR CHANGE OF A MICRO-HYBRID COMPOSITE?

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ABSTRACT

Background and Aim: To investigate the effect of different type of modeling agents on surface microhardness, roughness and color change of a micro-hybrid composite stored in coffee.

Materials and Methods: Total of 64 cylinder-shaped micro-hybrid composite (Essentia Universal/GC) specimens were prepared using a Teflon mold (12 mm diameter x 2 mm thickness) according to the following groups; Group 1: Control (no modeling agent), Group 2: Modeling Liquid (GC), Group 3: G-Premio Bond (GC), Group 4: OptiBond XTR Primer (KavoKerr). The modeling agents were only applied to the micro-hybrid composite surface while placing, and a Mylar strip was used at top of the specimen. LED curing unit (Woodpecker) was used for 20 sec to polymerize. The specimens were polished with 2500-3000 grid SiC-papers and randomly divided into 2 groups (n=8) according to the storage media: distilled water or coffee in an incubator at 37°C. Surface microhardness (VHN) with a Vickers hardness tester, roughness (Ra) with a profilometer, and color change (ΔE) with a digital spectrophotometer using CIE L*a*b* system was measured 24h, 1-week and 6-week after storage. Data were analyzed statistically using SPSS software. The effect of factors modeling agent, storage media and time on the VHN, Ra and ΔE of groups evaluated was analyzed using repeated-measures ANOVA and Kruskall Wallis tests (p=0.05).

Results: Storage media and time didn’t influence the VHN of the micro-hybrid composite in each group (p>0.05). Modeling liquid application was improved Ra values when the specimens stored in coffee at each storage time (p<0.05). Control and modeling liquid application groups were exhibited lower ΔE values than the other groups when stored in coffee at all storage time (p<0.05).

Conclusion: Application of different types of modeling agents for shaping the micro-hybrid composite could affect the surface properties and color change.

THE EFFECT OF INTRACANAL CALCIUM HYDROXIDE AND TRIPLE ANTIBIOTIC PASTE APPLICATION ON FRACTURE RESISTANCE OF HUMAN TEETH ROOTS

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ABSTRACT

Background and Aim: The aim of this study was to evaluate the effect of various intracanal medicaments on the fracture resistance of human teeth roots after contact for various time intervals.

Materials and Methods: One hundred and fifty human mandibular premolar teeth were randomly divided into 3 groups (one of them was control group, n = 50). The teeth were decoronated at cemento-enamel junction. The root canals were prepared using NiTi file system. The teeth in experiment groups were divided into 2 subgroups according to duration of time that the root canals were subjected to calcium hydroxide or triple antibiotic paste. No root canal medicament was placed into root canals in control group. At the end of the waiting periods of 15 and 30 days, the samples were placed into acrillic-filled copper anors. Then, the vertical force was applied to roots with a universal test machine until the roots were broken. Statistical analyzes were performed by using ANOVA and Kruskal-Wallis tests.

Results: At the end of the 15-day waiting period, although the resistance of the experimental groups decreased slightly compared to the control group, there was no difference between the fracture resistances of the fractured roots in all groups. There was no difference between the fracture resistances of the control group in both waiting periods. The difference between the fracture resistances of both groups was statistically significant (P < 0.05). At the end of the 30-day waiting period, the control group was statistically more resistant to fracture than experimental groups (P < 0.05). However, although the calcium hydroxide group showed a lower fracture resistance during this waiting period, there was no statistically significant difference between the experimental groups.

Conclusion: When calcium hydroxide and triple antibiotic paste are preferred as an intracanal medicament, the fracture resistance of the tooth decreases due to prolonged residence times.
**PP11**  
**EVALUATION OF NANOHARDNESS IN BULK-FILL COMPOSITE RESINS FOLLOWING ADDITION OF TiO2 NANOPARTICLES**

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**ABSTRACT**

**Background and Aim:** to evaluate the nanohardness and the modulus of elasticity in packable and flowable bulk-fill resin composites with and without addition of TiO2 nanoparticle.

**Materials and Methods:** The testing was performed by nanoindentation with UMIS-2000 nanoindentation system (ASI, Canberra, Australia), with a Berkovich indenter.

**Results:** Four different types of bulk-fill composite resins were used in the study: two packable (Tetric Evo Ceram Bulk Fill and Filtek Bulk Fill) and two flowable (SureFill SDR and Tetric Evo Flow Bulk Fill). Eight cylindrical samples were prepared from each material (10 mm in diameter and 1 mm height), four without and four with addition of 2% wt TiO2 nanoparticles. The samples were prepared using a silicone mold, and both sides were covered with glass slides in order to achieve a smoother surface.

**Conclusion:** The flowable composites demonstrated higher values (more than double) for the modulus of elasticity and nanohardness compared to the packable ones, from which Surefill SDR flow has showed the most significant improvements. In the packable composites there were no improvements in the mechanical properties.

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**PP12**  
**EVALUATION OF PERIODONTAL PARAMETERS AND SALIVA SECRETORY IMMUNOGLOBIN A (SIGA) LEVELS IN PATIENTS WITH DIABETES MELLITUS**

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**ABSTRACT**

**Background and Aim:** Diabetes is a metabolic disorder characterized by chronic hyperglycaemia. A double-sided interaction between diabetes mellitus and periodontitis is reported in the literature. Secretary immunoglobulin A (sIgA) levels in saliva samples of patients with periodontitis are higher than controls. However, lack of knowledge about saliva sIgA level in diabetic patients is found. Thus, the aim of this study is to compare clinical parameters and saliva sIgA levels of diabetic patients and controls.

**Materials and Methods:** Clinical parameters (plaque index, gingival index, pocket depth, probing on bleeding, and clinical attachment loss) of included subjects were noted. Saliva samples were collected without stimulation and saliva sIgA levels were evaluated by ELISA. Blood lipid profiles (HDL, LDL, total cholesterol, triglyceride) and HgA1c levels were recorded.

**Results:** 14 diabetic patients (9 female, 5 male) and 16 healthy individuals (12 female, 4 male) were included in the present study. The mean age of the patients with diabetes and healthy subjects were 60.64 ± 7.55 and 47.75 ± 10.49, respectively. The total number of present teeth was significantly lower in diabetic patients (p = 0.006) and the mean value of clinical attachment loss was significantly higher in diabetic group. Although triglyceride level in patients with diabetes was higher (p = 0.000), HDL level was significantly higher in healthy subjects (p = 0.035). No significant relationship was found between HgA1c and blood lipid levels and clinical parameters. In addition, level of saliva sIgA in diabetic group was significantly lower than controls (p = 0.001).

**Conclusion:** Blood lipid profiles of diabetic patients showed worse values than controls. HgA1c and blood lipid profiles have no effect on clinical parameters. Periodontal and mucosal deformities, which were observed with diabetes, may be caused by decreased level of sIgA in addition to abnormal neutrophil functions.
**PP13**

**RADIOGRAPHIC EVALUATION OF THE TECHNICAL QUALITY OF ROOT CANAL TREATMENT IN AN UNDERGRADUATE DENTAL CLINIC: A RETROSPECTIVE STUDY**

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**ABSTRACT**

**Background and Aim:** To evaluate the technical quality of root canal treatments in the undergraduate dental clinics of Hacettepe University in order to increase the quality of clinical endodontic education according to the obtained data.

**Materials and Methods:** In the present study, digital radiographs of the patients referred to Hacettepe University Endodontics Clinic between January and June 2018 were evaluated. All cases were prepared using step-back technique with conventional stainless steel hand instruments and root canal fillings were completed by lateral condensation technique. Cases with the following features were considered as acceptable; root filling preserving canal curvature, tapered root canal form, root canal fillings terminating at 0-2 mm coronal to the root apex and homogenous radioopaque condensation. Overfilling, underfilling and non-homogeneous condensation were evaluated as mishaps related to root canal filling procedure. Inadequate taper form, ledge formation, transportation of the canal, perforations and broken hand instruments in the root canal were considered as mishaps related to root canal preparation procedure. The difference between the variables was evaluated by Chi-Square test.

**Results:** The incidence of all mishaps were as follows: non-homogenous condensation (35%), overfilling (32%), underfilling (13%), ledge formation (8.3%), inadequate taper form (2.7%) 2.1), broken instrument (1.7%) and perforation (1.7%). Ledge formation had highest incidence among preparation mishaps (50%). While Non-homogenous condensation (44.15%) had the highest incidence among all root canal filling mishaps.

Chi-Square test was applied and there was no statistically significant difference between the groups (p>0.05). The incidence of mishaps in maxillary molar teeth (68%) was higher than mandibular molar teeth (59.4%) (p=0.08).

**Conclusion:** According to the results of the study, ledge formation and non-homogenous condensation are the most common mishaps in the root canal treatments completed in the undergraduate clinic. Clinical endodontic education should focus on condensation and preparation techniques more effectively in order to prevent these mishaps and increase the success rate.

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**PP14**

**MINIMAL INVASIVE TREATMENT OF MOLAR INCISOR HYPOMINERALIZATION: A CASE REPORT**

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**ABSTRACT**

**Background and Aim:** Molar incisor hypomineralization (MIH) is a dental defect associated with increased enamel porosity that leads to rapid caries development and esthetic problems. Resin infiltration technique is a new treatment approach of non-cavitated lesions of deciduous and permanent teeth. The aim of this report is to present minimal invasive treatment of maxillary incisors that were diagnosed as molar incisor hypomineralization.

**Case Report:** A 9-year-old girl was referred to Hacettepe University Department of Pediatric Dentistry with a chief complaint of hypersensitivity and non-esthetic appearance of maxillary incisors due to molar incisor hypomineralization.

Intraoral examination reveals yellow-brown qualitative enamel defects on teeth number 12, 22, 16, 26, 36, 46 and white-yellow opaque defects on teeth number 11, 21, 32, 41 and 42. Following rubber-dam isolation, 15% hydrochloric acid was applied on maxillary incisors for 2 min and repeated 3 times until the visibility of lesions diminished. The color change was confirmed with ethanol application and low-viscosity resin was placed on the teeth surfaces followed by polymerization for 40 seconds.

**Results and Conclusion:** The clinical photographs, which were taken with cross-polarized filter, demonstrated that white opaque discoloration disappeared completely, while dark yellow-brownish defects reduced in diameter but still distinguishable from sound enamel. However, this method is proved mechanical stability, conservation of sound tissue and enamel hardness at one session with stable clinical appearance.
CLINICAL DENTISTRY AND RESEARCH

PP15
PROSTHETIC REHABILITATION OF A CHILD WITH Oligodontia IN MIXED DENTITION

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ABSTRACT

Background and Aim: Oligodontia (severe hypodontia) is a rare congenital or developmental condition that manifests with absence of six or more teeth and seen at 0.14-0.3% of the overall population. Non-syndromic hypodontia (isolated hypodontia) is the most encountered form of missing teeth and can affect variable numbers of teeth. This condition may cause negative functional, esthetic and psychological effects for a child or adolescent as the definitive prosthetic treatment can be considered after the completion of growth. This case report presents the conservative and prosthetic management of a child with oligodontia.

Case Report: A 10-year old healthy girl without any diagnosed syndrome presented to Hacettepe University Pediatric Dentistry Clinic for the treatment of small size teeth. The intraoral and radiographic examination revealed the absence of several permanent teeth, except maxillary and mandibular central incisors and mandibular first and second molars. Furthermore, the patient had severe attrition of over-retained primary teeth. Following diagnostic impressions and obtaining the record bases with wax rims, the master casts were mounted on an articulator. All of the over-retained primary teeth were preserved to support the alveolar bone for future implant treatment and also as abutment teeth for overdentures. The removable partial overdentures was fabricated which provided significant esthetic and increase in vertical dimension.

Results and Conclusion: For children with oligodontia in mixed dentition stage, overdentures are an efficient treatment alternative, which provide a better outcome in terms of esthetic and function.

PP16
THE EFFECT OF SURFACE SEALANTS ON SURFACE ROUGHNESS AND COLOR STABILITY OF COMPOSITE RESIN

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ABSTRACT

Background and Aim: The aim of this study was to evaluate the effect of 2 different surface coatings on the surface roughness and coloration of a nano-hybrid composite resin.

Materials and Methods: A total of 45 samples with a diameter of 10 mm and 2 mm thickness were prepared with nano hybrid composite resin (Ice, SDI). Samples were divided into 3 groups (n: 15) according to surface treatment: group 1 control group, group 2 surface sealant (BisCover L V, BISCO); Group 3 surface sealant (Fortify plus, BISCO). Prepared samples were sanded with 800 grid of silicon carbide for 15 seconds and then polished with polishing system (HILuster plus, KERR). While no additional procedure was applied to the control group, groups 2 and 3 were treated with surface sealants according to the manufacturer’s recommendations. Samples were kept in distilled water (37.5 °C) for 1 week. Then surface roughness (Ra) was measured. Surface morphologies of the samples that had randomized selected from each group were analyzed by scanning electron microscopy (SEM). After the remaining samples’ (n: 42) color were measured (ΔE*), each group was divided into 2 subgroups (n: 7); distilled water (37.5 °C) and daily coffee solution (37.5 °C). Color measurements were made at the end of 1 week. ΔE* values calculated.

Results: The data were statistically evaluated by Mann Whitney U and Kruskal Wallis test. There was a statistically significant difference between the groups in terms of roughness values (p <0.05), the roughness of the control group was significantly lower than the Fortify Plus group. No significant difference was found between the other groups. SEM findings were also supportive of this result. For the control, Biscover and Fortify Plus, the color change of the coffee group was significantly higher than the distilled group (p <0.05), but there was no statistically significant difference between the groups for distilled and coffee color changes (p > 0.05).

Conclusion: While the surface sealant Fortify Plus increased the surface roughness of the composite resin, it was determined that the surface sealants had no effect on the color stability of the composite resin.
PP17
CLEIDOCRANIAL DYSOSTOSIS SYNDROME: CASE REPORT

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ABSTRACT

Background and Aim: Cleidocranial disostosis (CCD) is a hereditary syndrome frequently presenting with narrow shoulders due to unilateral or bilateral aplasia or hypoplasia of the clavicle, ossification delay of the anterior skull, short body height, brachiocephalic facial type and delay of tooth eruption.

Case Report: In this presentation, the aim is to give information about the clinical, radiological and model examination results of a 13-year-old female patient with CCD. She had applied to dental faculty for her retained primary teeth and non-aesthetic appearance. The patient has bilateral aplasia of clavicle, brachycephalic facial type and short stature. Although the patient was found to be at the end of her growth spurt, most of her permanent teeth have not erupted.

Results and Conclusion: This patient with a CCD has a skeletal Class 1 malocclusion and horizontal growth pattern. The treatment plan included the extraction of primary teeth above the permanent teeth having eruption potential and follow their eruption, in case of teeth not having eruption potential, orthodontic eruption of permanent teeth is planned after surgical access and using erupted teeth for anchorage.

PP18
CENTRAL GIANT CELL GRANULOMA: CASE REPORT

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ABSTRACT

Background and Aim: Central giant cell granuloma (CGCG) is a rare pathology and represent about less than 7% of all bening lesions of the jaws. CGCG is seen more frequently in mandible than maxilla and in females than males. Patients are generally younger than 30 years. The clinical behavior of the lesion varies from an asymptomatic osteolytic lesion that grows slowly, to an aggressive, painful process accompanied by teeth resorption, cortical bone destruction. Aetiology of CGCG is still unclear, although haemorrhage, inflammation, genetic and local trauma have been considered.

Case Report: In this case report, a 41-year-old female patient with a history of SDHG causing destruction of the buccal cortical bone in the left mandibular canine-premolar region is presented.

Results and Conclusion: It was treated successfully by enucleation. Various diagnostic tools such as intra- and extraoral radiographs, cone beam computed tomography scans with accurate interpretation is vital to establish the accurate diagnosis and treatment of giant cell granulomas.
PP19
BLEACHING TREATMENT: A CASE REPORT
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ABSTRACT
Background and Aim: Bleaching procedures have become one of the most favorite aesthetic dental treatments with the increasing importance given to aesthetics. The purpose of this case report is to provide dental aesthetics by applying bleaching treatment to a patient who has discoloration in their teeth after orthodontic treatment.

Case Report: A 22-year-old male patient applied to our clinic with aesthetic problems. After clinical and radiographic examination, external discoloration and cervical carieses in teeth 42, 43 and 44 were found. The patient was informed about treatment and an informed consent was obtained. The tooth color was determined with the VIT A scale (VIT A Classical, Germany). Before the bleaching treatment, the caries lesions were restorated with glass ionomer cement. An office bleaching agent (Opalescence® Boost PF, Ultradent, USA) was applied to the patient. Prior to each session, the gingival barrier was applied first and the bleaching agent (Opalescence® Boost PF, Ultradent, USA) was applied to the teeth for twenty minutes of two times. The second application of the bleaching agent was done applied after a week. Temporary glass ionomer restorations of teeth 42,43 and 44 were replaced with composite resin restorations after two weeks following bleaching treatment. The restorations were completed with selective etch mode of a universal adhesive system (prime & bond one select, Dentsply Sirona, Germany) and a nano-ceramic resin composite (Ceram.X, SphereTEC ™ one, Dentsply Sirona, Germany). Then finishing and polishing procedures were done. At the end of the treatment, final color was remeasured and obtained and intraoral photographs were taken.

Results and Conclusion: In this case, an aesthetic satisfactory result was obtained with office bleaching treatment. Because of being more conservative and having effective results in a short time, tooth bleaching was seemed one of the successful treatment options in management of tooth discoloration.

PP20
THE EFFECT OF DETOX DRINKS ON THE COLOR STABILITY OF DIFFERENT RESIN COMPOSITES
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ABSTRACT
Background and Aim: The aim of this study was to evaluate the effect of various detox drinks on the color stability of micro hybrid and nanohybrid resin composites.

Materials and Methods: A total of 60 disc-shaped specimens (8mm in diameter, 2mm in thickness) were fabricated from two different resin composites; a micro hybrid resin composite – Charisma, Heraeus Kulzer GmbH (n=32), a nanohybrid resin composite – (Kerr, Herculite XRV Ultra 3) (n=32). The samples were polished using aluminium oxide discs (Sof-lex; 3M ESPE). After being immersed and stored for 24 hours in 37°C distilled water, the baseline color values were measured with a spectrophotometer (VITA EasyShade) according to the Commission Internationale d’Eclairage (CIE) L*a*b*. The samples were then divided into 4 subgroups for each resin composite group. (n=8).

The groups were stored in the following liquids, as instructed by the producing company of the respective drinks;
- Group 1: Distilled water (Control group)
- Group 2: Green Drink (Ph: 3.688)
- Group 3: Orange Drink (Ph: 4.749)
- Group 4: Red Drink (Ph: 3.563)

Considering a normal person consumes a detox drink in 20 minutes and drinks 6 of them per day, the exposure time periods are as follows;
- 1 day 2 hours
- 1 month (3 day) 6 hours
- 3 months (9 day) 18 hours
- 6 months (18 day) 36 hours

After being exposed to the detox drink for the time periods mentioned above, color values were remeasured and color change (ΔE) was calculated. The obtained values were analysed using Kruskal-Wallis and Shapiro-Wilk Test.

Results: The lowest ΔE values between the two resin composites were observed in the control group (p>0.05). After a 6-month-period exposure, the ΔE values of all the subgroups of the Charisma resin composite group showed significant change (p<0.05). Regarding the Kerr resin composite group, while there was a significant change in color in the green drink subgroup, the orange and red subgroups showed no significant change (p>0.05).

Conclusion: Taking in consideration the limitations of this study, detox drinks caused a color change in both materials over a certain period of time. While the nanohybrid resin composite groups showed a better color stability than the micro hybrid resin composite group, the most notable color change was observed in the green drink subgroups.
PP21
EFFECTS OF FAMILY-RELATED FACTORS ON DENTAL EXAMINATIONS OF CHILDREN: A PILOT STUDY

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ABSTRACT

Background and Aim: There have been many factors influencing children’s behavior in the dental setting. The purpose of this study was to investigate the factors related to parents in the dental visit of the children.

Materials and Methods: This cross-sectional study was conducted in Hacettepe University, Faculty of Dentistry, Department of Pediatric Dentistry. Twenty-one children aged 3-6 years who applied for various dental problems were involved. Parenting style was determined by the Parenting Style Dimension Questionnaire (PSDQ) and parental dental anxiety was rated with the Modified Dental Anxiety Scale (MDAS). Pre-visit preparation of the children by the parents was evaluated with a structured questionnaire. Pre-visit preparation was categorized as: no information, verbal informing, informing through a material, informing by counseling for a specialist. Children’s behaviors during the initial dental visit were assessed using the Modified Frankl’s Behavior Rating Scale (MFBS). Mean, min., max. and standard deviation was used for descriptive statistics. Chi square exact test was used for the categorized variables. P value was used as 0.05 for significance.

Results: The mean age of the children was 4.38±0.92 years. All of the parents had authoritative parenting style. The mean age of the mothers and fathers were 34.4±4.66 and 38±4.35, respectively. According to the MDAS, 57.1% of the parents showed mild anxiety. By MFBS, only one child behaved definitely negative (score 1). Among the parents, 90.5% of them informed their children verbally before the dental visit.

Conclusion: Children’s first dental visit is important as it may influence further behavior of them in the dental settings. Parents should be aware of their influence on the children within this respect.

PP22
CORRECTION OF ANTERIOR FRAGRENCE WITH AIR-ROTOR STRIPPING

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ABSTRACT

Background and Aim: The aim of this case report is to demonstrate the correctness of the mid-level wedge due to anterior stenosis with Air-rotor stripping. Interproximal enamel etching is a process of stripping, interproximal region of the permanent teeth, reducing the enamel tissue without damaging the teeth and reshaping them anatomically. It’s used for organizing the teeth better and preserving it for longer. It’s an alternative treatment method for the cases with mid-level wedge due to anterior stenosis, but because it causes an irreversible tissue loss, a careful evaluation is necessary. Uni or bi sided stainless steel emery motorised abrasive emery, aerotor-micromotor, or abrasive discs and drills used with dental handpieces are used for interproximal enamel etching. By using this method, 4.5 mm gap can be obtained in the total arc.

Case Report: A 22-year-old patient with skeletal and dental class 1 applied to our clinic for complaining about the stenosis in the anterior region. The amount of stenosis was determined as 6 mm maxilla and 4 mm mandible. The treatment blasted 10 months.

Results and Conclusion: Anterior inclination of the patient corrected as a result of treatment. Ideal overjet and overbite were provided. In this case report, it was shown that mild to moderate intercourse could be successfully treated with Air-rotor stripping.
ABSTRACT

Background and Aim: Generally, bisphosphonates are used for treatment of osteoporosis, Paget disease, malignancies, hypercalcemia related with osteolysis and metastatic bone diseases. Bisphosphonate related osteonecrosis of jaws (BRONJ), osteomyelitis, exposition of necrotic bone are complications of bisphosphonate usage. There are inhibition effects on osteoclasts, antiangiogenic and antitumoroidal influence of bisphosphonates. So continuity of mucosa can be destroyed after the extraction of teeth, prosthesis injurement, trauma or infection. Healing cannot be seen in these regions. More radiopaque view can be observed at maxilla and mandible, which is dealing with more distinct lamina dura, calcification at cortical regions, and the inhibition of osteoclastic activity because of bisphosphonate usage.

Case Report: In this case report, it is presented a 48 year-old female patient's 3 year follow-up who have non-casual jaw bone osteonecrosis from left molar region to 5 mm inferior of left coronoid process. The patient had got bisphosphonate (zolendronic acid) per 3 months for 15 months long. A bone biopsy was performed from the necrotic bone when the patient appealed to our clinic. At 3 year follow up antibiotic treatment was applied intermittently according to symptoms. The borders of litic lesion were anticipated to be clarified and the systemic diseases became stable. The sequesterum development was observed radiologically and surgical sequestrectomy was performed.

Results and Conclusion: Type, dosage, usage, utilization time and indication of bisphosphonates are important for treatment of these patients. Dosage and usage of drug can increase the risk of BRONJ. And also, chemotherapy used with bisphosphonates can be a predisposing factor for seconder infections. So, each patient should be evaluated intrarially, radiologically and also systemic disease of the patients should be considered before the decision of the treatment planning for better clinical results.
PP25

EFFECT OF DIFFERENT IRRIGATION SOLUTIONS ON THE COLOR STABILITY OF A CALCIUM SILICATE-BASED MATERIAL

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ABSTRACT

Background and Aim: This study aimed to evaluate color changes of a calcium silicate-based material in contact with different irrigation solutions.

Materials and Methods: BIOfactor MTA (Imicryl Dental, Konya, Turkey) was assessed in the following conditions with respect to the mixing solutions (n=8). (1) control (original solution), (2) 1% phytic acid and (3) 5% sodium hypochlorite. Color changes were measured by digital image analysis techniques with a cross-polarizing filter. Data were analyzed by using one-way analysis of variance and post hoc Bonferroni test (p<0.05)

Results: Statistical analysis revealed that there is no statistically significant difference between groups. MTA did not show discoloration when mixed with sodium hypochlorite and phytic acid.

Conclusions: Both sodium hypochlorite and phytic acid can be considered as alternative mixing solutions.

PP26

ENDOCROWN RESTORATIONS IN POSTERIOR TEETH WITH SEVERELY DAMAGED: CLINICAL EVALUATION OF THREE CASES

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ABSTRACT

Background and Aim: Restoration of endodontically treated teeth with multiple tubercule loss and thin coronal walls (<2 mm) is difficult for general practitioners. The indications and contraindications of full crown restorations on post-core applications have been well established and successfully applied for many years. However, in recent years, there are no definite principles for innovative minimally invasive applications of adhesive dentistry. Endocrowns are indirect monoblock restorations that incorporate the pulp chamber within the preparation limits for retention.

Materials and Methods: In this case series, endocrowns applied to posterior teeth produced from three different materials (feldspathic, glass and hybrid ceramics) by CAD / CAM were evaluated according to MUSPHS criteria.

Results: Four factors are prominent in the long-term success of endocrowns; tooth preparation, restoration harmony, adhesive application and remaining tooth tissue.

Conclusion: For long-term success of endocrown restorations, specific rules with minimal changes should be followed. Due to the limited evidence of long-term evaluation of this restorative technique, careful case selection should be applied.
PP27
MICROLEAKAGE OF FLUORIDE RELEASING RESTORATIVE MATERIALS

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ABSTRACT

Background and Aim: The aim of this in vitro study was to investigate the microleakage of fluoride releasing restorative materials.

Materials and Methods: A total of 48 upper human premolar teeth was used in this study. Teeth were cleaned and polished with brush, rubber cup and nonfluoride pumice. They were stored in distilled water containing 0.1% thymol for disinfecting for 24 hours. Box-shaped Class-V cavities (4x2x2mm) were prepared on the buccal surfaces of the teeth and divided into 4 groups (n=12 each). The cavities were restored using composite resin (Beautifil II) or restorative glass ionomers (Fuji Bulk, Equia Forte Fil and Riva self cure HV) according to manufacturers’ instructions. After finishing-polishing procedures, teeth were stored in distilled water at 37°C for 24 h and subjected to thermocycling (+5/+55°C/x500). They were then immersed in silver nitrate solution at 37°C for 24 h. Teeth were separated buccolingually and evaluated for dye-penetration using a stereomicroscope (X25 magnification). Data were analysed with Kruskal-Wallis and Mann Whitney-U Tests. P value was set at 0.05.

Results: Significant differences were found among groups (p<0.05). Riva self cure HT and Fuji Bulk showed the highest microleakage whereas Equia Forte Fil and Beautiful showed the least microleakage. No significant differences were found in the microleakage between gingival and occlusal walls of the restorations (p>0.05).

Conclusion: Tested fluoride releasing restorative materials showed different microleakage scores.

PP28
EFFECT OF DIFFERENT TEA SOLUTIONS ON COLOR STABILITY AND SURFACE ROUGHNESS OF FLUORIDE RELEASING RESTORATIVE MATERIALS

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ABSTRACT

Background and Aim: The aim of this study was to examine the effect of different tea solutions on color change and surface roughness of fluoride releasing restorative materials.

Materials and Methods: A hundred and ninety-two samples were prepared (48 specimens for each material group), from fluoride releasing glass ionomers (Equia forte-fil, Fuji Bulk, Riva self cure HT) and a fluoride releasing resin composite (Beautifil-II) and stored in distilled water at 37°C for 24 h. Each group was further randomly divided into four subgroups (n=12) and then immersed in different tea solutions (Black, green, white, and mixed fruit tea) for 7 days. The CIE L*a*b* values of each sample were measured using a spectrophotometer. The surface roughness (Ra value) was measured before and after immersion in tea solutions using a profilometer. Data were analyzed by two-way analysis of variance and Tukey’s post-hoc test (p<0.05). P<0.05 was considered as statistically significant.

Results: The lowest color change was seen in Beautifil II group (p<0.001). The highest color change was seen in mixed fruit tea group, while the lowest value was seen in white tea group (p<0.001). Immersing in tea solutions affected the surface roughness of the four restorative materials. The lowest surface roughness change was seen in Beatifil II and Equia Forte Fil group.

Conclusion: The type of the tea solution and restorative material could affect the color stability of the restorative materials. Surface roughness of the restoratives could be increased when immersed in different tea solutions.
PP29
CYCLIC FATIGUE RESISTANCE OF CONVENTIONAL AND CURRENT ENGINE DRIVEN ROOT CANAL SHAPING SYSTEMS: A META ANALYSIS

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ABSTRACT

Background and Aim: This study aimed to make interference about the cyclic fatigue resistance (CFR) of Protaper Universal (PTU) to Protaper Gold (PTG) and Waveone (WO) to WaveOne Gold (WOG).

Materials and Methods: Two researchers searched PubMed/Medline electronic database with no time limitations. Key words including cyclic fatigue or failure, flexural fatigue or failure, PTU, PTG, WO, WOG were used and a total of 75 articles in English were found. 5 articles comparing WO and WOG and 6 articles comparing PTU and PTG at the same time were selected for the analysis. Time to failure (ttf) and number of cycle (nc) were considered for the comparisons of WO-WG and PTU-PTG, respectively. Data were analyzed through meta-analysis for standardized mean difference (SMD).

Results: All of the articles comparing CFR of shaping systems showed that WOG has a higher CFR than WO; and PTG has a higher CFR than PTU. Meta analysis showed that WOG was significantly more resistant to failure than WO: SMD= 4.022 (P<0.001) and PTG than PTU SMD: 0.856 (P<0.001). Results were significantly heterogeneous among the included studies for WO-WG (I²=93.54%) while homogenous for PTU-PTG (I²=0.00%).

Conclusion: Heat-treated root canal shaping systems were significantly more resistant to cyclic failure than the conventional counterparts for both rotary and reciprocating systems.

PP30
THE AWARENESS OF THE RELATIONSHIP BETWEEN PERIODONTAL AND GENERAL HEALTH IN PATIENTS ADMITTED TO HACETTEPE UNIVERSITY FACULTY OF DENTISTRY PERIODONTOLOGY DEPARTMENT

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ABSTRACT

Background and Aim: Periodontal disease, which is a destructive disease affecting the supportive tissues of the tooth, is the 11th most prevalent disease according to the World Health Organization. The relationship between periodontal disease and systemic health has been proven in several studies. A study to evaluate the public’s awareness of the relationship between periodontal health and general health was considered important for the development of preventive oral health services, and a research was conducted on this subject.

Materials and Methods: The universe of this descriptive study was composed of literate patients who applied for the first time to Hacettepe University Faculty of Dentistry Periodontology Department. Data were collected via a self-administered questionnaire applied under observation. The questionnaire was developed by the researchers and consists of 42 questions. It was offered to 98 patients and total of 87 fully completed questionnaires were evaluated. Data were analyzed by using SPSS v25.0 program. Descriptive statistics are given by number and percent distributions.

Results: Thirty six of the participants were male (41%) and 51 were female (59%). The number of applicants with gum complaints was 33 (37%). However, 46 (52%) of the participants stated that they had gingival bleeding, 29 (33%) had hallowed, 21 (24%) had gingival redness, 20 (22%) had gingival hyperplasia, 14 (16%) had mobility. 25% (n=22) of the participants were previously diagnosed with gum disease by a dentist. 56 (64%) of the respondents are aware that bad breath is not only caused by the mouth. According to the self-report, 62 (71%) of the participants had not any systemic disease. The number of people who think that systemic diseases are associated with gum diseases is 48 (55%). While 25 (28%) patients have heard that diabetes is associated with gum disease, 8 (6%) have heard that embolism associated with gum diseases and 14 (15%) of the participants have heard that blood pressure medications may cause ginvial growth. 22% of the participants (n = 20) received these informations from the dentist, 21% (n = 19) from media, 16% (n = 14) from friends and 11% (n = 10) from the medical doctor.

Conclusion: In the light of the data gathered in this study, it was observed that the participants were not aware enough about the periodontal health and systemic health relationship. In addition, individuals were not aware of their periodontal diseases although they have some symptoms. This situation suggested should be carried out. To increase the oral health literacy of the public.
EVALUATION OF ORAL HYGIENE AWARENESS OF HACETTEPE UNIVERSITY FACULTY OF DENTISTRY STUDENTS: SURVEY STUDY

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ABSTRACT

Background and Aim: The aim of this survey study is to evaluate the oral hygiene awareness and habits of dental faculty students and to compare the awareness changes between education periods.

Materials and Methods: A total of 617 students, 405 female and 212 male, enrolled at Hacettepe University Faculty of Dentistry were included in this study. The students were asked to answer the questions in the questionnaire form containing oral hygiene habits. Collected data were coded and analyzed on computer.

Results: It was observed that the frequency of brushing increased as the education period progressed. The rate of tooth brushing once a day is 15% for term 1 students, but less than 1% for term 5 students. While circular brushing method was used mostly in term 1 and 2 students (58%), sweeping method was used more frequently (86%) in upper term students. The use of soft brush was higher in female students than male students. While 39% of term 1 students are aware of gum disease and 35% are aware of halitosis (halitosis), this awareness increases as the education period progresses and 100% of senior students have awareness of gum disease and halitosis. While 39% of term 1 students are aware of interface cleanliness, this ratio increases as they move to higher classes; 88% of the students in term 5. Interestingly, 99% of the 5 students who used to clean the interface regularly used dental floss; 12% of semester 1 students who use regular interface cleaning use an interface brush.

Conclusion: As a result of the findings, it was observed that as the education period increased, awareness of oral hygiene increased and hygiene habits were realized more frequently and with correct methods.

EVALUATION OF HISTOLOGICAL AND CLINICAL FINDINGS IN PULP DISEASES

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ABSTRACT

Background and Aim: When the caries bacteria produced caries in dentinal tissue, this caries can progress to the pulp tissue first causing a reversible inflammation and then and irreversible pulp inflammation and consequently cell death. In this study, we aimed to evaluate the clinical and histological findings in healthy and inflamed pulp obtained during tooth extraction or canal treatment.

Materials and Methods: In this study, 10 pulp samples obtained during the root canal treatment and 6 from extracted teeth were grouped according to their clinical diagnoses; 1) Healthy pulp (n = 4), 2) Reversible pulp inflammation (hyperemia) (n = 5), 3) Irreversible pulp inflammation (acute pulpitis) (n = 5), 4) Necrotic pulp tissue (n = 2). The pulp samples were embedded in agar following treatment with 4% Paraformaldehyde for 72 hours. It was then dehydrated and embedded in paraffin and light microscope evaluation was performed. The 5 µm sections, obtained from paraffin blocks, were stained with Hematoxylin-Eosin and histologically evaluated for inflammatory cells, collagen deposition, edema and congestion.

Results: Pulp tissue in loose connective tissue structure was normal morphology in the sections of healthy pulp. Vascular congestion, edema and polymorphonuclear cell infiltration were observed in reversible pulp inflammation. An increase in polymorphonuclear leukocytes and hemorrhage were detected in irreversible pulp inflammation samples. Moreover, collagen increases and collapse of the connective tissue were observed in the necrotized pulp from place to place.

Conclusion: The clinical findings observed in pulp diseases were consistent with the histological findings and supported each other.
**ABSTRACT**

Background and Aim: The purpose of these case presentations is; to evaluate the clinical performance of inlays / onlays restorations produced by Cercon Omnicam CAD / CAM system in the severely lost posterior teeth of two patients.

Case Reports: Case 1: A 23-year-old male patient presented to the Department of Restorative Dentistry with the complaint of excessive substance loss in tooth number 36. The tooth is devital. It has a wide and deep temporary restoration. Case 2: A 48-year-old female patient presented to the Department of Restorative Dentistry with the complaint of excessive substance loss in tooth 46. The tooth is vital; there is a large and deep amalgam restoration. Restorations were made by CAD / CAM system using hybrid ceramic blocks (Cerasmart HT A2, GC). After completion of the preparations, they were measured by CEREC Omnicam (Sirona Dental System) camera and were designed with CEREC SW 4.4. Restorations were produced using milling machine. The outer surface of the restorations was etched with 5% hydrofluoric acid. Monobond S was then applied to the surface with silane. Enamels of the teeth were etched with 37% phosphoric acid for 30 seconds (selective etch method). Single Bond Universal (3M ESPE) was applied and they were cemented using a self-adhering resin cement (Relyx-U200,3M ESPE). Subsequently, after removing the excess cement with fine diamond finishing bur and occlusal contacts were checked with an articulating paper. Then polishing with OptraFine (Ivoclar Vivadent) polishing was completed.

Results and Conclusion: Restorations, anatomic form, interdental contact and patient satisfaction were evaluated as very good after 1 week and 2 months. In this case report, indirect restorations produced by cerec omnicam system were evaluated. CAD / CAM systems form biocompatible, tooth-like aesthetic restorations in a single visit. Based on the available data, indirect restorations supported by adhesive resin cements provide a conservative treatment option that can be preferred for restoration of excessive loss of posterior teeth.
PP35
EFFECT OF SINTERING PROCESS ON HARDNESS OF MONOLITHIC ZIRCONIA

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ABSTRACT

Background and Aim: Monolithic zirconia was developed to overcome the limitations of conventional zirconia and veneering porcelain. However, limited data is available about the mechanical properties of this new material. The aim of this study was to evaluate the effect of sintering time on Vickers hardness of monolithic zirconia.

Materials and Methods: A total of 24 zirconia specimens (15x10x5.5) were prepared from presintered yttria-stabilized tetragonal zirconia polycrystalline (Y-TZP) ceramic blocks and divided into two groups to be sintered at different procedures (classic sintering; CS and speed sintering; SS). Vickers hardness of each specimen was measured at three different regions using a microhardness device with a 2kg load for 30 seconds. Data were analyzed by t-test (α=0.05).

Results: Means and standard deviations of Vickers hardness values were 1416±175 and 1222.47±75 for CS and SS, respectively. Statistically significant differences were found between CS and SS (p=0.003).

Conclusions: Increasing sintering holding time lead to enhancing the hardness of the monolithic zirconia.

PP 36
THE EFFECT OF STERILIZATION PROCESSES ON THE CYCLIC FATIGUE RESISTANCE OF NITI ROTARY FILES

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ABSTRACT

Background and Aim: The cyclic fatigue fracture of NiTi files results from repeated stress compression cycles accumulated in a curved canal at the maximum bending point and this could be affected from sterilization procedure. The study has been examined the effect of sterilization processes on the cyclic fatigue resistance of niti rotary files by comparing the articles found with respective keywords in PubMed.

Materials and Methods: In the study conducted on PubMed, five articles were selected that met the criteria. Three of 8 articles were excluded because they did not meet the criteria. These selected articles were evaluated according to the results of the cyclic fatigue resistance of nickel titanium files after sterilization processes.

Results: Repeated sterilization cycles did not affect cyclic fatigue of NiTi files except TFs; TFs showed a significant reduction in bending strength after 3 cycles. Repeated autoclave sterilization cycles do not appear to affect the mechanical properties of NiTi endodontic instruments, except for K3XF prototypes of rotary instruments, which show a significant increase in cyclic fatigue resistance. Autoclaving increased the cyclic fatigue resistance of PTN and PTG. Autoclaving prolongs the cyclic fatigue life of HyFlex CM and K3XF.

Conclusion: As a result of the studies, it was found that sterilization methods did not adversely affect cyclic resistance on NiTi files. Autoclaving prolonged the cyclic resistance of Hyflex CM, K3XF, PTN, PTG, while adversely affecting TF.