OP 01-01

Correlation Between Dental Caries Experience and Dietary Habits in Children

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Aim: Nutritional status is considered to be associated with the dental caries. However, the lack of knowledge about the dietary habits-caries relationship still needs addressing. The purpose of this study was to compare the dietary patterns and oral hygiene habits with dental caries in healthy children.
Material and Methods: This study included 134 children (66 girls and 68 boys), aged 6-10 years (mean age, 8±1.3 years) who were treated at Inonu University, Pediatric Dentistry Department. Their parents were asked to complete a questionnaire concerning their children's dietary habits, oral hygiene behaviors, and also food diaries for a week were collected from all the participants. Daily sugar intake was recorded using the food diaries and the subjects were grouped into excellent, good and watch out zone based upon the sugar sweet score. Additionally, clinical oral examinations of all the subjects were performed and dft/DMFT scores were calculated. The data obtained was analyzed using the chi-square test.
Results: According to the results of this study, boys had a significantly lower dft/DMFT index than girls ($p<0.05$). The dft/DMFT index was not related to the frequency of tooth brushing and snack habits ($p>0.05$). There was a positive correlation between dft/DMFT and watch out zone scores ($r =0.188$, $p=0.030$).
Conclusion: Since the prevalence of dental caries in children brushing their teeth regularly did not show a decrease, we can conclude that children cannot brush their teeth effectively by themselves. Dietary habits observed were associated with dft/DMFT index, highlighting a need for timely, multilevel intervention.
Keywords: Caries risk, dental caries, dietary habits, snack habits

OP 01-02

Parents' Level of Knowledge and Awareness on the Importance of Primary Teeth in Erzurum, Turkey

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Aim: The aim of this study is to determine the knowledge and awareness levels of the parents from different socioeconomic classes, about the necessity of the treatments which will be applied to children's primary teeth.
Material and Methods: The study was carried out in Atatürk University Department of Pediatric Dentistry. The sample framework of this study includes the parents of children between the ages of 1 and 12. We conducted a face-to-face survey with 228 parents (127 female, 101 male). In the questionnaire, the parents were asked some questions about the treatments of the primary teeth. SPSS 20.0 software was used for data analysis.
Results: The question of "Do the primary teeth need filling?" was answered by the participants as; "Yes" 66.2%, "No" 15.4%, and " I don't know" 18.4%. The Parents answered the question of "Is it possible to apply fissure sealants in primary teeth?" with; "Yes" as 35.1%, "No" as %12.7, and "I don't know" as %52.2. And they answered; 52.2% "Yes", 17.1% "No", and 30.7%, "I don't know" to "Is the premature extraction of primary teeth harmful" question. Generally, parents' correct answers to all questions varied as 44.8 ± 15.2%. No significant difference has been found between the socioeconomic status, age, and gender with correct answers.
Conclusions: We found that parents with different socio-economic status had moderate knowledge and awareness about the necessity of the treatment of primary teeth.
Keywords: Knowledge, awareness, primary teeth, survey study

OP 01-03

Assessment of Parents' Knowledge and Attitudes About Artificial Additives in Toothpaste and Brushing / Survey Study

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Aim: Parents knowledge is an important factor in giving children the information and encouragement needed for oral health. Perception of parents about their children's dental -care leading oral health-related behavior of the children. The aim of this study is to determine whether there are relationships between oral health-related knowledge, attitude and behavior of children and their parents. An additional aim is to evaluate the knowledge of parents about artificial additives in toothpaste and their effects.
Material and Methods: The study protocol was approved by the Ethics Committee of Clinical Investigations of the Istanbul University Dentistry Faculty. The participants were the parents of 137 children aged between 2-14 years who were reported for dental treatment in the Department of Pedodontics Dentistry, İstanbul University Faculty of Dentistry. The questionnaire was designed to evaluate the parents' level of knowledge about toothpaste content, knowledge and attitudes about brushing, socio-demographic characteristics of the family, and the survey was conducted face-to-face. Statistical evaluation was performed by means of IBM SPSS Statistics 22 (IBM SPSS, Turkey) program for comparison of the findings. The evaluation of the collected data from the studies was performed with descriptive statistical methods (frequence), as chi-square method was used for the comparison at $p<0.05$ significance level.
Results: As the level of education of the individual increases, the level of knowledge about toothpaste-contents and the fluoride have also been observed to increase ($p=0.001$; $p<0.05$).
Conclusion: Parents' knowledge, attitudes, and behaviors on oral and dental health are very important to get the habit and orient children in early childhood.
Keywords: Parents knowledge, toothpaste, artificial additives

OP 01-04

Investigation the Level of Knowledge of The Community About Oral and Dental Health

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Aim: The aim of this study is to determine the knowledges and approaches of the participants about oral and dental health.
Material and Methods: The study was a quastionnaire based cross-sectional survey. Participants were randomly selected among the individuals who volunteered to participate in the study. Participants were asked to answer a total of 22 questions, including sub-groups. Participants' demographic characteristics, toothbrushing habits, toothpaste selection and reasons for visiting the dentist were examined in this study. Participants' knowledge levels of fluoride and their attitudes towards the most common fluoride applications among preventive treatments were also evaluated. Data entry and analyses were performed using SPSS statistical software. Descriptive and inferential statiscs and Chi-square test were used for analyzes.

Results: A total of 2744 voluntary participants including 1938 (70.6%) female and 806 (29.4%) male responded. 1391 (50.7 %) participants know the contents of their toothpaste. 1680 (61.2%) participants point out that fluoride is effective in preventing caries. Female participants reported a statistically significant difference in their knowledge of what is fluoride when compared to male participants ($p= 0.0001$). The knowledge level of participants who had higher levels of education were statistically significantly different when compared with the participants who had lower education levels about fluoride and fluoride applications ($p=0.0001$).
Conclusions: The results of this study indicate that participants' attitudes toward oral health and dental care need to be improved. Comprehensive oral health educational programs for both children and their parents are required to achieve this goal.
Keywords: Oral health, fluoride applications, prevention, survey, parents' attitudes and knowledge

OP 01-05

Association between Dental Caries and Oxidative Stress Parameters in Children

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Aim: The present study aimed to investigate the association between dental caries and oxidative stress parameters in children by measuring the levels of salivary pH, flow rate, total protein concentration, total antioxidant capacity (TAC) and total oxidant capacity (TOC) in serum and saliva samples, before and after the performance of dental treatment.
Material and Methods: Thirty-eight healthy children (3-6 years) who were treated under general anesthesia were participated in this study. The blood samples and unstimulated whole saliva were collected, one week before and after the dental treatments were performed. Salivary pH and flow rate, the total protein concentrations were determined in saliva samples. Then TAC and TOC levels were measured in saliva and serum samples. Statistical analysis was performed using a software program IBM SPSS Statistics 22 ($p<0.05$).
Results: The difference between pre-treatment and post-treatment salivary pH levels was not significant. But the total protein concentrations and TOC levels showed a significant decrease in the post-treatment samples, meanwhile salivary flow rate and TAC levels had an increase in the post-treatment samples. A positive correlation was also found between the pre-treatment and post-treatment TAC and TOC levels obtained from serum and saliva samples.
Conclusion: The levels of oxidative stress parameters in saliva can be suggested as a tool for screening and monitoring dental caries. But further investigations conducted with a larger number of subjects should be performed to validate the role of oxidative stress in caries activity and to develop novel therapies for prevention and/or treatment modalities of dental caries.
Keywords: Children, dental caries, oxidative stress parameters, saliva, serum

OP 01-06

In Vitro Evaluation of Different Caries Detection Methods for Detection of Occlusal Caries Lesions in Primary and Permanent Teeth

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Aim: The aim of this in vitro study was to evaluate the performance of the ICDAS-II, radiographic examination, CarieScan PRO, DIAGNOdent Pen and DIAGNOcam methods in detecting occlusal caries lesions.
Material and Methods: 120 extracted primary and 120 extracted permanent teeth were used. Teeth were evaluated by two different examiners using caries diagnosis methods. Each tooth was sectioned and the size of the caries was assessed by a stereomicroscope. The diagnostic methods were evaluated using ROC analysis method for D1, D2 and D3 thresholds and Kappa analysis were used to assess interexaminer agreement.
Results: For the D1 threshold the area under the ROC curve (AUC) values were higher for DIAGNOcam method for both primary and permanent teeth (0.804 0.968, respectively). For both primary and permanent teeth, the highest AUC values for D2 threshold was found for ICDAS-II (0.774 and 0.731, respectively) and DIAGNOcam (0.775 and 0.731, respectively) methods and was statistically significantly different from the other methods ($p <0.05$). For the D3 threshold, the highest AUC values were obtained with the DIAGNOcam method for permanent teeth (0.708) and with DIAGNOdent Pen method for primary teeth (0.789). Between examiners, the very good agreement was found for the DIAGNOdent Pen method in the primary teeth ($\kappa=0.89$), and good agreement was found for the DIAGNOcam method in the permanent teeth ($\kappa=0.68$). The kappa values were moderate for all other methods (0.41-0.57).
Conclusion: As an aid to the visual examination, DIAGNOdent Pen and DIAGNOcam methods can be used instead of radiographic examination to limit X-ray exposure.
Keywords: Caries diagnosis methods, kappa analysis, occlusal caries, ROC analysis

OP 01-07

Caries Assessment Spectrum and Treatment (CAST) Index in a Group of MIH-Affected Turkish Children

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Aim: Molar-incisor hypomineralisation (MIH) is defined as a qualitative enamel defect that involves hypomineralisation of one to four first permanent molars and is frequently associated with similarly affected permanent incisors. The aim of this study was to evaluate the caries experience of a group of Turkish children with MIH using a new caries assessment system, the Caries Assessment Spectrum and Treatment (CAST) index.
Material and Methods: A cross-section study was designed in which 103 children aged between 6 and 12 years with MIH from Department of Paediatric Dentistry, Dental School, Marmara University. Dental caries were assessed using the CAST criteria in primary dentition, permanent dentition and MIH-affected dentition (1st permanent molars and incisors) seperately.
Results: This study involved 103 children. Considering primary dentition, teeth presented a prevalence of 51% for the healthy; 3.9% for the reversible premorbidity stage; 37.7% for the serious morbidity stage and 7.3% for the mortality. In permanent dentition; teeth presented a prevalence of 47% for the healthy; 31.8% for the reversible premorbidity stage; 20.4% for the serious morbidity stage and 0.8% for the mortality.
Conclusions: The Turkish children who had MIH showed that while healthy dentition and serious morbidity stage were more common in primary dentition; healthy dentition and reversible premorbidity stage were more common in permanent dentition. Also, The CAST index was a useful tool for the epidemiological studies of MIH-affected children.
Keywords: CAST, epidemiological, index, molar-incisor hypomineralization

OP 01-08

The Prevalence and Severity of Early Childhood Caries Among Children Living in The Northwestern Region of Turkey

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Aim: Early childhood caries (ECC) is a severe form of dental caries, which is described as the presence of one or more missing teeth (due to caries), and/or decayed (noncavitated or filled) tooth surfaces in any tooth under the age of six years old. The aim of this study was to investigate the prevalence and severity of ECC among 3-5-years old children living in the northwestern region of Turkey.
Materials and Methods: This study consisted of 474 children aged 3-5 years. The gender and age of the child, decayed, filled and missed teeth (dmft index) were recorded. The severity of ECC was determine. Data were statistically analyzed by using One Way ANOVA and Chi-Square Tests.
Results: Considering the oral health status of all children, 15.2% of children were caries-free, whereas 36.7% of them were ECC, and 48.1% of them were severe ECC (sECC) ($p<0.05$). In terms of age, mean dmft scores were 2.3±1.9, 4.7±2.3, and 5.7±2.03 for 3, 4 and 5 ages, respectively ($p=0.000$). Mean dmft scores were of sECC children was 6.53±1.3. In 4 and 5 age groups, children with sECC had the highest rate (53.6% and 58.1%, respectively), whereas it was the lowest rate (25%) in the age of 3 ($p=0.000$).
Conclusion: The present study demonstrates high caries prevalence in 3 to 5 year aged children in northwestern region of Turkey. Preventive programs should be developed and urgently implemented, in order to improve oral health, thus improving the quality of life of these populations.
Keywords: Child, early childhood caries, oral health, prevalence

OP 01-09

Assessment of Dental Prophylaxis Among The Routine Dental Treatments Carried Out in The Pediatric Dentistry Clinic

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Aim: The aim of this study is to determine the ratio of prophylactic applications to all dental treatments implemented for the 6-13 years-old children who presented with different complaints at the department of pediatric dentistry in Ataturk University, and to reveal the distribution of prophylactic procedures by years, and also to evaluate the effectiveness of a project conducted in 2012.
Material and Methods: This study includes two parts. In the first part, we compared the data obtained from the final report of the project "Dental prophylaxis clinic" to the post-2014 data taken from the dental practice software database, since we couldn't reach the 2011-13 period's data. In the second part, we evaluated the ratio of dental prophylactic applications for the 6-13 age group children to other treatments administered between 2014 and 2017. Obtained data were analyzed using SPSS 20.0.
Results: In the statistical analyses made in the first part, we found a statistically significant difference between the rates of prophylactic dental procedures implemented in pre and post- prophylaxis clinic periods. As for the second part, we determined that between 2014 and 2017 53.5%, 56%, 55.7% and %61.7 fissure sealants have been applied by the years and also 14.3%, 15.9%, 12.4%, 11.1% fluoride application have been made respectively. We observed no statistically significant difference in the percentage of the children with the local fluoride placements.
Conclusion: Separating the prophylaxis and treatment clinics through the adaptation of "Dental prophylaxis clinic project", contributed positively to the augmentation of the prophylactic procedures.
Keywords: Dental prophylaxis, preventive dentistry, fissure sealant, fluoride application

OP 01-10

Assessment of the 6-9 Years Old Children's Oral Hygiene Habits and Their Effects on DMFT of the First Permanent Molars

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Aim: The aim of this study is to determine the oral care habits of 6-9 years-old children, applied to the department of pediatric dentistry in 2017 and to investigate their effects on dental caries.
Material and Methods: In this study, in order to determine the oral care habits of 90 6-9 years-old children with all permanent first molar teeth erupted, who applied to our clinic, we examined their tooth brushing and flossing, frequencies, topical fluoride application status and sugar consumption frequencies. Permanent first molar teeth were assessed for caries using a Diagnodent® pen device. Obtained data were analyzed using SPSS 20.0.
Results: Of the 90 children included in the study, 12% had been brushing their teeth twice a day, 28% once a day, and 60% were not regularly brushing their teeth. None of the patients were using dental floss. And 37% of the children had topical fluoride application methods. Also; we found that 14% consumed almost no sugar, 21% consumed less than once a day, and 64% consumed at least once a day. No significant difference was found between the tooth brushing frequencies, fluoride applications, sugar consumption frequencies and the number of carious permanent first molar teeth. Permanent first molar teeth DMFT value was 2.03±1.48.
Conclusions: In this study, we determined that the majority of the participants didn't provide adequate oral care and they consumed considerable amount of sugary food. However, it has been found that the oral care habits alone were not a strong determinant of dental caries formation.
Keywords: Children, fluoride applications, permanent first molar teeth, tooth brushing frequency

OP 01-11

Efficacy of Mineral Containing Novel Gel for Remineralization in ECC: 4-week Clinical Pilot Study

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Aim: This study evaluated the clinical efficacy of R.O.C.S.® Medical Minerals gel on remineralization of White Spot Lesion (WSL) in the enamel of primary teeth in young children.
Material and Methods: This clinical trial included 4-5 years old children (4.25 ± 0.25) who had at least one WSL on anterior teeth of upper or lower jaws. The patient was instructed to use R.O.C.S.® for two times per day for one month in order to obtain enamel remineralization. The efficacy of remineralizing agent on the remineralization of primary teeth was evaluated by DIAGNOdent laser fluorescence (LF) pen after 1 month of their use. Diagnodent values were tabulated and subjected to statistical analysis. The data were analyzed by by using SPSS. Means and standard deviations for each group were used for descriptive statistics. Repeated Measures Analysis of Variance were used.
Results: Considering 36 lesions showed enamel alterations in all teeth. The mean of DIAGNOdent pen measurement at baseline was 14.98 ± 13.02 and 9.02 ± 8.11 after 1 months. R.O.C.S.® Medical Minerals gel for 1 months significantly decreased the severity of white or creamy opacities of lesions. (p=0.018). Twice daily use of R.O.C.S.® Medical Minerals gel had significant effect on remineralization of lower and upper primary teeth at 1 month of observation (P<0.05).
Conclusion: LF assessment suggested that mineral gel regimen could promote regression of WSL in primary teeth. The R.O.C.S.® Medical Minerals gel can be used for the remineralisation of non-cavitated white spot lesions for very young children.
Keywords: Remineralization, ECC, mineral gel

OP 01-12

Evaluation of the Effects of Different Remineralising Agents on Streptococcus Mutans Biofilm Adhesion

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Aim: The aim of the study was to compare the effects of different remineralization methods that are well established in clinical and daily use on S.mutans biofilm formation.
Material and Methods: In this study 72 human third molars were used. From each tooth two pieces of 4 mm x 7 mm enamel blocks were acquired. The samples were buried in acrylic resin, as enamel surfaces remaining on the top and sterilized by autoclaving for 15 min at 121°C and then divided into 6 groups in which include 10 samples per time period (24h and 48h) and for each remineralization method; Group 1: Control, Group 2: Flouride, Group 3: Ozone, Group 4: CPP-ACP, Group 5: Arginine, Group 6: Novamin. After remineralization procedures, enamel surfaces were covered with saliva and samples were incubated at 37°C for 60 min. 105 CFU/mL of the active S.mutans culture were inoculated onto the samples. S.mutans colonies were counted with Plate Count Agar (PCA) decimal dilution method. Micromorphologic effects of different remineralization methods on S. mutans biofilm were observed by Scanning Electron Microscopy (SEM).
Results: The most S.mutans biofilm formation for both time periods was observed in the control group whereas the least biofilm formation was found in the Arginine group. In the control group there was statistical difference between 24h and 48h (p<0.005) but in the other study groups there were no significant difference between the time periods (p>0.05).
Conclusion: Arginine containing remineralization agent was the most effective remineralization method on S.mutans biofilm formation.
Keywords: Biofilm, enamel, flouride, remineralising agents, S.mutans

OP 01-13

Intrapulpal Thermal Effects of Er, Cr:YSGG Laser Irradiation on Primary Teeth for Caries Prevention

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Aim: Er,Cr:YSGG (2.78 µm) laser irradiation on human teeth has been suggested for prevention of enamel demineralization. Intrapulpal temperature increase during the irradiation is controversial. The aim of this in vitro study was to evaluate the temperature variation in the pulp chamber during irradiation with Er,Cr:YSGG laser on human primary teeth enamel at different energy densities.
Material and Methods: Sixty primary central incisors were seperated from the roots and pulpal tissues were removed. Obtained crowns were randomly divided into 3 groups (n=20). Labial surfaces of the teeth in each group were irradiated with Er,Cr:YSGG laser as following; Group I: 0.25 W, 20 Hz, Group II: 0.50 W, 20 Hz, Group III: 0.75 W, 20 Hz. During the enamel irradiation, a thermocouple and thermal conducting paste were placed inside the pulp chamber of the teeth and the temperature increases were recorded. The data were analyzed statistically using one-way ANOVA.
Results: Mean temperature values increased with increasing laser output levels (Group I<Group II<Group III). There were statistically significant differences between groups ($p<0.05$) and the highest values in temperature were observed with Group III (0.75 W, 20 Hz).
Conclusions: In conclusion, the temperature rise during Er,Cr:YSGG laser irradiation for prevention of primary enamel demineralization had a positive correlation with the laser output power level. Considering the increase in temperature, high output power levels should be used carefully on primary incisors.
Keywords: Caries prevention, laser, pulpal temperature, primary teeth

OP 01-14

The Comparison of Different Fissure Sealants on Caries Formation

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Aim: To compare different fissure sealants applied to erupting permanent first molar teeth on caries formation during 18 month follow-up period.
Material and Methods: Two hundred children (105 girls-95 boys) who were between 5-8 years old, healthy, cooperative, who had no occlusion/bruxism problems, had at least one erupting [occlusal surface of tooth erupted completely, but more (S3) or less (S4) than half of buccal surface was covered by gingiva] permanent first molar tooth without caries and had primary second molar tooth next to the tooth to be applied fissure sealant were determined. Three different fissure sealants containing giomer (BeautiSealant), hydrophilic resin (Embrace WetBond) or traditional hydrophobic resin (Fissurit F) were applied randomly to permanent first molar teeth, and different fissure sealants were arranged to be in the mouth. Follow-up was done for 18 months with three monthly periods. Statistical analyzes were performed.
Results: Fissure sealants were applied to 683 permanent first molar teeth (325 maxillary-358 mandibular). At the end of 18 months, 7.6% of 390 teeth that could be followed regularly had new caries formation due to partial or complete loss. New caries formation rates were 10.6% for BeautiSealant, 4.3% for Embrace WetBond and 8.5% for Fissurit F. Difference between BeautiSealant and Embrace WetBond was statistically significant ($p<0.05$). Compared to eruption stages, new caries formation was significantly higher in S4 (13.6%) than S3 (3.5%) ($p=0.00$).
Conclusions: Properties of fissure sealants such as antibacterial, inhibition of bacterial adhesion, ion release, buffering capacity and application steps affected new caries formation. Patient's oral hygiene was also important.
Keywords: Caries, fissure sealant, oral hygiene

OP 01-15

Investigation of Bacterial Flora in Early Childhood Caries and Caries-Free Children by Quantitative PCR Analysis

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Aim: Early childhood caries is one of the most prevalent chronic diseases in children that affect their life and their family in different aspects. This study is aimed to compare oral streptococci counts in early childhood caries and caries-free children by using PCR method.
Material and Methods: 60 preschool children aged 2-6 participated in the study. 30 patient with ECC participated as the study group and 30 caries-free as the control group. Subjects were examined by a pediatric dentist using dmft/dmfs index. Plaque and saliva samples were collected from patients. Subtyping of S. mutans isolates was made by PCR using the gtfD, gtfT, gtfK, gtfP, gtfR and gtfG in S. mutans isolates isolated from patients in the study. In addition, in the study, subtypes identification was performed by RFLP method by cutting with the HaeIII restriction enzyme to determine the subtypes of S. mutans isolates in S. mutans strains by the RFLP method following the amplification of the gTFB gene. The data were analyzed using SPSS software.
Results: It was observed that the most isolated bacteria were found as S. mutans and S. sanguinis in ECC (100%; 60%) and caries-free group (100%; 40%).
Conclusion: The incidence of S. sobrinus was found to be higher in the study group (20%) compared to the control (6.7%) group. However, the presence of S. sobrinus with other bacteria was not found to be significant between caries formation and development ($p>0.05$).
Keywords: ECC, PCR, S. sobrinus, S. mutans

OP 01-16

Clinical Success of Fissure Sealant Materials Used in Initial Caries Lesions

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Aim: Clinical retention properties of sealants play an important role in inhibition of initial caries. The aim of this study was to assess the retention rates of fissure sealants used in management of initial caries lesions.
Material and Methods: The fissure sealants were applied randomly on 4 first permanent molars diagnosed by ICDAS II for scores 1-2 of 40 children aged 7-9, referred to the clinics of Department of Paediatric Dentistry, Istanbul University. The sealant materials were assigned to groups as follows; Group 1: a resin sealant with no fluoride (Helioseal, IvoclarVivadent, Germany), Group 2: a resin sealant with fluoride (Teethmate F1, Kuraray Co Ltd., Japan), Group 3: a sealant with amorphous calcium phosphate content (Aegis, Bosworth Co Ltd., Illinois, USA), Group 4: a pre-reacted glass ionomer (S-prg) sealant (Beautisealant, Shofu Inc, Japan). All sealant materials were applied according to manufacturers' instructions and assessed clinically at 3, 6, 12 months. The findings were analyzed by chi-square and Fisher's Exact tests.
Results: The total retention rates determined in groups at 3, 6, 12 months, respectively, were: Group1: 95%, 90%, 80%, Group2: 95%, 92.5%, 85%, Group3: 90%, 87.5%, 80%, Group 4: 87.5%, 77.5%, 62.5%. No significant differences ($p>0.05$) in retention rates between the periods of each group were found. All sealant materials showed similar retention rates ($p>0.05$) at 3 and 12 months; Group 4 showed less retention rates ($p<0.05$) compared to other groups at 6 months.
Conclusions: The findings of this study have demonstrated that sealant materials could be used in management of initial caries.
Keywords: Fissur sealent, ICDAS, permanent molar

OP 01-17

Knowledge, Attitude and Practice of Rural Mothers about Oral and Dental Health of Their Children Aged 1- 6 Years

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Aim: One of the main criteria for measuring the health of people in the community is to evaluate their oral and dental health. The aim of this study was to assess the knowledge, attitudes and practices of rural mothers about oral and dental health of their children aged 1-6 years.
Material and Methods: This study was a cross-sectional descriptive research conducted in the selected villages in the Southwest of Tabriz (Iran) in 2017. 90 mothers with the children aged 1-6 years, presented in the rural health centers were chosen. Easy sampling method with a three-part questionnaire (knowledge, attitude, and practice relatively) was used for data collecting. Data were analyzed using chi-square and variance analysis in SPSS 16.0.
Results: Mothers' knowledge levels were found as low (0-3), moderate (4-6) and high (7-10); 61.1%, 22.2% and 16.7% respectively. Negative (0-2), neutral (3-4) and positive (5-6) attitudes were observed as 4.4%, 22.2% and 73.4% respectively. Participants' levels of practice were observed as low (50%), moderate (27.7%) and high (22.3%). A significant relationship was observed between the mothers' knowledge and attitudes and their employment status (P=0.005 and P = 0.001 respectively). Working mothers had better practices towards the oral health of their children (P = 0.001). Education and economic status of mothers were also significantly related with their knowledge, attitude and practice on their children's oral and dental health.
Conclusion: Rural mother's knowledge, attitudes and practices were inadequate. Therefore, special training programs are required.
Keywords: Attitude, knowledge, mothers, children, oral and dental health

OP 01-18

Evaluation of The Success of Compomer Restorations Under General Anesthesia After 12 Month

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Aim: The aim of this study was to evaluate the clinical performance of compomer restorations under general anesthesia after 12-month. It was also aimed to see how patients carried out their oral care and dental controls recommended after dental treatments under general anesthesia.
Material and Methods: 476 compomer restorations of 94 healthy patient aged between 2-9 years (53 boys,41 girls) who treated under general anesthesia at SDU, Faculty of Dentistry, Department of Pediatric Dentistry were evaluated. Clinical evaluations of restorations were done by using the Modified USPHS Criteria.
Results: In the study, 43% of the patients were in 2-5 and 57% in 6-9 age group. When restorations were evaluated according to arches, it was seen that teeth in upper arch had more restorations (62%). When restorations were assessed according to the teeth, it was observed that 67% of compomer restorations were composed of posterior teeth. In the cases of failure of compomer restorations, the first was seconder caries (23.9%) and the second was loss of retention (21.6%).It was found that teeth with seconder caries (25.5%) and those with loss of retention (22.7%) were more in lower arch. It was observed that only 35% of the patients came to dental controls after treatments. It was learned that only 24% of children brush their teeth regularly.
Conclusions: In this study, it was seen that one of four compomer restorations performed under general anesthesia was unsuccessful. It has been determined that three quarters of patients did not carry out oral care and the recommendations of dentists after treatments.
Keywords: Children, compomer, general anesthesia, USPHS

OP 01-19

Impact of comprehensive dental treatment under general anesthesia on oral health –related quality of life in preschool children

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Aim: General anesthesia is a commonly used method used in children who fail to respond to typical behavior management techniques. The outcome of dental rehabilitation under general anesthesia can be assessed by the children's oral health-related quality of life (OHRQoL). This study aimed to evaluate OHRQoL changes in preschool children after full mouth dental rehabilitation under general anesthesia.
Material and Methods: A total of 130 healthy children, 2 to 6 years of age, who received dental general anesthesia (DGA) at Adnan Menderes University Faculty of Dentistry during 2016-2017 were recruited. The study consisted of clinical dental examinations of patients and Early Childhood Impact Scale (ECOHIS) scores, completed by the parents/caregivers before and four weeks after treatment. Data were analyzed using the Wilcoxon signed-rank test, Mc-Nemar test, and independent samples t-test.
Results: The mean overall ECOHIS scores of the children were 19.3±8.0 and 1.86±2.1 before dental treatment and at follow-up respectively. The difference between the scores was statistically significant ($p<0.001$). The overall ECOHIS scores decreased significantly ($p<0.001$). The greatest decrease was for the domain of child psychology (96.5%) in the child impact section (CIS) and the domain of parental distress (97%) in the family impact section (FIS).
Conclusions: The OHRQoL scores of the preschool children who underwent comprehensive dental treatment were significantly improved after DGA. Additionally, the parents also experienced a positive impact from the improved OHRQoL of their children.
Keywords: Child, preschool, quality of life, pediatric dentistry

OP 01-20

A Retrospective Comparison of Tooth Extraction Under Dental General Anesthesia on Healthy and Handicapped Children

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Aim: The aim of this study is to determine the properties of the tooth extraction performed on children under dental general anesthesia (inhalation with sevoflurane or intravenous medication) between the non-cooperate healthy and disable children.
Material and Methods: The records of patients between the ages of 3 and 18 who were treated under dental general anesthesia during a 1-year period (between January-December 2017) were evaluated. A retrospective study was carried out in 1189 patients, who consecutively attended the University of Süleyman Demirel Faculty of Dentistry Department of Oral and Maxillofacial Surgery. Patients were divided into two groups: disable and non-cooperate healthy children. The number of tooth extracted were evaluated for age, sex, dentition (primary or permanent) and disability.
Results: A total of 3448 tooth extractions from 1189 patients were included in the study. It was observed that 237 of 1189 patients were disabled and a total of 995 teeth were extracted from the disable children. It was also observed that tooth extraction was generally higher in disable children than healthy children (mean 4.2 for disabled children and 2.9 for healthy children).
Conclusions: The presented study showed that the number of teeth extracted under dental general anesthesia was higher in the disabled group. Therefore, especially more efforts should be necessary at encouraging these patients and their caregivers to visit the dentist early and routinely and receive primary preventive care.
Keywords: Children, dental general anesthesia, disable, tooth extraction

OP 01-21

Prevalence of Dental Anxiety in 7 to 15 Year Old Chidren and Its Relation with Parents' Anxiety

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Aim: The aims of this cross-sectional study were to evaluate the level of dental anxiety among schoolchildren and to compare children's dental anxiety to those of their parents.
Material and Methods: A cross-sectional survey was designed. A total of 304 parent-child pairs were recruited for the study. The children's age ranged from 7-15 years. Modified Dental Anxiety Scale (MDAS), Turkish version that categorizes the dental anxiety into five levels was used to evaluate dental anxiety among the parents. Demographic details such as age, educational level, and parents' occupational status was also collected. Therefore, before conducting a dental examination, each child was asked to independently complete a Children's Fear Survey Schedule – Dental Subscale (CFSS-DS) questionnaire. The data were analyzed using with chi square and Pearson tests.
Results: Of the 304 children (176 girls, 128 boys) examined, dental anxiety was identified in 77 (25.3%) children (CFSS-DS >= 38). There were no correlations between children's anxiety levels and their sex and age. All of the parents answered the questionnaire and 42 (13.9%) of them had anxiety problem. Parental MDAS scores had positive correlation with child dental anxiety measured with CFSS-DS ($r=0.410$, $p<0.05$).
Conclusion: These findings may help to devise interventions that will prevent or alleviate dental anxiety of children. Dental anxiety of children might be reduced or prevented by means of reducing parental dental anxiety.
Keywords: Child, dental anxiety, prevalence

OP 01-22

Nitric Oxide and Antioxidants in Gingival Crevicular Fluid of Primary Teeth Restored with Compomer

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Aim: Nitric oxide (NO) and antioxidants are crucial molecules for homeostasis affecting the host immune response against the inflammatory conditions such as gingivitis, periodontitis and restorative materials on gingiva. We aimed to analyze NO, Total Antioxidant Status (TAS) and Total Oxidant Status (TOS) levels in gingival crevicular fluid (GCF) of maxillary primary canine teeth (MPCT) restored with Glasiosite (Voco, Cuxhaven, Germany).
Material and Methods: 15 healthy children (5 female, 15 male) aged 5-8 not taking medication for one month participated in this study. While one of the MPCT had a subgingivally-located Class V cavity with 2mm-depth, the other MPCT was caries-free. Plaque index (Pi),gingival index (Gi),pocket probing depth (Pd) and bleeding index (Bi) scores were recorded after oral hygiene instructions. GCF was collected from each MPCT on the first day (T0). 7(T1) and 21(T2) days after the restoration of cavities, all the measurements were repeated. GCF volume, TAS, TOS and NO scores were evaluated. Data were transferred to the SPSS program; one-way ANOVA, post-hoc and paired sample t-test were used.
Results: When TAS, TOS and NO levels were the highest in T1 (respectively 0.19±0.05 [mmol/L], 14.41±1.48[µmol/L], 4.52±0.72[umol/dL]) ($p<0.01$), the levels decreased gradually in the control group. The levels in the test group were statistically higher than the control group for all three-time periods ($p<0.05$). The GFC volume, Pi and Gi scores in the test group decreased gradually. They were initially the highest ($p<0.05$), though.
Conclusion: Restorations and oral hygiene instructions improved Pi and Gi scores. Several biological responses to both cervical caries and Class V restorations were observed in GCF. Additional studies using different restorative materials are needed.
Keywords: Compomer, gingival crevicular fluid, nitric oxide

OP 01-23

Do Previous Bad Dental Treatment Experiences Affect The Parents' Decisions About The Dental Treatment of Their Children?

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Aim: To evaluate the effects of adults' negative childhood dental experiences' on their lives and their thoughts about Protective Stabilization Technique (PST) used in dental treatments of the children under 3-years old.
Material and Methods: A face-to-face survey was conducted among 200 adults (116 female, 84 male). In the first part of the survey, the participants' experiences and current fears were evaluated. In the second part, their opinions about deciding the way in which dental treatments should be performed were asked both subjects with and without children as if they had one.
Results: We found that; 14.5% of the participants had visited the dentist once in 6-month, 56.5% visited only if they had continuous dental pain, and 4.5% hadn't visited even if they had pain. As for the treatment with PST; 38% stated that it would affect the children's future life, 47% told that it won't affect if they don't feel pain, and 14.5% affirmed that they won't be negatively affected. There was no significant difference between the answers of the subjects with or without children (P>0.05).
Conclusion: Our society has some fears based on their previous experiences, which prevent them from having dental treatments. However, when deciding the dental treatment for their children, the parents tend to set their own fears aside and choose what is best for children.
Keywords: Dental experiences, protective stabilization technique, survey

ORAL PRESENTATIONS ON FREELY CHOSEN SUBJECTS MARCH 7, 2018 WENDESDEY

OP 02-01

Diagnosis and Examination of Supernumerary Teeth Using Cone-Beam Computed Tomography

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Aim: The aim of this article is to evaluate the supernumerary teeth in 3D with the use of conical beam computerized tomography (CBCT).
Material and Methods: This study was conducted among 230 patients who have CBCT images and referred to Inonu University Faculty of Dentistry between 2011 and 2017. Among these patients, 100 patients with 130 supernumerary teeth between the ages of 5-15 were included in the study. The following records were evaluated in all patients: age, gender, associated local disorders, location in each jaw, shape, sagittal and transversal orientation of the supernumerary teeth. Skeletal structures are also evaluated. The data collected were statistically analyzed using SPSS Version 16 software (SPSS Inc, USA). Age was summarized as means and standard deviation and all other variables were calculated as frequencies and percentages. The prevalence among males and females was compared using Chi-square test ($P<0.05$).
Results: In this study, 72% of the supernumeraries were related to local disorders. The most frequent local disorder was found to be the delayed eruption of the permanent teeth with a ratio of 43%, followed by diastema. Supernumeraries were most commonly conical in shape and most of them occurred in the premaxillary region.
Conclusions: The detailed evaluation of supernumerary teeth with CBCT will help the clinician to decide on the timing of supernumerary tooth extraction with minimal stress and risk for the children. In addition, three-dimensional images will clearly show the relationships between the supernumerary tooth and the surrounding tissues and will minimize the complications that may occur.
Keywords: Conical Beam Computerized Tomography (CBCT), supernumerary teeth, children, skeletal structures

OP 02-02

Primary Teeth Pulpectomy Clinical and Radiological Success: A Retrospective Comparison of Two Techniques

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Aim: To assess the clinical and radiological outcomes of two pulpectomy techniques in primary molars using metronidazole canal dressing followed by Zinc Oxide Eugenol obturation (MZ) and $Ca(OH)_2$ dressing followed by Iodoform+ $Ca(OH)_2$ obturation (CaOH).
Material and Methods: Cases that had preoperative radiograph of pulpectomy in primary molars with history of fistula or swelling, tenderness to percussion, presence of abscess, excessive tooth mobility, roots at least two thirds intact, radiolucency in the bifurcation and/or periradicular and/or periapical area and that were treated using MZ or CaOH were included. The outcomes were categorized as successful if they had no symptoms of failure: pain, fistula, restoration failure, tenderness to percussion, abnormal radiolucency of the material, pathological root resorption, periapical radiolucency, premature root resorption and natural exfoliation up to 6- 36 months after treatment. Categorical data association was tested with Chi square test at $p<0.05$ significance.
Results: Records of 60 subjects (28 boys, 32 girls; 85.40± 19.85 months old) were included in the study. Twenty-seven out of 35 MZ and 23 out of 32 CaOH were considered successful. Overall success and fail outcomes were not associated with treatment types ($p= 0.780$) or follow up duration (p6- 12 mo= 0.582, p12- 24mo= 0.272, p24-36 mo= 0.642). Pathological resorption (4/35, 2/32) and premature root resorption (4/35, 6/32) were the most common causes for failure in both groups.
Conclusions: Success rates of these two techniques were not different, prospective studies may be useful to compare more accurately.
Keywords: Pulpectomy, zinc oxide eugenol, calcium hydroxide

OP 02-03

Dental Occlusion Status of Preschool Children and Related Feeding And Some Non-Nutritive Sucking Habits, Turkey

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Aim: The aim of this study was to reveal the relationship between feeding and some non-nutritive sucking habits, and the dental occlusion status in preschool children.
Material and Methods: The data was obtained from a broad descriptive study. Hacettepe University Non-Interventional Clinical Researches Ethics Board's approval was obtained. This report includes the descriptive analysis of some feeding characteristics and non-nutritive sucking habits, and dental occlusion status data of 36-71 months old 729 children in the capital city of Turkey. To evaluate the relations, Chi square and Mann Whitney U tests were used.
Results: Duration of breast-feeding were <=6 months in 15.5%, 13-24 months in 52.2% and >=24 months in 11.2% of the children. 71.9% were ever bottle-fed; 68.3% were bottle-fed at night. Two-fifth of the children were pacifier sucking, 8.0% finger sucking, 24.0% nail biting and 9.7% had other sucking habits. According to analysis, the difference between the duration of breast-feeding with baby-bottle use and pacifier-sucking status were found statistically significant ($p<0.001$). 4.3% of the children had anterior open-bite; it was statistically significantly higher in finger sucking children ($p<0.001$), while there is no statistically significantly difference in occlusion status between ever bottle-fed or not. When occlusion was evaluated by sex, anterior malocclusion was significantly higher in females ($p=0.037$).
Conclusion: Baby bottle and pacifier sucking were seen at a certainly level in these preschoolers. Habits may be related with malocclusions. More informing meetings about the effects of feeding and non-nutritive oral habits on oral health be recommended to pregnant women, mothers and preschool teachers.
Keywords: Malocclusion, breast-feeding, bottle-feeding, sucking habits, pre-school

OP 02-04

The Effect of Parents' Sociodemographic Status and Oral Health Knowledge on Children's Oral Health

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Aim: Parents play the biggest role in children's oral health, which is correlated with the awareness level of parents. This study aims to evaluate the knowledge of parents who have different sociodemographic status regarding their own and the young children's oral care.
Material and Methods: This study included 246 children aged 3-6 years (mean age: 4.47±1.05; 128 girls (52%), 118 boys (48%)) and their parents (141 females (57.3%), 105 males (42.7%)). Parents completed a questionnaire about parents' and children's oral health. Clinical examinations of children were performed and dmft/dmfs scores were recorded. Data were transferred to the SPSS program and statistical analyzes were performed using the Chi square test.
Results: Sociodemographic differences didn't cause a statistically significant difference in children's dmft/dmfs scores ($p>0.05$). Children's brushing habit, parental involvement in brushing, fluoride application to children didn't make a statistically significant difference in dmft/dmfs scores ($p>0.05$). The age of children having the first toothbrush was 3.06±1.27, and the age to start brushing teeth was 3.23±1.28. The prevalence of parental involvement in children's tooth brushing decreased with the children's age. The prevalence of acceptable responses to the questions about parents' and children's oral care increased ($p<0.05$) as parents' education level increased.
Conclusion: Although highly educated parents have acceptable levels of knowledge about oral health, this had no reflection on the children's dmft/dmfs scores. Likewise, children's tooth brushing habits and fluoride applications did not change dmft/dmfs scores positively. Parents should be motivated to transfer the theoretical knowledge into practice properly and educated with their children on effective toothbrushing.
Keywords: Children, oral health knowledge, parents, sociodemographic status

OP 02-05

Investigation of Non-pharmacologic and Pharmacological Methods Applied in Tooth Eruption Process in Infants: A Systematic Review

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Aim: Eruption of tooth is a significant developmental marker for infants. The aim of this presentation is to describe the signs and symptoms frequently attributed to tooth eruption and management of teething problems by pharmacological and non-pharmacological methods.
Material and Methods: Literature search was performed using PubMed/MEDLINE (through 2000) and restricted to the English language. In PubMed/MEDLINE search terms used were teething, non-pharmacologic methods, pharmacological methods.
Results: The reported symptoms were more frequent in the 8 day period which defined as "teething window". The teething signs were reported as irritability, drooling, coughing, chin rash, biting, cheek rubbing, ear pulling, appetite loss, sleep disturbances and cold like symptoms. The most frequent reported non-pharmacological methods were cuddle therapy, ice, rubbing the gums, teething rings and chewing cold foods. Pharmacological methods for teething generally include to achieve analgesia, anaesthesia, sedation or a combination of these. Parasetamol, ibuprofen, choline salicylate, lidocaine, benzocaine, complementary and alternative medicines reported as pharmacological methods.
Conclusions: The signs and symptoms in teething process may be really related with tooth eruption or associated with different diseases and conditions. The risks associated with inappropriate or prolonged use of pharmacological agents in pain management must be considered carefully. Parents should be informed by dentists about using pharmacologic and non-pharmacological methods to relieve teething symptoms.
Keywords: Non-pharmacologic, pharmacological methods, teething

OP 02-06

The Relationship Between Weight, Height, Nutritional Status and Eruption Times of Permanent Teeth of Turkish Children Aged 4-13 Years

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Aim: The tooth eruption times (TETs) are important at the development of the child and also informs about permanent dental formation for diagnosis and treatment in pediatric dentistry. The aim of this study is to investigate the relationship between the emergence of permanent teeth and physical growth and nutritional status.
Material and Methods: One-hundered forty-eight healty children were evaluated with TETs, age, height and weight. The TETs were compared with the age, height and weight according to the sex. The relation of age, the TETs, height and weight were investigated. Statistical analysis was performed by Mann-Whitney U test and Spearman correlation analysis ($p<0.05$). Mean and standart derivation were used for descriptive statistic.
Results: The average ages of children were 8,32±2,07 years in boys and 8,25±2,28 years in girl. The avarage TETs were earlier in boys (except for tooth #13, #14, #16, #17, #23, #24, #25, #27, #47), ($p>0.05$). In partial correlation analysis, mean tooth eruption times were positively, and significantly associated with height while controlling for weight ($p<0.05$), (except for tooth #17, #27, #47, ($p>0.05$)). On the other hand, in partial correlation analysis, mean tooth eruption times were negatively, but no significantly associated with weight while controlling for height ($p>0.05$). The height of the child was significantly correlated with mean eruption times in 57% of the teeth.
Conclusion: The weight of the child did not show any significant influence on the tooth eruption times while the influence of height on tooth eruption times was non-conclusive.
Keywords: Height, permanent teeth, tooth eruption time, weight

OP 02-07

Clinical status of maxillary central incisors in children aged from seven to twelve in Zonguldak, Turkey: a retrospective study

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Aim: The aim of this study was to evaluate the clinical status of maxillary central incisor teeth in children.
Material and Methods: The study was performed by evaluating the clinical records of non-syndromic and healthy children, aged between 7 and 12 years, who attended to Bulent Ecevit University Faculty of Dentistry, for dental treatment between the years 2016 and 2017. Age, gender, clinical status of right and left maxillary central teeth were recorded for each patient, the results were statistically analyzed by using Chi-Square Test, and $p<0.05$ was considered significant.
Results: In this study, 2185 children's (1122 females and 1063 males) records were evaluated. The mean age of the patients was 9.81 ± 1.75. In both teeth, the status of sound had significantly ($p=0.000$) the highest rate (85.4% for tooth 11, 86.2% for tooth 21), followed by the status of caries (7.1% for tooth 11 and 6.4% for tooth 21). In genders, the number of sound teeth was higher in females (n=2000) than males (n=1749), and the difference was statistically significant ($p=0.000$). Similar significant result was obtained ($p=0.004$) for caries, and it was most observed in the age group 12 (54.05%), and the difference with the other age groups was statistically significant ($p=0.000$).
Conclusion: According to the results of the study, it may be considered that protection the health of maxillary central incisors becomes more difficult as the age increases, and this situation should be taken into account during the planning of oral health care programs.
Keywords: Pediatric dentistry, maxillary central incisors, oral health care

OP 02-08

Prevalence of Molar-Incisor Malformation in Aydın

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Aim: Molar incisor malformation (MIM) is a newly described developmental tooth anomaly that affects the root morphology of primary second molars and permanent first molars along with the crown morphology of permanent maxillary central incisors. The aim of this study was to investigate the prevalence of Molar-Incisor Malformation (MIM) in clinics of Pediatric Dentistry, Adnan Menderes University Faculty of Dentistry.
Material and Methods: This retrospective study was based on evaluation of good quality digital panoramic radiographs of 9-14 years old children from December 2013-February 2016, who attended the dental clinics of Pediatric Dentistry, Adnan Menderes University Faculty of Dentistry. In all, 1677 patients with mixed to permanent dentition for regular oral and orthodontic check-ups were selected based on the presence of digital panoramic radiographs and medical records.
Results: A total of patients was 1677, 807 were boys, 870 were girls. Their age average was 11.43±1.57. The overall prevalence of MIM was approximately 0.06% (1/1677), differences. The patient was girl and have a medical history. Also, some root malformations on permanent first molars detected in three patients. But their features did not describe MIM because of their incisors were not effected.
Conclusions: MIM was very rarely seen clinically. However, dentists should be alert to the characteristics of MIM, especially during the examination of children who have experienced a systemic disease.
Keywords: Molar-Incisor Malformation, prevalence, dental anomaly

OP 02-09

Evaluation of Oral and Dental Health Awareness and Habits Between First and Second Year Dental Faculty Students

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Aim: Despite the fact that the education of dental faculty students takes their first year as preclinical lessons, they are expected to be knowledgeable about oral and dental health and apply them. In this study, it was aimed to evaluate oral dental health awareness and oral health habits of 1st and 2nd-year dental students.
Material and Methods: A total of 127 people, including 1st and 2nd-year students at the faculty of dentistry were included in this study. In the study, a questionnaire including 39 questions about oral-dental habits and knowledge level was created. In the study, the results obtained from the questionnaire were analyzed with SPSS 22.0 version. The significance level was taken as 0.05. Chi-square and Mann-Whitney-U test were used for statistical analysis.
Results: As the frequency and duration of daily tooth brushing increases, bad breath and bleeding gums decrease and the rate of satisfaction with their own teeth increases. There was no significant difference between the 1st and 2nd classes in terms of the questions. All students answered these questions in such a way that they did not differ from each other under the same viewpoint ($p > 0.05$).
Conclusion: It was thought that the students had a homogeneous identity with each other because the vocational training had just begun and the clinical lessons haven't started yet. As class levels increase and clinical lessons begin, awareness and knowledge levels are expected to increase. For more precise results, it is considered to continue to work with more students.
Keywords: Oral health awareness, dental habits, preclinical classes, dental faculty students

OP 02-10

Dental Implant or Endodontic and Conservative Treatment?

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Introduction: Invasive cervical root resorption is an external tooth resorption which rarely occurs and develops without any symptoms in the cervical region of permanent teeth, and its etiology was not explained. Lesions were generally considered to be evaluated as internal resorption and dental decays and malpractices are performed due to wrong diagnosis.
Case Reports: In this case report, a 56-year-old male patient not presenting with any systemic disease and not smoking experienced a bicycle accident 30 years ago. Tooth coloring was detected on the left upper 1st tooth. He detected that this tooth was dangling three days ago, and he referred to our clinic due to gingival swelling. In the clinical and radiological examination, invasive cervical root resorption was detected on the associated tooth of the patient. Fractured crown was withdrawn, and antibiotic was prescribed for soft tissue infection. Endodontic treatment was applied to the root inside the mouth. Applying flap operation, root surface was reached, and present crown was implanted on the root exposed to fiber post. Fiber splint was applied to adjacent teeth.
Conclusion: A successful result was achieved with restorative treatment approach. We presented clinical and radiographic diagnosis, and nine month of follow up results of the tooth with invasive cervical resorption.
Keywords: Cervical root resorption, dental trauma, dentistry

OP 02-11

A Questionnaire Study on Materials and Methods Preferred for Endodontic Practice of Dentist in TRNC

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Aim: The preference and usage of endodontic materials varies from individual to individual based on their technique, experience and the clinical situation. The aim of this study was to investigate the current opinions and preferred materials of the dentists in Turkish Republic of Northern Cyprus (TRNC) on the basic features of routine endodontic treatment.
Material and Methods: The questionnaire was planned to be applied to all dentists who are actively working in the TRNC and registered in the Turkish Cypriot Dental Chamber. Both general dental practitioners and the dental specialists were included in the study. The questionnaire included questions about practitioners' attitudes towards endodontic procedures and the materials they use. It was implemented through face to face interviewing method by two researchers.
Results: 117 dentists responded to the survey, and 106 (90.6%) of them were applied endodontic treatments in their clinic. 54.7% of practitioners used NiTi-rotary files for root canal treatments, while 45.3% of them never used NiTi-rotary files. The most frequently used NiTi system was ProTaper Universal System with 70.7% value, while 51.7% of dentists were using wired-electrical endomotors. The most frequently used materials for obturation were gutta-percha with AH-Plus (37.7%), and gutta-percha with Endomethasone (35.8%). 7.6% of the respondents used warm gutta-percha obturation techniques.
Conclusion: Post-graduate endodontic programs should be considered and given importance in order to increase the current standards of the endodontic treatments in the TRNC.
Keywords: Endodontic treatment, materials, questionnaire, technique

OP 02-12

Fracture Resistance and Microleakage Analysis of Endocrown Restorations in Primary Molar Teeth

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Aim: To evaluate fracture resistance and microleakage of direct and indirect composite endocrown restorations and Class II composite restorations in primary molars.
Materials and Methods: 72 extracted second primary molars were used for fracture resistance and microleakage evaluations. For each test, 36 teeth were divided into three groups: Class II composite (control), direct composite endocrown and indirect composite endocrown. First and second groups were restored with G-aenial system® while the third group was restored with Gradia Indirect system®. After thermocycling at 5-55 °C, fracture test was performed using Instron® (Instron Corp, USA) with compressive loading. For microleakage testing, teeth were immersed in 0.5% basic fucsin dye for 24 h and then, sectioned in mesio-distal direction for evaluation. Data were analyzed with Mann Whitney U and Krusksal-Wallis (microleakage), ANOVA and Duncon tests (fracture resistance).
Results: Direct endocrown (1633.3N) restorations showed superior fracture resistance. While no significant difference was found between direct and indirect endocrown (1434.3N) restorations ($P>0.05$), a significant difference was found between direct endocrowns and Class II (1235.1N) restorations ($P<0.05$). For microleakage test, Class II restorations (0.83) showed superior microleakage resistance. A significant difference was found between Class II and indirect endocrown (1.83) restorations ($P<0.05$), while the difference between between Class II and direct endocrown (1.21) restorations was nonsignificant ($P>0.05$).
Conclusion: Endocrown restorations were successful in increasing fracture resistance when used in primary molars and can be considered as a new esthetic alternative for endodontically treated primary teeth. However, indirect endocrown restorations showed higher values of microleakage in comparison to Class II restorations.
Keywords: Endocrown, composite restorations, fracture resistance, microleakage

OP 02-13

Smear Layer Removal Efficacy of Manuel, Rotary and Resiprocal Systems on Primary Teeth Root Canal: An in vitro Scanning Electron Microscopy Study

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Aim: The aim of this study was to evaluate smear layer removal efficacy of K file, Protaper, Twisted File, Resiproc and OneShape systems when these used for primary teeth root canal instrumentation.
Material and Methods: Seventy-five primary mandibular molar human teeth were randomly divided to five groups (n=15). The distal canals of teeth were shaped with each of the following instrumentation system: K file (manuel instrumentatin), Protaper, Twisted File, Resiproc or OneShape. The intracanal irrigant used after each instrument was 2.5% sodium hipochloride (NaOCl). After the shaping, 17% ethylenediaminetetraacetic acid (EDTA) and ethanol were used. The teeth were fractured longitudinally then coronal, middle and apical 1/3 of the segments were analyzed with SEM at the standard magnification of 1000X. Presence of smear layer was evaluated with five-step scale. Data were analyzed using Kruskall-Wallis and Mann-Whitney U test.
Results: There was statistically significant differences among the groups for the smear layer scores ($p<0.05$). At the coronal and middle third, statistically significant difference between the OneShape (Mean coronal 2.4, middle 2.9) and Protaper groups were found (Mean coronal 1.2, middle 1.6) ($p<0.05$). At the middle and the apical third statistically significant difference between Protaper (Mean middle 1.6, apical 2.5) and Resiproc (Mean middle 2.7, apical 3.3) groups were found ($p<0.05$).
Conclusion: Protaper produced less smear layer throughout the canal lenght and Twisted File showed similar results with Protaper ($p>0.05$). With in the limits of this study, these systems were preferable for primary roor canal treatment.
Keywords: SEM, smear, debris, resiproc, protaper

OP 02-14

Evaulating The Effect of Some Medicinal Plants (Mentha piperita, Ocimum basilicum, Rosmarinus officinalis, Salvia officinalis) on Whitening of The Permanent Teeth

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Aim: Nowadays, whitening of stained teeth has become the most popular topic in aesthetic and cosmetic dentistry. Because of the side effects of materials that were used for bleaching, in this study the effect of some plants which were used in Anatolian folk medicine on the treatment of tooth staining were examined.
Material and Methods: In this study, upper central incisors which were extracted for periodontal reasons were used. The colour values of numbered teeth were obtained and the teeth were immersed in to three different essential oils of medicinal plants (Mentha piperita, Ocimum basilicum, Rosmarinus officinalis, Salvia officinalis) for different time periods (1 day, 1 week, 1 month). At the end of the immersion periods, colour measurements of all samples were made and the colour changes were analyzed. Obtained data were statistically analyzed by using ANOVA and Duncan test.
Results: As a result of the variance analysis, plant species and the duration of immersion was found to be statistically significant ($p<0.001$).
Conclusion: Within the limits of this study, we can indicate that tested medicinal plants has a whitening effect by resulting significant change in tooth colour.
Keywords: Medicinal plants, Teeth, Bleaching

OP 02-15

The Evaluation of Residual Monomer Released After Polimerisation of Different Resin Materials

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Aim: Resin materials are usedfor restoration or fissure sealant in pediatric dentistry andconsist of different types of monomers (BisGMA, UDMA, HEMA, TEGDMA). Monomers can be released into the oral cavity after polymerization. Residual monomers released after polymerization from resin-based restorative materials have been reported to affectthemechanical specialty negatively. Besides, allergic, cytotoxic, and carcinogenic effects are showed. Our study aimsto identify the substances and thedetermination of quantitiesreleased from the material into the oral environment.
Material and Methods: Disk sizes (2 mm) prepared for each material group (flowable composite resin-pink&blue, packable composite resin-pink, blue, yellow and A2, fissure sealant and RMCIS) were polymerized by LED light; the specimens were then placed in %75 ethanol-water. The monomer release was analyzed in HPLC in 10 min, 1 hr, 1 day, 7 days, and 14 days after the specimens were prepared. One-way ANOVA, Post-hoc, Tukey HSD tests were used for statistical analysis.
Results: The amount of residual monomer increased overtime. At the end of the 14th day, the maximum monomer releasedfrom the materials was BisGMA (mean; 50.17±3.7). No significant difference was found in TEGDMA release between the flowable and the packable compomers. The amount of total monomer releasedfrom A2 compomer was higher than fromthe blue and pinkcompomer ($p<0.001$).Yellow compomer was with the highest monomer release ($p<0.001$).
Conclusion: The color factor in the compomers is effective on residual monomer release. Polymerization should be strengthened to reduce theresidual monomer release from colored compomers. More studies are needed to investigate invivo and invitro about the different light-curing unit&polymerization periods.
Keywords: Residual monomer, resin material, LED

OP 02-16

The Effect of Antimicrobial Mouthrinses on Surface Roughness of Two Different Nanohybrid Composites

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Aim: The aim was to examine the effects of four mouthrinses containing different ingredients to surface roughness of two different nanohybrid resin composites.
Material and Methods: Fifty samples were prepared for each composite resin, stored in distilled water and initial surface roughness was measured by profilometer. All samples were stored in Listerine Cool Mint, Oral-B alcohol-free, Andorex, Listerine Zero mouthrinses and distilled water (12 h, 37°C). Then, final surface roughness was measured. Data were analyzed by two-way ANOVA and Bonferroni tests, statistically.
Results: In total, regardless of the mouthrinses, it was not found statistically significant differences ($p>0.05$) between resin composites. Regardless of the resin composites, it was found statistically significant differences between mouthrinses ($p<0.05$). Listerine Cool Mint with essential oils and alcohol caused the greatest surface roughness values (0.186± 0.023) surface roughness value of Listerine Zero (0.007± 0.008) was similar to distilled water (0.018± 0.011). It was not found significant differences between Listerine Zero (0.007± 0.008) and Oral-B alcohol-free (0.005± 0.007).
Conclusions: The interaction between mouthrinses and composite resins was statistically significant. Different types of mouthrinses caused surface roughness with varying degrees on resin composites. The greatest surface roughness values with Listerine Cool Mint on both resin composites were detected. When Clearfil Majesty Esthetic was exposed to Oral B alcohol-free and Listerine Zero mouthrinses, compared to other mouthrinses and distilled water, it was found the least and statistically different surface roughness values. It was not found significant surface roughness difference between Oral B alcohol-free and Listerin Zero for Filtek Z550 resin composite and the lowest roughness values were obtained with these mouthrinses.
Keywords: Mouthrinses, surface roughness, nanohybrid resin composites

OP 02-17

Evaluation of Effects of Tooth Brushing and Smoking Habits on Tooth Decay with Respect to Demographical Data

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Aim: The aim of this study is to evaluate the tooth brushing habits, and tooth decay ratios based upon the demographic data (ie. Age, gender, marital status, educational background and income level).
Material and Methods: The aim of this study is to evaluate the tooth brushing habits, and tooth decay ratios based upon the demographic data (ie. Age, gender, marital status, educational background and income level). Data was analysed with Pearson chi-square test.
Results: Based upon the statistical evaluation, the following results were acquired. Those brushing their teeth most frequently (twice a day) 20-30 years old (50.0%), and in women (40.9%), those completing their PhD education (66.7%) and those having high income level (59.5%). Smoking habit was most frequently detected in people aged between 31 and 40 (44.7%), in men (45.5%), in single people (38.2%), those not having an educational background (literate) (100%) and in those people with low income level (76.2%), ($p<0.05$).
Conclusion: A tight correlation was detected between tooth brushing and smoking habits and dental decays.
Keywords: Dental decay, demographical data, smoking, tooth brushing

OP 02-18

Effects of Continuous Versus Intermittent (28 Days on 7 Days off) Orthodontic Forces on Root Resorption: A Micro-Computed Tomography Study

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Aim: To compare the extent of root resorption following continuous versus intermittent orthodontic forces activated in a similar way to a 4-weekly orthodontic adjustment period.
Material and Methods: Twenty-five patients required the extraction of upper first premolars were recruited in study. A buccally directed continuous force of 150 grams was applied to the upper first premolar on one side for 15 weeks. A buccally directed intermittent force (28 day on 7 day off) of the same magnitude was applied to the contralateral first premolar. The teeth were extracted at the end of the experimental period and processed for volumetric evaluations of resorption craters. The degree of tooth movement and rotation were measured on the models. Wilcoxon test was used to compare the total volumes of resorption crater between force groups, the different surfaces (buccal, lingual, mesial, distal) and the different levels (cervical, middle, apical) of the root.
Results: Continuous force application ($0.788\pm 0.440mm^3$) displayed significantly higher root resorption volume than the intermittent force application ($0.639\pm0.572mm^3$), ($p=0.025$), particularly on the buccal ($p=0.019$) and lingual ($p=0.030$) surfaces and the middle third of the root ($p=0.005$). There was more tipping ($p=0.000018$) and rotational ($p=0.0000055$) movement in the continuous force group.
Conclusion: In a 4-weekly orthodontic adjustment period, intermittent force significantly reduced the amount of resorption when compared to continuous force. Although there was less degree of tooth movement with intermittent force, unnecessary rotational movement was avoided. This is crucial in patients who are predisposed to OIIRR and the use of this intermittent regime should be considered.
Keywords: Preventive orthodontics, root resorption, orthodontic tooth movements, orthodontic force

OP 02-19

The Relation Of Current Prosthetic Status With Demographic Data

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Aim: The aim of this study is to investigate the relationship between current prosthetic status and demographic variables such as age, gender, marital status, educational status and income.
Material and Methods: Data regarding demographic variables, medical anamnesis, dental status and current prosthetic status of 440 patient were gathered by means of questionnaire, examination and recorded to survey forms. Data was analysed with Pearson chi-square test.
Results: Statistical analysis revealed that the number of patients that use prosthesis increases with age. While 9.2% of patients in 17-30 years of age group had only fixed prosthesis, all prosthesis types were more frequent in 41-60 years of age group patients. All prosthesis types were more frequent in married patients compared to single ones. Fixed partial dentures were statistically significantly higher in high school graduated and university degreed patients. The relation between age, marital status, education level and type of prosthesis were statistically significant ($p<0.05$). The frequency and distribution of current prosthesis types with respect to gender and income were not statistically significant ($p>0.05$).
Conclusion: Married patients and 41-60 year age group patients among age groups use all types of prostheses predominantly. As education level increases number of fixed partial denture patients increase. Fixed partial dentures are more frequent than removable and combined prosthesis in all education levels.
Keywords: Demographic data, prosthodontic status, prosthodontic

OP 02-20

The Assessment of Removable Denture Related Complaints with Demographic Data

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Aim: The aim of this study is to assess the complaints related with removable denture use according to demographical data.
Material and Methods: Anamnesis, intraoral and extraoral examination findings, demographical data such as age, gender, marital status, education level of 116 patients using removable dentures were recorded. Complaints investigated included pain, lack of retention stability, chewing ability, gaging reflex, chewing sounds, esthetic complaints, difficulty in speaking, denture fracture, detoriation of prosthesis material, soft tissue changes. Data was analysed with Pearson chi-square test.
Results: Denture fracture was observed significantly higher in >60 years age group ($p=.049$). While localized pain occurs more frequently in men (59.1%), widespread pain and lip/cheek biting-tongue pain occurs more frequently in women (77.8% and 55.6% respectively) ($p=0.004$). Chewing ability of women is worse (%67.9), ($p=0.021$) and detoriation of the prosthesis material (55.6%), ($p=0.011$) and soft tissue lesions (66.7%), ($p=0.001$) is more frequent in men. Single patients experience significantly more pain in all sites ($p=0.040$) and have more gaging ($p=0.028$) than married patients. With respect to educational status no statistically significant difference was found between groups except for gaging reflex which was more frequent in highly educated patients and difficulty in speaking which was more frequent in primary school graduated patients. No statistically significant relation was found between other demographical data and complaint matches.
Conclusion: Older patients experience more denture fractures. Local pain and lip/cheek biting/tongue pain related with removable dentures is more frequent in women while widespread pain is higher at men. Single patients have more gaging reflex and denture related pain than married patients.
Keywords: Existing denture, complaint, demography, age

OP 02-21

Evaluation of Oral Health Related Quality of Life, Anxiety and Pain Levels in Implant Patients

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Aim: The aim of this study was to evaluate the anxiety specific to surgery questionnaire (ASSQ), oral health impact profile (OHIP-14) and visual analog scale (VAS) in implant surgery patients.
Material and Methods: Forty-nine patients admitted to the Van Yüzüncü Yıl University Dentistry Faculty for missing teeth were included in this study. Preoperative patients were asked to fill in the ASSQ and the OHIP-14 index. After the operation, VAS was given to the patients and they were asked to record the pain levels between 1-7 days and when pain was finished. In the first and third months postoperatively, the OHIP-14 was replenished. The obtained data were evaluated statistically.
Results: The average age of the patients participating in the study was calculated as 42.17 Preoperative and 1 month' scores showed statsitically difference in terms of OHIP-14 scores ($p < 0,05$). There was no statistically significant difference between preoperative OHIP-14 and 3 month's OHIP-14 ($p > 0,05$). The ASSQ value was calculated as 24.12 ± 2.79. According to VAS, the pain of the patients was completely disappeared at the mean of 5.2 ± 0.7 days.
Conclusions: Although there are many studies in the literature evaluating the effect of implant prostheses on oral health-related quality of life, no study has examined the effect of implant surgery on quality of life. Despite it was observed that in this study patients were disconcerting about implant surgery, the surgical procedure affected the OHIP-14 only in the first month. It is thought that further study is needed in this regard.
Keywords: Oral health related quality of life, visual analog scale, anxiety, implant

OP 02-22

Investigation of Prosthetic Treatment Indication Distribution in Cumhuriyet University Dentistry Faculty

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Aim: The aim of our study is to evaluate the distribution of fixed and removeable prosthesis applied to the patients who applied to Cumhuriyet University Dentistry Faculty Prosthetic Dentistry Department by considering age groups and gender factor.
Material and Methods: The records of total prosthesis, removeable prosthesis and fixed prosthesis patients who applied to our clinic between January 2014 and January 2018 and their treatments were examined. The examined patients were categorized according to firstly gender and after age groups. The number of the received data was evaluated numerically and divided into percentiles.
Results: A total of 11,523 patients; 69.45% fixed prosthesis and 30.53% removable prosthesis. 55.59% of fixed prosthesis patients, 49.87% of total prosthesis patients and 53.73% of removable partial prosthesis patients constitute female patients. In general distribution, it was observed that the most fixed prosthesis was in the range of 46-55 years and the most removable prosthesis was in the range of 56-65 years.
Conclusions: There are scientifically meaningful and valuable results in determining the number of patients who are diagnosed with tooth loss in our society and how they are treated and what kind of treatment they need more numerically. Our study has shown that the distribution treatment types of patients who applied to Cumhuriyet University Dentistry Faculty Prosthetic Dentistry Department.
Keywords: Indication, prosthesis, treatment

OP 02-23

Comparison of two different unsplinted attachment systems for mandibular two-implant-retained overdentures

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Aim: There is a limited number of clinical studies for two-implant-retained overdentures (TIRO) in the edentulous mandible utilising unsplinted attachment systems either ball lor locator attachment systems.
Materials and Methods: A total 20 edentulous patients with an average age of 62 years were included in this study. Implants were placed between January 2016 and December 2016. Each patient received two conical implants with the diameters of 3.75 mm or 4.2 mm and the lengths of 10 mm or 11.5 mm in the intraforaminal area of the edentulous mandible. All patient were treated TIRO opposed to maxillary complete dentures by utilising bilateral balanced occlusion. As an attachment system, ball attachment and locator attachment were applied first ten patients and the other ten patients, respectively. After applying the dentures, patients were asked to visit 24-hour control examination and if any complain exists patient can visit department for eliminating matter. Otherwise, patients will inquire for periodical control after 1-year period.
Results: After 1-year of clinical usage none of the implants was lost out of 40 implants. Relating to the different attachment systems, using one way ANOVA there were no significant difference between two attacment systems ($p>0.05$) utilising ball or equator. The most common complication associated with TIRO was loss of retention.
Conclusions: Although, the different attachments together with TIRO represent predictable and sucessful option to treat edentulous patients. Present study have to be evaluated carefully because of the small number of patients and the short observation period.
Keywords: Attachment, implant, overdenture

OP 02-24

Surgical Management of Oral Tissues for Prosthetic Rehabilitation in Patient with Pancreatic Cancer History

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Introduction: A harmonious relationship between dental prostheses and oral tissues is important for the successful use of prostheses. The purpose of this case report is to present a patient with pancreatic cancer history, who is surgically treated of oral tissues before prosthetic application.
Case Reports: In this present case, bilateral flabby alveolar ridges were determined at the examination of maxillary edentulous patient who was treated for pancreatic cancer five years ago. It was also observed that the patient's right buccal frenum and labial frenum extent to the alveolar crest ridge and that a sharp bone irregularity from spina nasalis to alveolar crest ridge. The flabby alveolar ridge regions were removed surgically and the tissues were sutured in a stable manner. Conventional frenectomy surgery was performed to remove buccal frenum. Z-plasty technique were performed to remove labial frenum and to access alveolar bone at spina nasalis region by full thickness flaps. The flaps were primarily sutured after osteotomy and osteoplasty procedures. The patient was rehabilitated prosthetically after soft tissue healing was completed.
Conclusion: Some local anatomical and morphological differences in hard and soft tissues may cause deterioration of prosthesis stability, trauma, ineffective use of the prosthesis, and even prosthesis fractures in long term. Surgical management of oral tissues is crucial for the successful implementation of prosthetic rehabilitation.
Keywords: Flabby alveolar ridge, pancreatic cancer, Z-plasty technique

OP 02-25

Dental Age Estimation from the Developmental Stage of the Third Molars with Demirjian Method

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Aim: Tooth development is a good parameter for estimating chronological age. This study investigated the developmental stages of third molars in relation to chronological age and evaluated third molar development of children according to location and gender in the Eastern Anatolia Region of South Western Turkey.
Materials and Methods: A retrospective analysis of panoramic radiographs of 1624 patients aged between 6 and 18 years was conducted, and developmental stages of the third molars were evaluated using the modified Demirjian's classification. The mean age, standard deviation, minimal and maximal age, and percentile distributions were recorded in each stage of development. A Mann-Whitney U test was performed to test the developmental differences in the third molars between maxillary and mandibular arches and between genders.
Results: The radiolucent bud of the mandibular (9.14) third molars appeared earlier than maxillary (9.62)($p<0.01$). The mean age of first appearance of a radiolucent bud was 9.47 and 8.85 years for the mandibular third molars, respectively ($p<0.01$). The average age of the initial mineralization was 9.67 for girls and 10.29 for boys in the maxilla ($p<0.05$). The average age to observe the crown completion was 12.44 in maxilla and 12.54 in the mandible. There was a strong correlation between third molar development and chronological age. Agenesis can be determined conclusively if there are no radiolucent buds after age 14.
Conclusion: Ethnic and environment factors can affect the human development; further research is needed to build the data of Turkish population in the other ethnic groups and parts of Turkey.
Keywords: Demirjian method, dental age estimation, third-molar mineralization

OP 02-26

Investigation of the Relationship Between the Number of Fungiform Papillae and Taste Preferences in Children

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Aim: The aim of this study was to determine the fungiform papillae (FP) number on the tongue in children and investigate the relationship between taste preferences and FP number.
Material and Methods: One-hundred-and-fifty-seven children (82 boys & 75 girls, age 5-10) who attended to Pediatric Dentistry Department of Marmara University were included in the study. The children who had any illnesses related to otorhinolaryngology or used any antibiotics/medications in last month were excluded. FP were quantified using the "Denver Papillae Protocol for Objective Analysis of Fungiform Papillae". Questionnaires were presented to parents and their children to record their child's taste preferences of the basic tastes namely sweet, salty, bitter and sour. Then 5 specific foods in each sweet, bitter and sour food group were questioned to specify the taste preference. Statistical analyses were done using Independent t test, Mann Whitney U test of the NCSS program.
Results: The mean and median numbers of FP were 32.22+12.59 and 29 respectively. The FP number decreased significantly as the age increased ($r=0.441$, $p=0.001$) and the mean of girls' FP numbers was significantly higher than the boys' ($p=0.022$). The difference between taste preferences and FP number were not statistically significant (sweet $p= 0.317$; salty $p=0.438$; bitter $p=0.234$, sour $p= 0.857$).
Conclusion: This study showed that the variance in the FP number didn't affect the sweet, salty, bitter and sour taste preferences of the children.
Keywords: Fungiform papillae, taste, taste preference

OP 02-27

Effect of Different Oral Hygiene Motivation Methods on Plaque Elimination

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Aim: The aim of our study is to compare the effectiveness of different oral hygiene motivation methods in periodontal treatment for plaque control.
Material-Methods: 120 patients were divided into 3 groups according to different oral hygiene motivation methods. Group 1: Individuals who were given only oral hygiene instructions using dental model (M-OH), group 2: individuals used plaque dyeing agents additionally to oral hygiene instructions using dental model (PDA-OH) and in group 3, individuals were shown microscopic images of plaque in addition to oral hygiene instructions using dental model (MIC-OH). Plaque scores were assessed using 'S&L plaque index' before and 4 weeks after oral hygiene instructions were given. The Wilcoxon Signed Rank test was used for intra-group plaque scores and the Bonferroni corrected Mann-Whitney U test was used to assess inter-group plaque scores.
Results: The plaque scores after oral hygiene instructions were significantly lower in all groups compared to the pre-instruction PI scores ($p < 0.05$). When the post oral hygiene instruction plaque scores were evaluated, lower score levels were found in the PDA-OH group (1.08 ± 0.23) than in the MIC-OH (1.30 ± 0.16) and M-OH (1.28 ± 0.16) groups ($p<0.016$). There was no statistically significant difference between groups of MIC-OH and M-OH (1.28 ± 0.16) ($p> 0.016$).
Conclusions: Oral hygiene training has been found to be important in patient plaque control. It has been found that the amount of plaque demonstrated to the patient is more effective in terms of motivation.
Keywords: Oral hygiene, periodontal treatment, plaque index

OP 02-28

The relationship between breastfeeding duration and deletorious oral habits

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Aim: There are controversies regarding the interaction of breastfeeding with deleterious oral habits (DOH). This study aimed to investigate the association of breastfeeding duration and presence of DOH.
Material and Methods: A total of 135 children and their parents, including 64 boys and 71 girls, who applied to the Department of Orthodontics and Child Dentistry of Cumhuriyet University Faculty of Dentistry, were included. Children included in the study are aged between 9 and 12 years. Intra oral and extra oral examinations made by the observer and the parents of the children were questioned about the breast-feeding duration and the presence of DOH (finger sucking, nail biting, lip sucking, bruxism and pacifier use). The Fisher exact test was used to compare groups regarding the presence and absence of habits and the different periods of breast-feeding.
Results: 27.3% of the individuals were breastfed for 0-6 months and 76.3% for 12-24 months. The most common bad habit was nail biting (31.1%). There was no statistically significant association between the breastfeeding duration and DOH ($p> 0,05$).
Conclusions: In conclusion, there was no significant relationship between the breastfeeding duration and DOH in our study. It is considered that more extensive studies should be performed in larger patient groups.
Keywords: Breastfeeding, deleterious oral habits, pacifier use

OP 02-29

White Spot Lesion Formation in Orthodontic Treatment: An In Vivo Study

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Aim: The aim of this clinical trial was to determine reveal which periods of white spot lesion formations are more common during orthodontic treatment.
Material and Methods: Thirty patients (18 females, 12 males) who had skeletal and dental Class I malocclusion with permanent dentition were included in the study. These patients have mild crowding and they treated with non-extraction protocol. Patients were examined by using a quantitative version of the laser fluorescence method (QLF). Patients were followed up with QLF records at 3-month intervals starting from the beginning and at the end of treatment (T0=Beginning, T1=3rd month, T2= 6th month, T3= immediately after debonding). The average treatment duration is 11±3.12 months. The fluorescence loss and area of the any white spot lesions was clinical visible on the computer screen and images were analyzed by QLF software. Genders differences in lesion development were compared with the Independent paired-t test. The intra-group differences were assessed by Paired-samples t test. The differences between the groups were evaluated by Independent-Samples t test.
Results: At the end of the treatment, a total of 184 white-spot lesions were detected. There is no difference between genders in terms of the formation of white spot lesions. White spot lesions were seen in all of groups ($p < 0.05$). The increase in lesion formation was mostly detected in the second period (T2, $p<0.001$).
Conclusion: White spot lesions occur during orthodontic treatment. Lesions were detected in both genders. Most lesion formation was observed in the maxillary lateral incisors.
Keywords: White spot lesions, QLF, non-extraction orthodontic treatment

OP 02-30

Effect of Intracanal Medicaments Used in Endodontic Regeneration on The Push-Out Bond Strength of a Calcium Silicate-Based Cement to Dentin

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Aim: The aim of the present study was to evaluate the effects of various endodontic regeneration agents on the push-out bond strength of iRoot BP Injectable Root Canal Repair Filling Material (iRoot BP) to root-canal dentin.
Material and Methods: Fifty single-rooted human teeth were selected and instrumented to obtain a standard internal diameter of 1.5 mm. Specimens were randomly divided into 4 experimental groups treated with an intracanal medicament [calcium hydroxide (CH), double antibiotic paste (DAP), triple antibiotic paste (TAP), TAP with amoxicillin (mTAP)] and a non-treated control group. Medicaments were removed after 3 weeks, and iRoot BP was applied to all specimens. The coronal portion of each root was then sliced into 2-mm-thick parallel transverse sections (2 slices per tooth, n=20 slices per group), and a push-out test was used to measure the bond strength of iRoot BP to dentin. Data were analyzed using Kruskal Wallis and Mann-Whitney tests, with the level of significance set at $p<0.05$.
Results: The push-out bond strength of the CH group was significantly higher than that of the TAP, DAP and mTAP groups ($p < 0.05$).
Conclusion: Within the limitations of the present study, it can be concluded that in comparison to CH, the use of intracanal medicaments containing antibiotics for revascularization and endodontic regeneration significantly lowers the bond strength of iRoot BP to root dentin.
Keywords: Intracanal medicaments, regenerative endodontic treatment, iRoot BP Injectable Root Canal Repair Filling Material (iRoot BP), bond strength, push-out test

OP 02-31

Traumatic Dental Injuries in Ordu: A Retrospective Study

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Aim: The aim of this study is to retrospectively assess the frequency of dental trauma, trauma type, trauma-related factors and treatment procedures for children aged between 1 and 15 years who have applied to Ordu University Faculty of Dentistry, Department of Pediatric Dentistry for a period of five years (April 2012 – December 2017).
Material and Methods: A total of 26.120 patients from Ordu and surrounding cities, aged between 1 and 15 years, have been recorded in Ordu University Faculty of Dentistry, Department of Pediatric Dentistry. Of these, 414 patients' and 660 teeth records were for dental trauma. The type of trauma in primary and permanent teeth, the difference between gender and age groups, the cause of trauma were analyzed using chi-square test. The distribution of dental trauma by age were calculated by cubic regression analysis.
Results: Over a last 5-year period, incidence of dental trauma defined as 1.58% in children aged 1-15 years, from Ordu and surrounding cities. The most common type of trauma in the permanent teeth was enamel-dentin crown fracture (31.1%), while it was intrusive luxation (20.9%) in the primary ones. Most of traumatic dental injuries was found to have occurred in January and May and due to a fall. Most patients (35.7%) were referred to our clinic within 1-3 days, and 9.4% referred one year after injury.
Conclusion: Parents in living in Ordu should be aware of what should be done in case of any dental trauma and about the importance of advise with a dentist immediately after the trauma.
Keywords: Pediatric dentistry, retrospective studies, tooth injuries

OP 02-32

Dental Trauma Knowledge of Anaesthetists- A Pilot Study

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Aim: Perioperative dental damage is one of the most common anesthesia related complication. A thorough evaluation may necessitate a dental practioner's help. Nevertheless, this anesthetic assessment is frequently overlooked by surgeons and anesthesiologists. The present study aimed to investigate, anesthesiologists how often and under what circumstances dental trauma occurs during general anesthesia as well as isolate possible anatomical, dental and anesthesiological risk factors, based on which suggestions for preventive measures could be made.
Material and Methods: For this purpose, a group of anesthesiologist were asked to complete a questionnare by using e-mail and face to face conversations. This questionnare form includes various question about level of professionalism, dental trauma education level, knowledge of dental trauma types and their management procedures. Futhermore via this questionnare we tried to analize dental trauma cause and predisposition factors related to anesthesia equipments. We know that children more prone to dental trauma. But anesthesiologists need to know which age groups exposure dental trauma overly.
Results: According to this questionnare's results that most of anesthesiologists don't have knowledge about dental trauma.
Conclusions: Anesthesiologists have to recieve more comprehensive training regarding oral and dental anatomy by this way anesthesiologists can minimize the risks of dental trauma. This scientific questionnare is the first step of wider project. Because we don't know incidence of dental trauma due to the general anesthesia and this situation indirect effects to patient-doctor relationship, insurance company, legal area in Turkey.
Keywords: Dental trauma, general anesthesia, mouthguards

OP 02-33

Comperative Effectiveness of Poster and PowerPoint Templates Education About Management of Avulsed Permanent Teeth Among Children

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Aim: Emergency management of traumatic dental injuries is of a key importance as the prognosis of traumatized teeth. Since school children have more strong memory than adults, giving education about dental trauma is highly considerable. The aim of this study is to evaluate the effectiveness of educational posters and PowerPoint templates on improving the knowledge level of primary school children regarding emergency management of dental trauma.
Material and Methods: 400 children between 7-14 years old were randomized into interventions (poster and Power Point templates) and control groups. 200 children's baseline levels of knowledge about dental trauma were obtained by using a questionnaire. Posters and PowerPoint templates containing information on dental trauma management were displayed to 2 different groups of 100 different children; in the control group no education was given. The data were obtained and chi-square test was used for statistical analysis.
Results: There was no statistically significant difference between PowerPoint templates and the poster group, but the knowledge of children about management of avulsed permanent teeth in PowerPoint group was slightly higher than in the poster group. However, the knowledge of children in both poster and PowerPoint Group showed a statistically significant increase compared to the control group ($p<0.01$).
Conclusions: In primary schools, the education about dental trauma is highly essential and it is more effective to teach through the technological instruments.
Keywords: Dental avulsion, education, primary school, survey study

OP 02-34

Root fractures in children between 8-15 years: Distribution of localization, type and sex

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Aim: The aim of this study was to classify the location and the fracture line with dental tomography evaluation of 60 root fractures in 36 patients aged 8-15 years, who presented with a history of trauma at the Paediatric Dental Clinic of Dicle University.
Material and Methods: In cases with a fracture or a suspected fracture on periapical film, cone-beam computed tomography was applied and the trauma area and fracture line localization were examined and classified. This study was conducted on 36 pediatric patients (8-10, 11-13, and 14-15) with dental injuries. With the aid of CBCT, the 60 teeth determined with root fractures were separated into 3 groups of horizontal, oblique and vertical according to the area of localization. For statistical analysis, the Chi-square test, the Pearson Chi-square test, and the two-way ANOVA test were applied.
Results: Root fractures were determined in a total of 60 teeth of 36 children aged between 8 and 15 years old. Root fractures were seen more in males at a rate of 75% than in females at 25%. While dental root fractures were determined in females in the 8-10 years age group at a rate of 46.2%, more were determined in males in the 11-13 years age group at a rate of 68.1%.The root fractures were observed at a rate of 86.7% in the central teeth in the maxilla and 13.3% in the lateral teeth.
Conclusion: Dental injuries in children are still a problem frequently encountered by dentists. Treatment of dental trauma with multi-discipline approaches is important.
Keywords: Root fracture, trauma, dental injury

OP 02-35

Retrospective Analysis of Traumatic Dental Injuries in Zonguldak

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Aim: To determine the state of dental injuries in Zonguldak in order to increase the social consciousness and take the necessary precautions.
Material and Methods: We retrospectively analyzed dental trauma records of the 188 patients aged 1-12 years-old who referred to Bülent Ecevit University, Faculty of Dentistry, Department of Pediatric Dentistry, during January/2014- January/2017. Data obtained from trauma forms were evaluated according to age, gender, passing time after trauma, cause of trauma, seasonal distribution, dentition status, number of affected teeth, type of trauma and treatment. Data analysis was performed with SPSS for Windows, Version 21.
Results: Dental trauma records of 188 patients, including 68 girls (36.3%), 120 boys (63.8%), with a total of 316 traumatized primary and permanent teeth were evaluated. More dental trauma was observed in permanent teeth (59.5%) than primary teeth (40.5%) and between 7-12 years-old group (61.7%). Late referral to the clinic for treatment of dental injury among the study population was frequently observed. The most common cause of dental trauma was falls (75.0%) and injuries were encountered more frequently in summer (31.9%). The most common types of trauma were subluxations in primary teeth and enamel-dentin fractures in permanent teeth ($p<0.05$). The most commonly applied treatment was follow-up and extraction in primary teeth and restoration in permanent teeth ($p<0.05$).
Conclusion: Early intervention and proper treatment planning are very important for the prognosis of the injured tooth. However, except for severe injuries, the rate of admission to the clinic after trauma was found to be very low. Therefore, the level of social awareness and knowledge on trauma needs to be increased.
Keywords: Dental trauma, retrospective analysis, primary teeth, permanent teeth

OP 02-36

Assessment of Different Remineralization Agents by Surface Microhardness Analysis (SMH)

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Aim: Remineralization as a treatment procedure has received a lot of attention from researchers. Clinical evidence has shown that the artificial caries lesion can be reversed completely or at least in part by remineralizing agents. Surface microhardness (SMH) is possible to assessment the early stages of enamel demineralization and remineralization. SMH is highly sensitive and reproducible method. The aim of study is to assessment the remineralization capacity of different remineralization agent by SMH Analysis.
Material and Methods: In our study, 40 enamel blocks were divided into groups as: Group-1 (GC Tooth Mousse with 10% Casein Phosphopeptide-Amorphous Calcium Phosphate [CPP-ACP]), Group-2 (GC MI Paste Plus with 900 ppm Fluoride content with 10% CPP-ACP), Group-3 (R.O.C.S. Remineralizing Gel with $C_3H_7CaO_6P$+ $MgCl_2$+ 10% Xylitol) and Group-4 (Control; Remineralization Solution). The enamel samples were immersed in a demineralization solution maintained for 72hours and remineralization agents were applied with pH cycling (described by ten Cate et al., 1995) for 6 days. SMH analyze was performed at the baseline, after demineralization and after pH cycling. SMH measurments was performed to three areas in each sample with 300g forces for 15sec. The obtained data were analyzed statistically using ANOVA test, Kruskal Wallis test and Wilcoxen Signed Rank test with SPSS-22 program. The results were evaluated at $p<0.05$ significance level.
Results: SMH was found to be a statistically significant difference between demineralization and remineralization measurements for each group. P value were respectively 0.005 (Group-1), 0.005 (Group-2), 0.005 (Group-3) and 0.017 (Control). The Percentage Surface Microhardness Recovery (% SMHR) of enamel samples were 10% CPP-ACP+ 900 ppm Fluor >10% CPPACP> $C_3H_7CaO_6P$+ $MgCl_2$+10% Xylitol> Control. But; statistically significant differences were not observed between the groups ($p=0.290$).
Conclusions: Three different agents in our study can be considered affective for remineralising to artificial caries lesions.
Keywords: CPP-ACP, calcium glyserophosphat, surface microhardness (SMH), remineralization, demineralization

OP 02-37

Exposure of Gingival Tissue with Diode Laser Around Delayed Eruption of Incisor Tooth

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Introduction: Although soft tissue surgical operations are rejected by children, laser assisted operations have many advantages over conventional methods such as advanced control of bleeding and less discomfort during the operation, reduced swelling and chances of infection, shortened healing time.
Case Report: A 10-year-old girl who applied to Marmara University Faculty of Dentistry, Department of Paediatric Dentistry with a complaint with delayed eruption. According to intraoral examination it was observed that there was no #41 tooth in the oral cavity. Radiographic examination revealed that presence of a radiopaque lesion around the crown of unerupted #41 in the jawbone. For treatment, following the local anesthesia, an incision was made with a 980 nm wavelength diode laser (Doctor Smile, Italy) and the soft tissue on the tooth was excised and the radiopaque structures around the crown were surgically removed and sent to the pathology laboratory. Surgical area irrigated with physiological saline solution, and did not required suture for healing. In radiographic follow ups the eruption movement was observed. One year later, mamelons of tooth was observed on top of crest and it was confirmed by a radiograph.
Conclusion: This case report describes the use of diode laser for incision in the treatment of tooth with delayed eruption. This has been thought to be a successful treatment option due to its advantages both during operation and post-operative period.
Keywords: Delayed eruption, diode laser, odontoma, surgery

OP 02-38

Effectiveness of Space Maintainer on Lower Molar Angulation and Eruption of Permanent Teeth

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Aim: The aim of this study is to evaluate the effectiveness of band and loop space maintainer on lower molar angulation and eruption of second premolar teeth.
Materials and Methods: Patients with band and loop retainer that used for early primary second lower molar loss were scanned from the archive of Ondokuz Mayıs University, Faculty of Dentistry. 75 patients who had panoramic radiographs taken before insertion of band and loop maintainer (T_0) and after debonding the maintainer (T_1) was selected. Molar angle between the axe of mesial root and occlusal plane were measured. Contralateral first molar used as a control group. Also presence of impacted second premolar were evaluated. Paired sample t test and Wilcoxon signed rank test were used for angular measurements. Chi-square test was used to compare the eruption status.
Results: The localization of the maintainers were 23 lower right, 38 lower left. 8 second premolar teeth couldn't erupted at T_1 when the 53 of them took place in the dental arch and this ratio was statistically significant (x^2=0.003). There was significant difference ($p<0.001$) between the molar angulation of the space maintainer side (116.9±8.8º) and contralateral side (111.8±7.7º) at T_0. However there was no significant difference (T_1-T_0) between the angular changes of the first molars in both group (p=0.174).
Conclusion: Space maintainers should be placed just after loss of the primary teeth. If the time between loss of primary teeth and placement of space maintainer elapses, the effectiveness of space maintainer may decrease.
Keywords: Impacted permanent teeth, molar angulation, space maintainer

OP 02-39

Evaluation of Congenital Number Anomalies in Permanent Dentition of Children

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Aim: This study is to analyze retrospectively the number anomalies of the permanent teeth of 6-8 year old children who applied to our clinic and to evaluate the distribution and prevalence according to gender and localization.
Material and Methods: The files of 5377 patients between the ages of 6-8 who applied to our clinic between September 2015-2017 were reviewed and those panoramic radiographs taken for any reason were selected for this study. Panoramic radiographs were evaluated for number anomalies, localizations, sex and age distributions and other dental anomalies. Statistical analysis was done with SPSS.
Results: 1988 patients (947 females, 1041 males) who were eligible to work with panoramic radiographs were included in the study. Permanent tooth agenesis was detected in 5.53% of the patients included in the study. The tooth with the most agenesis was the right mandibular second premolar. Dens invaginatus was found in 5.45%, gemination/fusion in 3.39% and peg-shaped laterals in 2.72% of the patients with tooth agenesis. 1.21% of the patients were found to have supernumerary teeth. Supernumerary teeth were found to be statistically significantly higher ($p<0.05$) in males than females and most commonly seen as mesiodens in the premaxilla (75.86%).
Conclusions: Tooth agenesis was found more frequently than supernumerary teeth in child patients. It is important for radiologic and clinical examinations to be carried out carefully in terms of anomalies and for dentists to have adequate and detailed information on number anomalies so that diagnosis and treatment services can be provided in timely and accurate manner.
Keywords: Dental anomalies, hypodontia, panoramic radiography

OP 02-40

Evaluation of Shade Matching Success of Dental Students and Dentists

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Aim: The purpose of this study was to evaluate shade matching success of dental students in different education stages -preclinical students and inters- and dentists.
Material and Methods: Dental students who have at the preclinical stage of dental education, interns, dentists who have clinically experienced maximum three years, and prosthodontists were included for this study. Preclinical stage of dental education was devoted to two groups related to before and after taking shade matching subject courses. Participants without eye diseases and disorders were randomly selected for this five groups (n=10) from Faculty of Dentistry, Gazi University, Ankara, Turkey. Pair of porcelain specimens (13 mm x 2.4 mm) were fabricated based on Vita Classical A1-D4 shade guide for each color. The dental students, dentists and prosthodontists were asked to match the pairs on the same conditions and color codes were noted. Shade matching success ratio were calculated for each groups and data was analyzed using One Sample T Test.
Results: Group PD1 (preclinical dental students before taking shade matching subject courses) showed lowest success (average ratio: 37.25%) of matching the shades. Highest shade matching success ratio (average ratio: 61.25%) was experienced at Group P (specialists in prosthodontics).
Conclusions: Accurate shade matching could be improved with education in this field and clinical experience. This study highlighted that success ratio differences of shade matching between various education levels on dentistry were clinically important to choose correct shade for harmonious restorations.
Keywords: Shade matching, dentist, dental student

OP 02-41

Risk Factors for Preoperative Anxiety Before Oral and Maxillofacial Surgery

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Aim: Anxiety is a temporary emotional state of tension, nervousness, fear, and high autonomic nervous system activity. The aim of our study is to investigate the anxiety level of patients before maxillofacial surgery and to also analyze the association between anxiety and demographical/clinical data.
Material and Methods: This prospective, observational study was conducted in 333 patients, aged 16-60 years, scheduled for oral-maxillofacial surgery. Patients were interviewed before the operation to determine their preoperative anxiety with the Beck Anxiety Inventory. Demographic information was collected with a structured questionnaire (age, sex, American Society of Anesthesiologists (ASA) score, civil status, educational status, having major/minor surgery, informed about the operation, previous surgery, job-economic status, health insurance, and having a child in need of care). Levels of anxiety were allocated to 3 groups: 0 to 15, low to mild anxiety; 16 to 25, moderate anxiety; 26 to 63, severe anxiety. Multivariate conditional regression modeling was used to determine independent predictors of preoperative anxiety as well as to evaluate the relationship between anxiety and risk factors.
Results: High preoperative anxiety was associated with the female gender (OR=2.29), ASA-II (OR=1.38), more than 12 years of education (OR=1.68), major surgery (OR=1.52), housewife status (OR=1.76), being single (OR=1.93), absence of health insurance (OR=2.01), and having a child in need of care (OR=2.18). Previous surgery (OR=0.61) and being informed about the operation (OR=0.58) were associated with lower levels of preoperative anxiety.
Conclusions: It is critical for any surgery to carefully observe patients and assess appropriate preoperative anxiety (including its management) in order to avoid the troubling intra-postoperative results of preoperative anxiety.
Keywords: Preoperative anxiety, maxillofacial surgery, risk factors

OP 02-42

Investigation of the Antimicrobial Activity of some Fruits with High Phenolic Content on Streptococcus mutans from Oral Pathogens

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Aim: The aim of this study was to investigate the level of antimicrobial activity on S. mutans of the pomegranate, strawberry and pineapple fruits rich in phenolic content.
Material and Methods: In this study, fruit extracts were prepared in the same conditions for each fruit, and the level of water-soluble dry matter was determined. Total phenolic and flavonoid values were determined. Disc diffusion and Minimum inhibitory concentration (MIC) methods were used to determine antimicrobial activity.
Results: The ability to control pathogenic microorganisms in the oral flora is important in terms of oral and dental health. The most significant antimicrobial activity level within the limits of this study was obtained in the pomegranate fruit extract.
Conclusions: In order to suppress pathogenic microorganisms especially in the oral flora, the importance of natural herbal products should be emphasized and further research on this subject should be supported.
Keywords: Antimicrobial activity, S. mutans, fruits extract

OP 02-43

Investigation of the Effects of Yogurt, Probiotic Yogurt and Kefir on Mutans Streptococcus and Lactobacillus Levels and Saliva Buffering Capacity in Orthodontic Patients

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Aim: The aim of this study was to investigate the effects of probiotic yogurt, yogurt and a natural probiotic kefir on the amount of *S. mutans* (SM) and *Lactobacillus* (LB) and the saliva buffering activity in the mouth flora of young patients treated with fixed orthodontic devices.
Material and Methods: A single-blind, prospective and crossover study was performed in 24 healthy adolescents, undergoing fixed orthodontic treatment for at least 12 months. The volunteers ingested probiotic yogurt, yogurt and kefir daily for 2 weeks. Saliva and dental plaque index were collected from each participant at the end of each period. SM and LB levels, saliva buffering capacity were counted. Friedman and Wilcoxon tests were used for statistical analysis at the.05 level of significance.
Results: A statistically significant reduction of salivary SM levels were recorded after probiotic yogurt and kefir consumption ($p<0.01$). There were no significant change in salivary SM levels after consumption of yogurt ($p>0.05$). A statistically significant reduction of salivary LB levels were recorded after kefir consumption ($p<0.01$). There were no significant changes in salivary LB levels after probiotic yogurt and yogurt consumption ($p>0.05$). A statistically significant decrease in the saliva buffering capacity after consumption of probiotic yogurt and kefir was recorded ($p <0.01$). There was no significant change in saliva buffering capacity after yogurt consumption ($p> 0.05$).
Conclusion: Kefir consumption reduced LB amounts in patients with fixed orthodontic treatment. Probiotic yogurt and kefir consumption can be recommended in school-age patients with fixed orthodontic treatment to prevent tooth decay.
Keywords: Probiotic, kefir, S. mutans, lactobacillus, saliva buffer capacity

OP 02-44

Evaluation of Parental Knowledge Levels About Preventive Dentistry Practices

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Aim: Dental caries is the most common childhood disease. The researches on caries have been recently paying more attention to the prevention of dental caries and remineralization of initial carious lesion. The objective of this study is to find out the level of awareness among the parents about preventive dentistry practices.
Material and Methods: The 601 parents who brought their children to receive treatment at the Department of Pediatric Dentistry, Inonu University, Malatya, Turkey were included in this study. (66.8% female, 33.2% male; age 37.04±8.67 years). A 21-item questionnaire was filled in by the parents. The data were collected and the frequencies were obtained. The Chi-Square test was used for statistical analysis.
Results: We found that the participants with the higher income were more knowledgeable on fluoride application ($p<0.01$). Besides, the participants with higher levels of education were more conscious of preventive dental practices such as fluoride and fissure sealants applications and well aware of which teeth were applied to the fissure sealants ($p<0.01$).
Conclusion: Fluoride and fissure sealant applications must be part of children's prevention program. The parents' knowledge on preventive dentistry practices was not sufficient enough. Therefore, all parents during pregnancy and after childbirth period should be educated about preventive dentistry before it is too late for their children's dental health.
Keywords: Fissure sealant, fluoride, knowledge, parents, preventive dentistry

OP 02-45

Oral Findings in Preterm and Low Birth Weight Infants: A Review

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Aim: Preterm and low birth weight (PLBW) infants are at significantly higher risk for health complications and also oral health problems. The present paper reviews the results of the studies about oral findings in PLBW infants/children.
Material and Methods: Literature search was performed using PubMed/MEDLINE (through 2000) and restricted to the English language with the keywords: oral findings, preterm and low birth weight infants. The literature search resulted in 291 articles, of which 22 included in this review. The reported oral findings in PLBW infants/children were enamel defects, high caries risk, delay in tooth eruption, altered palatal morphology and crown dilacerations.
Results: Enamel hypoplasia and enamel opacity were the most reported enamel defects in the primary dentition. The high prevalence of enamel defects was associated with very low birth weight and low bone mineral content. The significant association with enamel defects and dental caries in the PLBW children was reported in several studies. Delay in tooth development and eruption among the premature infants was reported, but when corrected age was considered, no delay was found in tooth eruption. The higher incidence of palatal abnormalities and crown dilacerations in PLBW children may be associated with traumatic laryngoscopy and prolonged endotracheal intubation.
Conclusions: This review suggests an increased risk of enamel hypoplasia, enamel opacities and dental caries in PLBW children. Early diagnosis and preventive interventions are important for dental management of children with PLBW. Further well-designed studies are needed to analyze the complications of preterm birth and low birth weight on oro-dental structures.
Keywords: Oral findings, preterm, low birth weight infant

OP 02-46

Caries Prevalence of Pre-School Children in Diyarbakir Province

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Aim: Early childhood caries (ECC) is the presence of one or more decayed, missing, or filled primary teeth in children aged 71 months (5 years) or younger. There is a marked increase in the prevalence of ECC. This study was planned to determine the prevalence of caries in the children in Diyarbakir kindergartens and to evaluate the effect of the sex, age, number of sibling, and socioeconomic status of the families on ECC.
Material and Methods: This research was conducted on 605 children between the ages of 3-6 who were educated in 5 different kindergartens in Diyarbakır. Intraoral examinations of children were carried out by 4 research assistants.
Results: Statistical analysis with Stata 11.0, statistical demographic analysis with SPSS 22.0; the number of siblings, the educational status of the mother, the fact that the mother was a housewife had no effect on the number of decayed teeth. As a result of this research, it has been found that the number of age-related carious teeth, the increase in the number of carious teeth by the self-employed fathers compared to other occupational groups, and that the children of primary school graduates are less decay than the children of literate fathers.
Conclusions: Prevalence of caries was determined on a total of 605 children between 3-6 years of age in the 5 different kindergartens in Diyarbakir, and the effect of the child's sex, age, sibling number and socioeconomic status of the family on the caries was investigated.
Keywords: Early childhood caries, caries prevalence, dmft

OP 02-47

Evaluation of the Dental Fluorosis Prevalence and Relationship Between Dental Caries and Fluoride Concentration in Drinking Water Among 13 and 14 –Year-Old School Children in Kırıkkale, Turkey

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Aim: The purposes of our study are; to determine the frequency of dental fluorosis in Kırıkkale, to investigate the association between the amount of fluoride in drinking water and severity of fluorosis, and to detect the association between dental fluorosis and dental caries.
Material and Methods: In our study, we included 13-14 years old school-children. We did intra-oral examination of children and determined the frequencies of dental flourosis and caries. Also, we examined a questionnaire to parents and children to determined hygiene habits and drinking water resources used. The fluor concentrations of determined drinking water sources were measured. Water samples were taken from the detected water sources and fluorine analyzes were carried out. The data were analyzed statistically using chi-square and *t* tests.
Results: A total of 1506 children were examined in the present study. The overall prevalence of dental caries among the school children was 70.5% (1061/1506). The prevalence of dental fluorosis was 21.8% (328/1506). Fluoride concentrations of drinking water throughout Kırıkkale have been found to vary between 0.128 ppm and 5.967 ppm. It has been found that as fluoride concentrations of drinking water increase, dental fluorosis increases significantly. However, there was no significant relationship between DMFS and dental fluorosis.
Conclusions: Identifying fluoride sources of drinking water and knowing what resources the community uses is a significant step in preventive oral and dental health practices. The fluoridation of drinking water has an important place in the control of tooth decay. However, many factors affecting the caries frequency and average should be considered.
Keywords: Dental Fluorosis, dental caries, enamel hypoplasia, prevalence study

OP 02-48

The Effect of Different Pre-Treatments on The Shear Bond Strength Between Monolithic Zirconia and Resin Cement

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Aim: The aim of this study was to evaluate the effect of surface pre-treatments on the shear bond strength of monolithic zirconia and self-adhesive resin cements.
Material and Methods: 60 disk shaped (10 mm diameter and 2 mm thickness) monolithic zirconia specimens were prepared and randomly divided in 6 groups: Control group, no pre-treatment (Group C), sandblasting with 110 µm Al2O3 (Group S), Er:YAG laser irradiation (group L), conditioning with zirconia primer (group P), conditioning with zirconia primer after sandblasting (group SP), conditioning with zirconia primer after laser irradiation (group LP). One specimen of each group was analysed by scanning electron microscope (SEM) for evaluating the surface topography. Resin cement was applied on the specimen surface and shear bond strength (SBS) tests were performed. Data were statistically analyzed using One-way ANOVA and Tukey's multiple comparisons at a significance level of $p < 0.05$.
Results: All pretreated groups exhibited higher SBS values than control group (2.2 ± 0.58 MPa). The highest SBS values were observed at group SP (15.52 ± 1.65 MPa) ($p<0.05$). Conditioning groups showed higher SBS values than unconditioned groups ($p<0.05$).
Conclusion: Different pretreatments demonstrated an important effect on the SBS of monolithic zirconia and self-adhesive resin. The application of primer enhanced the effectiveness of bonding.
Keywords: Monolithic zirconia, surface treatments, primer, resin cement, shear bond strength

OP 02-49

Comparison of Salivary Visfatin Levels in Patients with Dental Caries

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Aim: Dental caries is a transmissible and infectious disease, which is caused by bacteria colonizing and proliferating on the tooth surfaces. Teeth are in danger of caries from the moment they first appear in the mouth. Oral and dental health has been shown to be associated with systemic diseases and conditions. Visfatin is a newly discovered adipokine released from adipose tissue, macrophages and leukocytes. Visfatin increases leukocyte activation and release of proinflammatory cytokines. Therefore, visfatin plays an important role in chronic inflammation. In this study, our aim was to compare salivary visfatin levels in patients with severe caries and caries free.
Material and Methods: Saliva samples were collected from 47 healthy controls and 125 patients with severe caries who admitted to Selcuk University Dentistry Faculty clinics between in 01/05/2017-01/12/2017. Saliva samples were collected according to stimulated saliva collection procedure. Visfatin levels were measured by ELISA. Statistics were made by using SPSSv.21.
Results: Visfatin levels in saliva were statistically higher in patients with caries median 130.7 (10-511ng/mL) compared to control group median 70.33 (5-270 ng/mL) ($p<0.001$). There was correlation between caries numbers and salivary visfatin levels. ($r=0.6$, $p<0.001$). Salivary visfatin levels were also higher in patients with periodontitis ($p=0.004$). The presence of both periodontitis and caries increases salivary visfatin most.
Conclusion: Finding of this prospective study demonstrated that salivary Visfatin levels can be a good biomarker for diagnosis both dental caries and periodontitis as it is simple and easily collected. It may be also a good indicator of intra-oral chronic inflammation.
Keywords: Visfatin, dental caries, periodontitis, saliva

OP 02-50

Evaluation of Relationship Between Signs and Symptoms of Bruxism and Pulpal Calcifications on Females: A Clinico-Radiological Study

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Aim: The purpose of this study was to investigate the relationship between signs and symptoms of bruxism and pulpal calcifications.
Material and Methods: A total of 100 female participants, who referred to our radiology clinic for a dental check-up, between 20 and 31 years old were sampled for the analysis. The exclusion criteria were consisted of painful temporomandibular joint disorders, mental disorders, use of psychotropic drugs, other substance abuse such as alcohol, gross malocclusion existence, prior removal of any teeth except the third molars, and presently undergoing orthodontic treatment. Bruxism was diagnosed based on the American Academy of Sleep Medicine criteria. All teeth were evaluated on digital panoramic radiographs for the detection of the pulp stones, excepting third molars, teeth with root canal treatment and root resorption. The data obtained from the study was assessed using IBM SPSS Ver. 21.0. Mean and standard deviations were calculated. Chi-squared test was used for testing relationships between categorical variables. $P<0.05$ value was considered statistically significant for all analysis.
Results: 2800 teeth were evaluated and 61% of patients had at least one dental pulpal calcification. Of the 100 female patients, 59 were bruxist and 41 were non-bruxist. There was no statistically significant relationship between bruxism and pulpal calcifications ($p>0.05$, $p=0.683$). In bruxist individuals, the total number of pulpal calcification was 129, while in non-bruxists it was 84.
Conclusions: Although there was no significant relationship between pulp stone and bruxism, bruxism may increase the frequency of pulp stone. Other possible influencing factors should be investigated.
Keywords: Bruxism, panoramic radiograph, pulpal calcification, sleep medicine

OP 02-51

Osteoarthritic Changes of Temporomandibular Joint Related to Age and Gender: A Retrospective Study

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Aim: To evaluate distribution of osteoarthritic changes (OC) in temporomandibular joint (TMJ) of patients according to gender, age ranges and each other.
Material and Methods: Male (n=19) and female (n=20) patients between ages of 48 and 87 were included for this study and their OC in TMJ were analyzed on cone-beam computed tomography images. Mann-Whitney U and Kruskal-Wallis tests were performed to compare statistically the results.
Results: Sclerosis was most prevalent type of OC in TMJ (29.5%) and subchondral cyst was most rare one of those (1.6%). There was no statistically significant difference of OC in TMJ according to gender and age ranges (p>0.05), but there was only statistically significant difference between subchondral cyst and sclerosis (p=0.008).
Conclusions: Gender and age factors do not always affect the rate of OC in TMJ. Nevertheless, some types of OC in TMJ may be seen more prevalent as sclerosis.
Keywords: Temporomandibular joint, cone beam computed tomography, dentition

OP 02-52

Prevalence and Characteristics of Pneumatization of The Articular Eminence and Glenoid Fossa Evaluated by Cone Beam Computed Tomography in Turkish Population

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Aim: Pneumatization refers to the presence of air spaces within bones. Pneumatization in articular eminence (PAT) and glenoid fossa (PGF) facilitates various pathologies, such as inflammation, tumor and fracture, to permeate into joints. Noticing this situation that increases the risk of complication in surgical operations towards TMJ and makes the operation difficult, is important in considering the procedure and the surgical technic that will be applied and taking necessary precautions. The aim of this dissertation study is to evaluate the articular eminence and glenoid fossa pneumatization with regards to age and sex, as laterality and type with a cone beam computed tomography and to contribute to the literature.
Material and Methods: Study group consists of CBCT images that were taken due to independent reasons between June 2012-June 2014 at Marmara University, Faculty of Dentistry, Dentomaxillofacial Radiology Department. Images were examined retrospectively. In order to evaluate the data obtained IBM SPSS Statistics 20 is used. The study data are presented in terms of mean, standard deviation, percentage and numbers. The comparison of two categorical groups is made by chi-squared test.
Results: In all the phenomenon 14.7% PAT and 47.1% PGF are observed.
Conclusions: It is concluded that it is important to evaluate the pneumatic cells in articular eminence and glenoid fossa region before the surgical operations related to this region and that it is helpful to evaluate pneumatization with CBCT.
Keywords: Articular eminence, cone beam computerized tomography, glenoid fossa, pneumatization, temporal bone

OP 02-53

A Retrospective Evaluation of Compound Odontomas

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Aim: Odontomas are one of the most common odontogenic tumors of the jaw. Allthough the exact etiology is not clear histologically they are composed of various formations of dental tissue. In the WHO classification, they are divided into complex odontoma and compound odontoma. In compound odontoma, varied numbers of tooth-like elements are present. These odontogenic tumors can be found anywhere in the dental arches. The aim of this study was to assess the fraquency, age, localization and sex distribution of compound odontomas.
Matherial and Methods: A retrospective study was carried out in 43 patients with compound odontomas diagnosed in individuals, who consecutively attended our clinic. These odontomas were evaluated for age, sex and localization with panoramic and cone beam computed tomography images. Data were interpreted with the aid of statistical analyses. Categorical parameters were expressed as the number and frequency (%) distribution, numerical variables were expressed as the mean and standard deviation.
Results: Among these patients 48.84% (n=21) were male and 53.16% (n=22) were female. The mean age was 19.26 ± 9.62 (mean±std deviation). The most frequent region for compound odontoma was left maxilla (37.21%), followed by 30.23% right maxilla, 18.60% left mandible and 13.95% right mandible.
Conclusion: The knowledge of the characteristic of the odontomas, is a basic aspect to achieve diagnosis, complications and a proper treatment.
Keywords: CBCT, compound odontoma, panoramic radiography

OP 02-54

Effect of Dentin Desensitizers on Shear Bond Strength of Adhesive Resin Cement to Dentin

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Aim: The purpose of this study was to evaluate the effects of different desensitizing agents on shear bond strength of adhesive resin cement to dentin.
Materials and Methods: Forty specimen teeth were randomly divided into four experimental groups (n=10). Each group was treated with a different desensitizing agent (Teethmate, Ultra-Ez, and Shield Force Plus) respectively, except for an untreated control group. After desensitizing agents and adhesive resin cement were applied to each dentin surface, all specimens were stored in incubator at 37°C for 24 hours. The shear bond strength was measured using a Universal testing machine at a 0.5 mm/minute crosshead speed. Data were analysed by using statistical software SPSS 24.0 ($p<.05$).
Results: The Shield Force Plus showed significantly the highest shear bond strength (24.90±0.81) compared with other groups ($p<.05$). Ultra-Ez showed the lowest shear bond strength (16.85±0.67) ($p>.05$). The Teethmate showed significantly higher bond strength values (19.52±0.77) compared with Ultra-Ez ($p<.05$). There was no significant difference among Ultra-Ez and control (17.17±0.33) groups ($p>.05$).
Conclusions: Desensitizers containing resin monomers and calcium phosphate increased the bonding strength, however desensitizers containing potassium nitrate and fluoride did not affect the bonding strength of resin cement to dentin.
Keywords: Dentin desensitizers, bond strength, adhesive resin cement

OP 02-55

Effect sof Sodium Thiosulfate on Bond Strengths of Resin Cement to Endodontic Surfaces

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Aim: To investigate the effect of use of sodium thiosulfate after NaOCl on the bond strength of self-adhesive resin cement.
Material and Methods: This experimental study was conducted on 12-extracted human maxillary incisors. Three slices were cut from the middle third of the root by using a low-speed diamond saw. In each dentin slice, two canal-like holes were created. The slices were randomly seperated into 2 groups: Distilled water group (the slices were immersed in 5.25% NaOCl for 30 minutes, then immersed in distilled water for one minute and 10% citric acid for 1 minute); sodium thiosulfate group (the slices were immersed in 5.25% NaOCl for 30 minutes, then immersed in 5% sodium thiosulfate for 10 minutes and 10% citric acid for 1 minute). Self-adhesive dual-cured resin cement (Bifix SE) was filled into the holes and light polymerized for 10 s. The slices were subjected to push-out test in a mechanical universal testing machine. The bond strength data was analyzed using one-way ANOVA and LSD tests.
Results: The mean and standard deviations of the push-out bond strength (in MPa) were 11.12 ± 9.19 for distilled water group, and 15.06 ± 8.21 for sodium thiosulfate group.Sodium thiosulfate group had significantly higher push-out bond strength values than distilled water group ($P < 0.05$).
Conclusions: Within the limitations of this study, the application of sodium thiosulfate increases the bond strength of resin cements, which is decreased by sodium hypochlorite application.
Keywords: Sodium thiosulfate, resin cement, bond strength

OP 02-56

Changes in Chemical Composition of Enamel Submitted to Acid Attack After Bleaching

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Aim: The aim of this in vitro study was to determine the changes in chemical composition of enamel submitted to acid attack after bleaching.
Material and Methods: Human extracted premolars (n=10) were divided into four parts and the specimens obtained from each tooth were assigned to four groups. The bleaching systems, Opalescence PF 10% carbamide peroxide (CP), WHITEsmile XTRA 38% hydrogen peroxide (HP) with laser activation and light activation were used. Then, WHITEsmile after bleaching mousse was applied. No agent was used in the control group. The specimens were treated with artificial caries solution for 16 days to create acid attack. The losses of calcium, sodium, magnesium and potassium were observed every four days by inductively coupled plasma mass spectrometry (ICP-MS). Data were analysed by repeated measures ANOVA and post-hoc Bonferroni test ($p<0.05$).
Results: The highest loss measurements were obtained for calcium and the lowest for magnesium and potassium after the acid attack. The solubility had increasing tendency in the following days. At the end of the 16th day, calcium loss was observed to be higher in groups bleached with HP ($p<0.05$). There was no significant difference in the loss of sodium, magnesium and potassium between the groups.
Conclusions: The losses in chemical composition of enamel submitted to acid attack after bleaching are proportional to the levels of the measured minerals. The low-concentrated peroxides seem to be more reliable considering the mineral loss.
Keywords: Acid attack, bleaching, chemical composition, enamel, mineral loss

OP 02-57

Responses of L929 Mouse Fibroblasts to Contemporary Self Adhesive Restorative Materials

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Aim: Resin-modified glass ionomers, reinforced glass ionomers, bioactive materials, which are composite alternatives, are generally used for restoration of deep caries. The biocompatibility of materials that are so close to the pulp is very important. The aim of this study was to evaluate the cytotoxic effects of contemporary self adhesive restorative materials on L929 Mouse Fibroblasts.
Material and Methods: Fuji II LC (GC), EQUIA Forte (GC), ACTIVA BioACTIVE-RESTORATIVE (Pulpdent), Glass Fill (GCP) and Vitrebond (3M) contemporary self-adhesive restorative material specimens were prepared according to manufacturers' instructions with using standard teflon matrix. Set materials were extracted in culture medium, and cytotoxicity was determined on L929 Mouse Fibroblasts. Cell viability was evaluated with XTT (2,3-Bis (2-methoxy-4-nitro-5-sulfophenyl) -2H-tetrazolium) method. The mean values of control tissues were set to represent 100% viability. Data were analyzed using by oneway ANOVA and Tukey's HSD tests.
Results: The ranking of the least to the most cytotoxic material was: Fuji II LC < ACTIVA BioACTIVE-RESTORATIVE < EQUIA forte < Glass Fill < Vitrebond on L929 Mouse Fibroblasts. The original extract concentration of all test materials, ½, ¼ concentrations of Vitrebond and ½ concentration of Glass Fill were different from untreated controls ($p<0.05$).
Conclusion: The influence of the cytotoxicity depended on the materials tested and at high concentration, all test materials are cytotoxic on L929 mouse fibroblasts.
Keywords: Restorative dentistry, XTT assay, glass ionomer, bioactive materials, self adhesive

OP 02-58

Micro-leakage Evaluation If Self-Adhering Flowable Composites in Class V Cavities Prepared by Different Methods

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Aim: Recently, a new category of restorative composites so-called self-adhesive (flowable) which does not require any acid etching or bonding protocol prior to application has been introduced. In dental preparations, usually burs are used. On the other hand erbium lasers provide minimal removal of tooth tissue along with the caries, involve no noise or vibration and reduce the need for local anesthesia. Hence, in this study the success of self-adhesive composite restorations prepared by different methods was evaluated in terms of microleakage.
Material and Methods: Sixty extracted human premolars were used. Specimens were randomly divided into two groups to be restored with Vertise flow and Constic self-adhesive flowable composites. Then divided into three subgroups to be prepared with Er:YAG laser, Er-Cr:YSGG laser and Bur(n=10). Restored specimens were thermocycled 5000 times between 5-55°C with a dwell time of 30 s and then immersed in 50% W/W ammoniacal AgNO3 solution. Micro-leakage evaluations were made by using SEM and Stereomicroscope. Data were analyzed by Kruskal–Wallis and Mann–Whitney U tests ($p<.05$).
Results: More microleakage was observed in cervical regions compared to occlusal regions in all groups ($p<.05$). No significant difference was observed among all groups in terms of occlusal regions ($p>.05$) but in cervical regions bur prepared groups showed less micro-leakage then other groups ($p<.05$).
Conclusions: The evaluated self adhering composites similarly behaved. Laser preparations caused much micro-leakage corresponded to bur preparation.
Keywords: Self-adhering composite, micro-leakage, Er:YAG laser, Er-Cr:YSGG laser

OP 02-59

Evaluation of Periodontal Disease Self-report Validty of Patients Attended to Ankara University Faculty of Dentistry

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Aim : The aim of this study is to evaluate the validity of a predictive model that includes self-report measures for periodontitis screening and periodontal awareness with the comparison of data from clinical examination and self-report questionnaires of patients who refered to Ankara University Faculty of Dentistry.
Material and Methods: 350 patients were included in the study. Participants were asked 25 questions, including demographic information, oral hygiene habits, and self-reported measures of periodontal status. Plaque index and gingival index were obtained from Ramfjord teeth in all patients. The CPI measurement was made and the highest score for each sextant was recorded. A pocket depth measurement was made from 4 surfaces of all teeth and recorded with gingival recessions. Logistic regression analysis was used to construct a predictive model.
Results: At the end of the study, it was noted that individuals older than 30 years, men, smokers, only complaints to the dentist, patients who thught that they had gingival recession, and anterior teeth alignment had a higher risk of periodontitis. Self-report measures obtained with these questions were included in the outcome predictive model. Sensitivity and specificity were found as 47% and 63%, respectively.
Conclusions: When considering the results of our study the periodontal measurements we evaluated did not show validity in epidemiological studies. However, the validity of these questions can be tested in studies with larger populations. In addition, our findings suggest that indicator questions about periodontal disease may provide a higher level of predictability for peridontitis when used in combination with previously identified risk factors.
Keywords: Awareness, self report, periodontal disease, predictive model

OP 03-01

Evaluation of Periodontal and Mandibular Cortical Bone Status in Children with Type 1 Diabetes Mellitus: A Pilot Study

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Aim: Type 1 diabetes mellitus is a chronic metabolic disease with early manifestation predominantly in the childhood. In children with type 1 diabetes, periodontal diseases are significantly higher than that in the healthy population and there is differentiation in osteoblastic and osteoclastic activity bone quality decreases. The aim of this pilot study is evaluation of periodontal and mandibular cortical bone status using with orthopantomography in children with Type 1 Diabetes Mellitus.
Material and Methods: 40 patients which are 20 with type 1 diabetes mellitus and 20 healthy children were included. Periodontal diseases were detected with clinic examination and orthopantomography was take for mandibular cortical bone thickness.
Results: Range of age was 13.10 2.5. 65% of participants were women, 35% of them were men. In children with type 1 diabetes mellitus, periodontal plaque and gingival bleeding indexes were significantly higher than healthy children. ($p<0.05$) Mandibular cortical bone thickness was 0.307 in children with type 1 diabetes mellitus, 0.333 in healthy children and there was no significantly statistically different between groups.
Conclusion: Oral and bone health are very important for children. In children with type 1 diabetes mellitus, oral examinations and bone development should be followed regularly.
Keywords: Bone thickness, type I diabetes mellitus, children, periodontal diseases

OP 03-02

Ultrasonography in Determining Pubertal Growth and Bone Age

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Aim: The purpose of this study is to evaluate the compatibility of ultrasonographic data with hand-wrist graphs.
Material and Methods: In this study, a total of 120 children from 10 to 17 years old (mean age was 168 months ± 27.5 months) were performed hand-wrist graphs and ultrasonographic imaging. Researchers examined the phalanges, sesamoid bone, and radial bone distal epiphysis-diaphysis comparatively in each patient by both imaging methods and statistical evaluation.
Results: There was no statistically significant difference between conventional radiography and USG values at 13 points except for PP1 (proksimal phalanges of the first finger), PP2 (proksimal phalanges of the second finger), and radial epiphysis ($p >.05$). The CBA (bone age obtained from conventional graphs) of the females was found to be larger than their CA (chronological age) and their UBA (ultrasonographic bone age). For males; the means of the CBA, UBA and CA values close to each other. In females; there was a strong correlation between the CA and the CBA ($r = 0.864$), between the UBA and the CBA($r = 0.847$), and between the CA and UBA ($r = 0.780$) ($p <.01$). In males; there was a strong correlation between the CA and UBA ($r = 0.891$), between the CA and the CBA ($r = 0.817$), between the UBA and the CBA ($r = 0.745$) ($p <.01$).
Conclusions: Ultrasonography gives detailed information about epiphyseal diaphysis relations. It can be used as an alternative to conventional grafting in the detection of bone age and pubertal growth, owing to the absence of ionizing radiation.
Keywords: Bone age, hand-wrist radiography, ultrasonography

OP 03-03

Distribution of Soft Tissue Injuries in Children with Dento-Alveolar Traumas in Erzurum: A Retrospective Study

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Aim: The aim of this study is to evaluate the distribution and the type of soft tissue injuries associated with dento-alveolar traumas in patients who applied to Department of Pedodontics, Faculty of Dentistry, Ataturk University in 2016-2017.
Material and Methods: This retrospective study was carried out by selecting cases with perioral soft tissue injuries from dento-alveolar trauma archives of our department. Types of soft tissue injuries were classified as contusion, abrasion, laceration and penetration. Also, the injury site was determined.
Results: Patients in this study ranged in age from 2 to 15 years, with an average age of 7.7±3.4. The results showed that 14 (31.8%) patients had more than one type of soft tissue injury. While, 14 of dento-alveolar injuries involved primary dentition, 29 were involved permanent dentition. Only one patient suffered from soft tissue injuries without having any dento-alveolar trauma. Of the total of 74 soft tissue injuries, 25 (33.8%) contusions, 22 (29.7%) abrasions, 26 (35.1%) lacerations, and 1 (1.4%) penetration injury was observed. Among the soft tissue injuries observed in the lower jaw, floor of the mouth, tongue, lips, gingiva, nose, eye and face, injuries were seen mostly in upper lips (41.9%) and lower lips (24.3%).
Conclusion: Dentists should have the knowledge and equipment to treat the patients with dento-alveolar trauma and perioral soft tissue injuries.
Keywords: Children, soft tissue injuries, statistics and numerical data, tooth injuries

OP 03-04

Traumatic Dental Injuries in Children Presenting for Treatment at The Department of Pediatric Dentistry, Faculty of Dentistry, University of Ataturk, 2016–2017

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Aim: Data pertaining to traumatic dental injuries of children seeking care at the teaching clinics of the Department of Pediatric Dentistry, Faculty of Dentistry, University of Ataturk over a period of 2 years were analyzed.
Material and Methods: The study was based on the dento-alveolar trauma records of patients who applied the department of Pedodontics of Ataturk University Faculty of Dentistry. The children were examined clinically for dental injuries. The following information was recorded: age, gender, etiology, localization, place, number of injured teeth, type of trauma, type of tooth, and treatment provided. Andreasen & Andreasen classification was used in dento-alveolar trauma records.
Results: A total of 247 patients aged 1–15 years presented a total of 436 traumatized teeth. 143 boys (58%) and 104 girls (42%) with a mean age of 8.2 years participated in the study. The peak incidence of injury was 8–10-year age group. The most common type of dental injuries were luxation injuries (37.5%), uncomplicated crown fractures (26.09%), and complicated crown fractures (15.13%). Most injuries involved one tooth (49.8%) and maxillary central incisors were the most affected teeth (50.5%). Also, the most frequent treatment was examination only (27.7%).
Conclusions: Preventive educational program should be instituted in Erzurum, to inform parents and school teachers about the importance of traumatic dental injuries and the benefit of immediate attendance for dental treatment. Also, continuing education programs offering the latest updates in the management of traumatized teeth should be provided for dental and medical practitioners.
Keywords: dental trauma, injury, pediatric dentistry, retrospective study

OP 03-05

Panoramic X-Ray Assessment of the First Permanent Molars in the Children 6-9 Years Old in Erzurum

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Aim: The aim of this study is to evaluate the prevalence of necessities of the endodontic and restorative treatments for the first permanent molars in the children who presented at our department of pediatric dentistry.
Material and Methods: This cross-sectional survey consisted of the patients having orthopantomogram (OPG) images, among the 6-9 years-old children who applied to the Faculty of Dentistry, Ataturk University between August-December 2017. The patients with obscured OPGs preventing the assessment of the first permanent molars were excluded and median study age was covered with the data of 433 children (222 girls, 211 boys) with a mean age of 7,69±0.89. SPSS 20.0 software was used for data analysis.
Results: In the assessment process, we observed a-4.6% carries rate in four permanent molars, 8.5% in tree molars, 17.3 % in two molars, and 21.2% in one. And the rate of the children with no carries in first permanent molars was found as 48.3%. The caries ratio between upper and lower molars were statistically different ($p<0.05$). We observed a total of 15 molars with periapical lesions all were mandibular. The DMFT value for first permanent molar teeth was observed as 1.12±1.29.
Conclusion: In regard to the data obtained in the study, due to the high rate of carious lesions observed in the 6-9 year old, we think that the dental practitioners should raise awareness among the parents about the importance of the oral &dental health in the transition from primary to permanent dentition.
Keywords: Children, caries, first permanent molars, panoramic radiography

OP 03-06

Evaluation of Metals Contained in Dental Implant in the Hair of Dental Implant Patients

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Aim: The purpose of this research, evaluation of metals contained in dental ımplant (titanium (ti), aluminum (al) and vanadium (v)) in the hair of dental ımplant patients.
Material and Methods: Our work consists of a single group consisting of 33 individuals. The amounts of Ti, Al, V in the hair specimens collected before the dental implant application were evaluated. The amounts of Ti, Al, V in hair specimens collected during 6-13 months after dental implant application were evaluated. Minimum 2 - maximum 16 implants were applied as the number of implants (contact area minimum 378.62mm^2, maximum 3264.64mm^2). 14 women, 18 men participated in our study. Individuals are between 18-57 years of age and the average age is 43.848. Measurements of elemental levels in hair and specimens from individuals were performed with an Inductive Coupled Plasma Mass Spectrometer (ICP-MS, Agilent 7800). Descriptive statistical methods (mean, median, standard deviation, minimum and maximum values) were used in the evaluation of the data and Wilcoxon Signed and Kolmogrov-Smirnov tests were used during the construction of the statistic.
Results: Despite the increase titanium, aluminum and vanadium elements in the hair, this increase was not statistically significant ($p>0.05$).
Conclusions: In dental implant (made of grade 5 titanium alloy) patients; the elements of Ti, Al, V accumulate in the hair and for these elements the hair texture can be thought of as a way out of the body.
Keywords: Dental implant, Ti-6Al-4V, corrosion, hair, ICP-MS

OP 03-07

Effect of Different Impacted Third Molar Surgery on Quality of Life

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Aim: The aim of this study is to evaluate the quality of life and pain status of the patients that underwent two different dental surgery operations.
Material and Methods: A total of 60 patients aged between 18-25 were included in the study. In group 1(n:30) only impacted lower third molar surgery operation was performed. In group 2 (n:30) impacted lower and upper third molar surgery were performed from same side. On days 3, 7 and 14 after surgery, Oral Health Impact Profile (OHIP-14) questionnaire and VAS scoring system were used to assess patients's quality of life and pain status. Mann-Whitney U analyse was used for statistically analyses.
Results: When the questionnaire and VAS scores were evaluated, at the end of the 3rd day after the operation, mean OHIP-14 scores in group 1 and 2 were 43.30 and 46.07. Mean VAS scores were 7.13 and 8.07 respectively. No significant difference was found between the groups ($p<0.05$). On 7th day, mean ohip-14 scores in group 1 and 2 were 35.23 and 39.43. Mean VAS scores were 2.57 and 4.53 respectively. It was observed that there was a significant difference between the groups for both questionnaire and VAS results ($p<0.05$). At 14th day, mean OHIP-14 scores in group 1 and 2 were 20.27 and 21.37. Mean VAS scores were 0.67 and 0.77 respectively. There was no significant difference between the groups ($p<0.05$).
Conclusion: According to our results extraction of two impacted teeth at the same time effects life quality negatively.
Keywords: Impacted molar, life quality, OHIP -14

OP 03-08

Preventing the Sequelas of Impacted Third-Molar Surgery: Injection Dexamethasone into the Pterygomandibular Space

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Aim: Inflammatory sequelas such as swelling, pain, limited mouth opening, and general oral dysfunction following surgery for impacted third molars can be controlled by various methods. This study aimed to evaluate the efficacy of a single dose of 8 mg dexamethasone injected preoperatively into the pterygomandibular space in reducing discomfort of mandibular third-molar surgery.
Materials and Methods: Randomized, controlled, split-mouth study was designed involving 20 patients and 40 lower bone impacted third molar extractions. The study group received 2 ml of 4 mg/ml (8 mg) dexamethasone injection preoperatively through the pterygomandibular space following local anesthesia; the control group received 2 ml normal saline injection. Pain on a visual analogue scale (VAS), swelling, mouth opening were assessed preoperatively and days of 2^{nd} and 7^{th} postoperatively. Descriptive statistics and the independent-samples t-test were used to assess the significance of difference $p < .05$ was considered significant.
Results: Pain scores were significantly lower on 2nd postoperative day in the study group. Significant reduction in swelling scores were seen on 2^{nd} postoperative day in the study group. Mouth opening was also significantly greater on day of 2^{nd} in the dexamethasone group ($p<.05$). But did not differ significantly between the groups on the other postoperative days ($p>.05$).
Conclusion: Preoperative injection of dexamethasone into the pterygomandibular space was effective in reducing postoperative pain, swelling, limited mouth opening following impacted lower third molar surgery.
Keywords: Third molar surgery, swelling, pain, pterygomandibular space

OP 03-09

The Effect of Preemptive Intravenous Ibuprofen on the Postoperative Edema and Trismus in Third Molar Tooth Extraction

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Aim: In this study, we aimed to evaluate the antiinflamatuar efficacy of pre-emptive intravenous ibuprofen on inflammatory complications such as edema and trismus after inferior 3rd molar surgery.
Material and Methods: Sixty patients, between 20 and 35 years of age, were included in the study. Group 1: 800 mg IV ibuprofen + dexketoprofen. Group 2: 800 mg IV ibuprofen. Group 3: control (placebo) group. All medications started to be given as infusions 15 minutes before the operation. Edema size, mouth openings (trismus) were recorded in all patients preoperatively, postoperatively, and postoperative 48th hour and 1st week.
Results: There was no difference in postoperative measurements between the groups in terms of trismus and edema size ($p > 0.05$). Only tragus - the corner of the mouth on the 2nd postoperative day, measurement was determined difference between group 2 and group 3($p = 0.021$). According to the measurement time, in group 3, between preoperative trismus with 2 days trismus difference was found ($p < 0.05$). In group 3, postoperative 2nd day edema was determined increases by the preoperative period ($p=0.001$). Group 1 and 2, still associated in the postoperative period was significantly increased, but less ($p=0.001$). Kolmogorov-Simirnov variance analysis, Tukey test, variance analysis in repeated measures and Chi-square test were used.
Conclusion: In this study, intravenous ibuprofen was found to be more effective in alleviating trismus, alone or in combination, and better restricting postoperative edema. Intravenous ibuprofen given preoperatively provided better recovery at all postoperative periods and was found to be more effective especially on the 2nd postoperative day.
Keywords: Intravenous ibuprofen, postoperative edema, trismus, third molar tooth extraction

OP 03-10

Clinical Diagnoses and MRI Findings in TMD Patients

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Aim: Temporomandibular disorders (TMD) are common and symptoms of TMD are pain, joint sounds, and impaired movement, we know that magnetic resonance imaging (MRI) is the most preferential technique for TMD. But it is not useful for routine clinical practice. The aim of this study was to compare clinical TMD diagnoses and MRI findings of the temporomandibular joint (TMJ).
Material and Methods: This study protocol evaluated patients who have been suspected TMD. 55 patients who underwent MRI examination for TMD treatment or check up examination referred to Department of Maxillofacial Surgery in University of Bulent Ecevit by medical practitioners (49 of them) and dentists (6 of them). A questionnaire about the clinical symptoms of TMD were requested all of patients. Patient histories were taken carefully by the clinician and clinical examinations was performed the patients in department. Patients were assessed about pain, and mouth opening limitation. Findings of clinical examinations were compared with MRI results.
Results: Chi-squared test were used for the differences between groups. In 47 patients (85.45%) clinical examination results were correlated with MR findings. ($p < 0.05$) MR findings of 26 (56.7%) patients were seen normally. Our study showed that MR imaging diagnoses have no effect on clinical diagnoses of TMD patients.
Conclusions: The clinical diagnoses for myogenous pain were not always confirmed by MRI. Further studies with more population are required to determine the effect of MR imaging on TMD patients.
Keywords: Magnetic resonance imaging (MRI), Temporomandibular disorders (TMD), Temporomandibular joint (TMJ)

OP 03-11

Central Giant Cell Granuloma Associated with Neurofibromatosis: Case Report

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Introduction: Neurofibromatosis type 1 was first described by Von Reclinhausen in 1882. It is a genetically inherited neurocutaneous disease of unknown origin. Most of the cases were autosomal dominant; some may be mutational. Neurofibromatosis is common in the skin and nervous system. The presence of 6 cafe au lait spots on the skin is pantogonomic for neurofibromatosis. Neurofibromatosis is a disease that is diagnosed due to oral findings as well as many systems. In this case report, the patient with neurofibromatosis; central giant cell granulomas associated with neurofibromatosis have been demonstrated.
Case Report: A 17-year-old male patient was admitted to our clinic with a complaint of swelling in the mandibular premolar region for 3 months. It was learned that the patient had a medical history of NF 1. No caries or periodontal loss was observed in the results of the clinical examination. In the teeth with no.44-45, the vitality test was answered at the normal limits. Biopsy result the lesion from the central giant cell granuloma was completely removed under blunt dissection under local anesthesia and without extraction tooth number 44-45.
Conclusions: Although oral findings due to neurofibromatosis are not frequent, it is reported that 70% of oral findings were observed in recent studies. Central giant cell granulomas attached to neurofibromatosis are known to be malignant in the literature. Therefore, close follow-up is required in cases of central giant cell granulomas associated with neurofibromatosis.
Keywords: Central giant cell granuloma, neurofibromatosis, neurocutaneous

OP 03-12

The Prevalence of Craniofacial Fibrous Dysplasia Among Patients Undergoing CBCT

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Aim: Fibrous dysplasia (FD) is a rare developmental disease characterized by the replacement of bone marrow with proliferating fibro-osseous tissue. There are three forms of FD, monostotic, polyostotic and associated with McCune-Albright syndrome. One of the more common locations of FD occurrence is the craniofacial region. The aim of this study was to investigate the frequency of craniofacial fibrous dysplasia in patients who underwent CBCT examination for various reasons in our clinic between 2008 and 2017.
Materials and Methods: This study was conducted by examining the records of patients who underwent CBCT examination between 2008 and 2017.
Results: In our clinic, fibrous dysplasia was detected in 0.25% (20 patients) of 7942 patients who underwent tomographic examination at 9 years. The mean age of the subjects was 32.35±20.8 years (range: 7–77 years); 14 subjects (70%) were female and 6 (30%) were male. 15% (3 patients) were polyostatic, 85% (17 patients) were monostatic type fibrous dysplasia. In 3 patients with polyostatic fibrous dysplasia, lesions were located in maxilla, mandible, zygoma and sphenoid bone. 70.6% (12 patients) of the cases with monostatic fibrous dysplasia were located in maxilla and 29.4% (5 patients) were located in the mandible.
Conclusion: The prevalence of fibrous dysplasia was 0.25% in patients who underwent CBCT. Although histopathology is considered as a gold standard to diagnose any disease entity, radiography particularly CBCT is the best diagnosing tool for craniofacial fibrous dysplasia.
Keywords: CBCT, fibrous dysplasia, fibroosseous lesions

OP 03-13

Aspergillosis of the maxillary sinus as a complication of overfilling of root canal material

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Introduction: Aspergillosis of the maxillary sinus is a relatively rare disease in nonimmunocompromised patients. In recent years a number of cases of aspergillosis of the maxillary sinus have been reported in association with overfilling of root canal materials with certain root canal cements. Aspergillosis can be seen asymptomatically which is diagnosed at routine radiological examination or can be seen symptomatically which is included nasal secretions, pain, zygomatic swelling and common chronic sinusitis symptoms.
Case Reports: A 39-year-old male patient was referred to our department with a unique appearance of a dense opacity of foreign body reaction in the right maxillary sinus. At radiological examination, CT scans showed overfilling of the root canal materials into the right maxillary sinus. Under general anesthesia patient was operated underwent Caldwell-Luc surgery and overfilling of the root canal material was removed from maxillary sinus, specimen was sent for microbiological examination and aspergillus flavus was diagnosed.
Conclusions: Overfilling into the maxillary sinus with root canal materials has to be avoided; material has to be removed from the sinus because otherwise aspergillosis infection may ensue.
Keywords: Aspergillosis, Caldwell-Luc surgery, maxillary sinus, overfilling

OP 03-14

Children's Ages and Reasons for Receiving First Dental Visit

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Aim: This study aimed to assess the average age and the most common reasons for first dental visits in children.
Material and Methods: By using a questionnaire data were collected from the pediatric patients attending to Gazi University Faculty of Dentistry, Department of Pediatric Dentistry. Only 1555 children attending their first dental visits with no previous dental experience were included in the study. Descriptive statistics, cross-tabulation analysis, and chi-squared test were done. The significance level was set at $P<0.05$.
Results: It has been seen that the most initial dental visit was in the range of 4-6 years. Dental caries and dental pain were the dominant reasons. Parents preferred oral and dental health centers, followed by university hospitals and the nearest health centers for the first dental visits of the children.
Conclusions: It is striking that children's first visits to the dentist usually take place in compulsory circumstances although it was emphasized that the visit to the first dentist should be done at the age of 6 months-1 year by the Grand Dentistry Academies. We believe that awareness and training activities related to the subject should be developed and disseminated.
Keywords: Pedodontics, preventive, first dental visit

OP 03-15

Infective Endocartitis and Practice Essentials: An Update

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Infective endocarditis (IE) is defined as an infection of the endocardial surface of the heart, which may include one or more heart valves, the mural endocardium, or a septal defect. Its intracardiac effects include severe valvular insufficiency, which may lead to intractable congestive heart failure and myocardial abscesses. Infective endocarditis (IE) is uncommon but has high morbidity and mortality. Prevention and early detection are therefore important. Almost 100 years ago, the links between endocarditis and procedures, particularly dental procedures, were declared. Following the inter-relation, first guidelines recommending antibiotic
prophylaxis (AP), with the aim of preventing IE developing after procedures, were proposed. However, there has only ever been circumstantial evidence in humans that AP prevents IE. This article outlines the history of AP and reviews the evidence base for the use of AP to prevent IE.
Keywords: Infective endocartitis, antibiotic prophylaxis, dental procedures

OP 03-16

Influence of Published News about Fluoride in Written and Visual Media on Patient Parents

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Aim: The aim of this study is; to assess the use of toothpaste and fluoride by individuals, the sources of available information about side effects, the effectiveness of the media in obtaining this information, and how the positive media has changed the ideas in this regard.
Material and Methods: The study Atatürk University Faculty of Dentistry Pedodontics 50 patients (26 female, 24 male) who applied to the branch were created with a face-to-face questionnaire with the participation of parents and then with verbal and visual informations. Two months after the informants, the questionnaire's question was redirected to the patient's parents. Parents' pre-and post-training ideas were compared with each other. Data were evaluated by chi-square test in SPSS 20.0 package program, $p<0.05$ value was considered significant.
Results: 37% of those surveyed were in the age range of 30-49, forming the majority of the slice. They said that 48% of the interviewers spend 1-3 hours per day on communication and communication tools, 24% on the internet about the current issues, and 35% believe that communication and communication tools are mostly partly reliable. In the first questionnaire, the rate of responding correctly to questions about fluoride and toothpaste was 22%, whereas it was 44% after two months.
Conclusion: It is inevitable for individuals to be influenced by written and visual media. Unsupervised publication of health-related news that will affect the lives of individuals can have negative consequences. For this reason, as in the other fields, dentistry can be a media tool when the society is properly informed by the authorized institutions.
Keywords: Fluoride, media fluoride news, survey study

OP 03-17

Four Years Follow-Up with dmft/DMFT Index Scores of The Pediatric Dental Patients Treated Under General Anesthesia: A Retrospective Study

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Aim: General anesthesia is the final solution for children who need special health care and children who have dental behavior management problems. In this study we aim to compare dmft/DMFT index scores before and four years after the treatment under general anesthesia.
Material and Methods: This retrospective study included pediatric dental patients treated under general anesthesia in 2014 at Ataturk University Faculty of Dentistry Pediatric Dentistry Department. A total of 37 patients (n=6 disabled and n=31 healthy) baseline DMFT/dmft index scores and four-year follow-up DMFT/dmft index scores had been noted. All statistical analyses were performed with SPSS.
Results: Patients mean age was 9.8±1.6 (minimum:7, maximum:14). When we examined healthy and disabled patients separately; there was no statistically significant difference in DMFT scores in disabled patients; however, interestingly, a significant increase in DMFT scores from 0.26 to 0.84 in healthy patients was detected. 15 patients in primary dentition and 3 patients in mixed dentition had changed their dentition stage.
Conclusions: For dental behavior management problems or those with special health care needs, dental treatment performed under general anesthesia is efficient and beneficial by decreasing the dmft index scores, improving oral hygiene and reducing to rate of new caries.
Keywords: DMFT index, general anesthesia, pediatric dentistry, retrospective study

OP 03-18

All Impacted Teeth Are Pathology Sources?

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Aim: Retrospectively scanned cone-beam computed tomography (CBCT) sections are used to detect impacted teeth and to determine the frequency of these impacted teeth causing pathology.
Material and Methods: Within the scope of the study, CBCT sections of 608 patients (307 males and 301 females) were screened. Impacted teeth detected were classified as incisive, canine, premolars, molar, supernumerary and third molar. Pathologies caused by impacted teeth are classified as caries, cyst, tumor; adjacent teeth root resorption and periodontal destruction.
Results: Impacted teeth were detected in 34.37% of the 608 tomographic images included in the study. The distribution of impacted teeth was 9.4% incisive, 29.4% canine, 9.9% premolar, 2.9% molar, 9.3% supernumerary teeth and 39.9% to third molar. Periodontal destruction is the most commonly caused pathology by impacted teeth, and the tooth that frequently caused this pathology was identified as mandibular right third molar.
Conclusion: There is no general approach to assessing the impacted teeth. Each case should be assessed according to its own situation. If the impacted teeth do not cause pathology, they can be controlled by time. In suspected cases, it can be clearly assessed with CBCT.
Keywords: Impacted teeth, CBCT, pathology

OP 03-19

Evaluation of The Oral Care Habits and Gum Disease Awareness, Taking Necessary Measures for Needs

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Aim: Periodontal diseases are one of the most common oral pathologies in a worldwide. The aim of this cross-sectional study was conducted to understand periodontal status and disclose the relationship between demographic data and personal hygiene habits.
Material and Methods: In this study, demographic and socio-economic data, smoking, systemic health and oral hygien habits were evaluated at 100 patient who Ataturk University Faculty of Dentistry, Department of Periodontology. Individuals were evaluated between the ages 18-66. They were given a questionnaire containing 21 multiple-choice questions. A structured questionnaire was used to gather information about practices and awareness about oral hygiene. The periodontal status was evaluated by CPITN indexes. Data were analyzed using a SPSS statistical program and Pearson correlation.
Results: When periodontal status was investigated, 85% of the cases had periodontal problems. Pearson correlation test was applied. Thus, a correlation was observed between tongue brushing habits and cpi values ($p<0.05$). CPI values negatively correlated education level and tooth brushing frequency ($p<0.05$). The tooth brushing habits and frequency of replacing a new toothbrush were correlated tongue brushing habits ($p<0.01$)
Conclusions: According to the findingsin in this study, all the patients comprised in the study had gingivitis or periodontitis at various grades, as well as periodontal treatment and oral care training for all patients seems necessary. Actually, there were a study group consisted of patients who applied for treatment of the dental faculty and the absence of healthy individuals from periodontal treatment is a limitation of our study.
Keywords: Oral hygiene awareness, periodontal diseases, oral health, motivation

OP 03-20

Hereditary Dentin Dysplasia Type Ic: Two Case Reports

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Introduction: Dentin dysplasia (DD) is a rare autosomal-dominant disturbance of dentin formation characterized by abnormal pulpal morphology. This disturbance is characterized by short-rooted teeth with sharp conical apical constrictions and an aberrant growth of dentine. In these case reports, we aimed to present the extraoral, intraoral, and radiographic findings of twin sisters.
Case Reports: Cases I and II are monozygotic twins. These sisters were brought to our clinic by their family because of the mobility in their incisor teeth. Based on clinical and radiographic findings, these twin sisters were diagnosed with DD type I, subtype Ic.
Conclusion: There are three different identified types of DD and DD type I has four subtypes. DD type I should be differentiated from DD type II, dentinogenesis imperfecta (DI), and regional odontodysplasia (ROD). Treatment varies from patient to patient, depending on the severity of root malformation. The goal is to bring the teeth to proper occlusion for both function and aesthetics.
Keywords: Dentin dysplasia, pulpal obliteration, radicular dentin dysplasia

OP 03-21

Transverse Strength of Acrylic Denture Base Resin Repaired with Different Powers of Er:YAG Laser

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Aim: The aim of this study was to investigate the transverse strength of a conventional heat-polymerized acrylic resin after the repair surfaces were treated with different powers of Er:YAG laser.
Materials and Methods: 160 rectangular-shaped acrylic resin specimens were prepared using a custom mold and divided into 4 groups according to different surface treatment methods; Group 1 (control): no treatment, Group 2: 2W (10 Hz) Er:YAG laser application, Group 3: 3W (10 Hz) Er:YAG laser application and Group 4: 4W (10 Hz) Er:YAG laser application. Following the surface treatments, the repaired surfaces were examined using Scanning Electron Microscopy (SEM). Then, the specimens were repaired with autopolymerizing acrylic resin to form a total of 80 (n=20/group) rectangular-shaped (65×10×3.3 mm) test specimens. The transverse strength of specimens was measured by a three-point bending test using a universal testing machine. The data were analyzed by using one-way ANOVA and Tukey HSD tests. The results were considered significant for α=0.05.
Results: All Er:YAG laser treated groups revealed significantly higher transverse strength values compared to the control group ($p<0.05$). The highest transverse strength values were found in specimens of Group 2, the lowest transverse strength values were found in specimens of control group ($p<0.05$). No significant differences were found between Group 3 and Group 4 ($p>0.05$).
Conclusion: Er:YAG laser application increased the transverse strength of heat-cure acrylic resin repaired with autopolymerizing acrylic resin. Especially, 2 W (10 Hz) Er:YAG laser application is more effective in increasing the transverse strength of acrylic resin.
Keywords: Acrylic resins, Er:YAG lasers, Denture repair

OP 03-22

An Evaluation of Dental Students' Motivations to Specialize in Prosthodontics

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Aim: The aim of this study is to determine the opinions of the students at Faculty of Dentistry about dentistry, the factors affecting their career choices, and the views regarding specializing in prosthodontics to provide ways to increase their motivation in this area.
Materials and Methods: A 10-question survey was prepared and given to the students at Atatürk University Faculty of Dentistry. 105 fourth and 110 fifth grade students participated in the survey. The answers were statistically analyzed with Chi Square test.
Results: 215 of the fourth and fifth grade students who were studying in 2016-2017 academic year participated in this survey. 110 of them were female and 105 of them were male. 105 of the participants were fourth grade students and 110 of them were 5th grade students. 75.3% of the respondents stated that they were first exposed to Prosthodontics in the preclinical period. 60.5% of the participants reported that they were most affected by the clinical experiences during the introduction period of Prosthodontics. In addition, students report a positive opinion of 30.2% about the future need for the Prosthodontics.
Conclusion: According to our study results, the first perceptions of students about dentistry started to occur in their preclinical period; their clinical experiences and the influence of the faculty members have been found to be effective in their career choices.
Keywords: Department of prosthodontics, prosthodontist, the specialization exam in dentistry

OP 03-23

Effects of Caffeic Acid Phenethyl Ester on Anti-Rankl and Anti-Opg Levels on Experimental Periodontitis in Rats

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Aim: The aim of this study was to investigate the effects of the systemic caffeic acid phenethyl ester administration on anti-RANKL and anti-OPG levels in experimental periodontitis in rats.
Material and Methods: Thirty male Sprague Dawley rats were divided into three groups: control, endotoxin-induced periodontitis (EP), and EP treated with CAPE (EP-CAPE). Endotoxin was injected into the gingiva of test rats on days 1, 3, and 5, whereas saline was injected control rats. EP-CAPE group received 10 mmol/kg/day CAPE intraperitoneally for 28 consecutive days. Saline was given in the control and EP groups in the same manner. At the end of the study, and rats were sacrificed. Anti-RANKL and anti-OPG levels was analyzed with stereological analyses.
Results: Anti-RANKL cell levels were found statistically higher in EP group than control group and EP-CAPE group ($p<0.05$). Also, anti-OPG cell levels were determined statistically lower EP group than control group ($p<0.05$). However, anti-OPG levels were not statistically different between the EP and EP-CAPE groups ($p>0.05$).
Conclusion: This study reveals that CAPE treatment reduces anti-RANKL levels and thus may inhibit the RANKL-induced bone loss in experimental periodontitis rat model. This study was supported by Pamukkale University.
Keywords: CAPE, periodontitis, anti-RANKL, anti-OPG

OP 03-24

Effect of using ibuprofen on single-tooth implant surgery, placebo contolled, randomize clinical study

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Aim: This study investigated the efficacy of ibuprofen protocol for pain prevention or control after surgical implant placement.
Material and Methods: This prospective, placebo-controlled, randomized clinical trial included 40 dental implant patients. The patients were assigned to receive one of 2 different protocols: 1) 600 mg ibuprofen 1 hour before surgery and another 600 mg 6 hours after the first dose; 2) or 3) placebo. Rescue medication (1000 mg acetaminophen) was made available to each patient, and they were instructed to take it as necessary. Pain intensity was evaluated via a 101-point numeric rating scale and a visual analogue scale hourly for the first 8 hours after surgery and three times a day for the third and seventh days. T-test and Mann Whitney U were apllied datas by SPSS program.
Results: Ibuprofen group was significantly reduced pain at all datas, which was taken on first 8 hours, third, and seventh days ($p<0.05$). First day's means scores for ibuprofen group was (1-8 hours): 40/39/34/31/ 27/24/ 19/20 3rd day scores: 13/10/9 7th day scores: 3/ 1.17/ 1.60; for placebo grup: 1st day (1-8 hours): 54.9/54.4/ 54.9/ 52.650/ 49.3/43.7/35.8 3rd day scores: 24.9/ 23.05/ 20.35 7th day: 8.60/5.50/4.95.
Conclusion: Ibuprofen is a commonly used non-steroidal anti-inflamatuar drug after dental surgerys. We tried to show the effect of this drug with a placebo group at single-implant surgery.
Keywords: Dental implant surgery, ibuprofen, postoperative pain, visual analog scale, placebo

OP 03-25

Effect of laser and ozone application on shear bond strength of different fissure sealants

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Aim: The purpose of this study was to evaluate the shear bond strength of different fissure sealants to enamel treated with laser and ozone application.
Material and Methods: Freshly extracted, non-carious third-molars were used in this study. The roots were removed and the crowns were buccolingually sectioned. Ninety flat enamel surfaces were prepared by using Sof-Lex discs. The human enamel samples were divided into nine groups (n=10): Group 1:Primer(Pr)+ BeautiSealant(BS) (control); Group 2:Nd:YAG Laser(Ls)+Pr+BS; Group 3:Ozone(Oz)+Pr+BS; Group 4:Polyacrylic acid(PAA)+Fuji Triage Capsule(Tr) (control); Group 5:Ls+PAA+Tr; Group 6:Oz+PAA+Tr; Group 7:Phosphoric acid(PA)+Grandio Seal(Gs) (control); Group 8:Ls+PA+Gs; Group 9:Oz+PA+Gs. After 24 hours in distilled water, the shear bond strength (SBS) was determined with a universal test device (Instron 3344). Recorded data were analyzed using the analysis of variance (ANOVA) and Tukey's test at a significance level of 0.05.
Results: Fuji Triage showed significantly lower SBS when compared to the Grandio Seal and BeautiSealant. The means and standart deviations (MPa) SBS of control groups were Group1:9.03±5.08, Group4:4.52±1.85, Group7:11.57±4.25. Acid etching groups showed significantly higher SBS than the laser and ozone treated groups ($p < 0.05$). The means and standart deviations (MPa) SBS of laser and ozone treated groups were Group2:6.89±4.40, Group3:6.06±4.28, Group5:1.51±1.76, Group6:2.21 ±1.59, Group8:6.65 ±2.43, Group9:6.42±2.43. However, the difference between Nd:YAG laser and ozone treated groups was not statistically significant ($p> 0.05$).
Conclusions: Laser and ozone application before pit and fissure sealant placement negatively affected the SBS of the fissure sealant.
Keywords: Fissure sealant, Nd:YAG Laser, ozone, shear bond strength

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Dental Caries and Tooth Wear in a Byzantine Population (7-10th Century) Constantinople

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Aim: As teeth are one of the most enduring parts of an individual after death, they provide good material for palaeodental research. The dental status of of the ancient populations enables us to evaluate their nutritional, cultural and socio-economical progress throughout different historical periods. The aim of this study is to determine the frequency of dental caries and tooth wear in the mediaeval Byzantine population of 7-10 the century in Yenikapı, Constantinople, Istanbul.
Material and Methods: The research was carried out on the skeletal remains of 32 individuals. All available skulls were analysed regardless to the level of damage and teeth were evaluated according to the carious lesions and degree of dental wear. A total of 412 teeth were evaluated whereas the majority 93% were permanent teeth.
Results: The frequency of antemortem tooth loss in the sample was 2.9 % and the frequency of carious lesions was 8.2%. The carious lesions were observed as superficial and the location of the lesions were mostly recorded as occlusal, followed by interproximal caries. The majority of the sample 72% showed a degree of dentin clusters due to attrition. The mostly affected teeth were molars and anterior teeth respectively.
Conclusion: The research confirms that the study of physiological and pathological changes in the dental systems of ancient populations serves as important resource for evaluating their nutritional way and life conditions. The caries and tooth wear competency might be the reason of the superficial carious lesions and less caries experience throughout this population.
Keywords: Dental caries, tooth wear, ancient populations

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Repair Bond Strength of Resin Composite to Three CAD/CAM Ceramic Materials Using Different Repair Systems

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Aim: The aim of this study is to evaluate the repair bond strength of a nanohybrid resin composite to three CAD/CAM ceramics using different intraoral ceramic repair systems.

Materials and Methods: Three CAD/CAM ceramic materials (Lava Ultimate, Cerasmart and Vita Blocks Mark II) were selected for the study. Thirty-two specimens (5x5x6 mm) were fabricated from each ceramic. Specimens were randomly divided into eight groups for the following different intraoral repair systems: Group 1: control group (no treatment); Group 2: 35% phosphoric acid etching; Group 3: Z-Prime Plus System; Group 4: CoJet System; Group 5, GC Repair System; Group 6: Cimara System; Group 7: Porcelain Repair System and Group 8: Clearfil Repair System. Then, nanohybrid resin composite (Tetric Evo Ceram) was packed onto treated ceramic surfaces. The specimens were thermocycled before application of repair systems and after application of composite resin. After second thermal cycling, blocks were cut into bars (1x1x12 mm) for microtensile bond strength tests. Data were analyzed using One-way analysis of variance ANOVA and Tukey's HSD test (α=0.05).

Results: Cimara System, Porcelain Repair ve Clearfil Repair repair systems significantly enhanced the bond strength of nanohybrid resin composite to all CAD/CAM ceramics when compared with the other tested repair systems ($p<0.05$). In terms of CAD/CAM ceramics, the lowest values were observed with Vitablocks Mark II groups ($p<0.05$).

Conclusion: All repair systems tested increased the bond strength values between ceramics and composite resin.
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Keywords: Bond strength, CAD/CAM materials, composite resin, repair systems