

Biochemical Studies on Salivary Phosphatases Enzymes in Gingivitis

Name: Sherzad Abdurrahman Muhammad

Degree: Master.

Specialty: Oral Biochemistry

Date of the Debate: 1/ 11/2009

Supervisor: Assist Prof. Bakhtiar Muhiddin Ahmed

Abstract

Salivary phosphatases enzymes (Alkaline phosphatase and Acid phosphatase) were studied in clinically healthy persons (controls) and patients with gingivitis before and after treatment. The work was performed in the period between February, 2008 and August, 2008 in Hawler Medical University - College of Dentistry, Department of Basic science. The oral examination for the subjects and the treatment (scaling and polishing) for the patients were done in Department of Periodontology. The biochemical studies were performed in the laboratory of biochemistry research. Saliva samples were collected from (100) healthy persons, and (50) patients before treatment and 20 days after the treatment, their age ranged between (20-30) years. The subjects with the clinical findings such as swelling of gingiva, bleeding on probing, bleeding on brushing or discoloration of gingiva, were considered as patients, the treatment included scaling and polishing with out medications.

The study included the following axes:

Estimation of the salivary Alkaline phosphatase and Acid phosphatase levels in controls and patients with gingivitis before and after treatment.

Studying some kinetic parameters of salivary phosphatases enzymes in gingivitis such as: Michaelis constant, maximum velocity and the Hill coefficient using Lineweaver-Burk plots and Hill plots.

Determination of the thermodynamic parameters for the transition state of the enzyme-substrate complex in gingivitis such as: activation energy, enthalpy change, free energy change and entropy change and comparing the values with those of controls to evaluate any change in the pathway of the enzyme-substrate complex formation.

The results showed that:-

The levels of salivary phosphatases enzymes were higher in patients with gingivitis before treatment comparing with controls, while their levels decreased towards the control values (20) days after treatment. So, salivary phosphatases level can be relevant for the follow-up of gingivitis treatment.

The Michaelis constant values for both salivary Alkaline phosphatase and Acid phosphatase decreased in patients with gingivitis comparing with controls, but increased again after the treatment, this emphasized that the affinities of the enzymes for their substrates were affected by the disease.

The maximum velocity values for both salivary Alkaline phosphatase and Acid phosphatase increased in patients with gingivitis, but decreased again after the treatment close to those of controls. This emphasized that the catalytic efficiency of the enzyme was affected by the disease.

The Hill coefficient values for both salivary Alkaline phosphatase and Acid phosphatase showed that there was no cooperativity in binding of substrate molecules with the active sites on the enzyme in controls and patients with gingivitis after treatment, while there was a negative cooperativity in patients with gingivitis before treatment.

The changes in the thermodynamic parameters values of transition state for salivary Alkaline phosphatase were non significant, while their changes were significant for salivary Acid phosphatase, except free energy change.

The enthalpy change values for both salivary Alkaline phosphatase and Acid phosphatase were positive in all groups which indicate that the reactions were endothermic.

The free energy change values for both salivary Alkaline phosphatase and Acid phosphatase were positive in all groups.

The entropy change values for both salivary Alkaline phosphatase and Acid phosphatase in all groups were negative which reflect the change to more ordered structures.

The thermodynamic parameters of transition state showed that gingivitis causes a significant change in the mechanism of enzyme-substrate complex formation.

Evaluation of Different Techniques Used in non Surgical Endodontic Retreatment for Teeth with Different Obturation Techniques

Name: Nsar Muhyaddin Aziz

Degree: Master

Specialty: Conservative Dentistry

Date the discussion: 1/9/2010

Supervisor: Dr. Dara Hamarashed Saeed

Abstract

The aim of this in vitro study was to evaluate the efficacy of rotary Nickel titanium NiTi instruments, Pro-Taper with and without solvent in the removal of obturation materials during root canal retreatment in comparison with hand instruments using Hedstrom files with solvent in relation to different obturation techniques. Retreatment time was also recorded and evaluated. Ninety extracted human roots were used in this study; they were instrumented by ProTaper rotary files to (F3) Iso # 30 and the samples were randomly divided into three groups of 30 roots for each as follows; group A: obturated by cold lateral condensation technique, group B: obturated by injectable thermoplasticized technique, group C: obturated by carrier based gutta percha technique used Soft Core obturator, with all techniques Diaket (resin based sealer) used as a sealer cement. Periapical radiograph was taken to evaluate the obturation quality. After one month of incubation period, each main group of roots was randomly subdivided into three subgroups, 10 roots each. Removal of gutta-percha was performed using the following techniques; (1) Pro-Taper without solvent, (2) Pro-Taper with solvent and (3) Hedstrom files with solvent. The roots were split longitudinally and divided into coronal, middle and apical thirds by permanent pencil. The area of remaining filling materials in the whole canal and in each third was evaluated by using stereomicroscope and data have been collected from 2 examiners. The remaining filling materials were expressed in percentage then returned to scores and the working time was measured using a stop watch. The data were analyzed statistically using one-way ANOVA test at 5% significant level.

The results indicated that the rotary NiTi instruments Pro-Taper with and without solvent left significantly less remaining filling materials ($P < 0.001$) compared to Hedstrom files with solvent while there was no significant difference at ($p < 0.05$), between Pro-Taper with solvent and without solvent. In all groups the apical thirds showed the highest ratio of remaining materials compared to middle and coronal thirds. Also in groups obturated by cold lateral condensation and injectable thermoplasticized techniques left significantly less remaining filling materials at ($p < 0.05$), than group obturated by soft core obturators, but there was no significant difference between the group obturated by cold lateral condensation and injectable thermoplasticized techniques. The retreatment time was significantly less at ($P < 0.001$) when the rotary NiTi Pro-Taper instrument was used compared to hand. In conclusion, ProTaper rotary instrument with and without solvent was found to be effective and faster than hand instruments in removing gutta-percha during retreatment and Cold lateral condensation technique and injectable thermoplasticized technique better removed in retreatment than Soft Core obturator technique.

Prevalence of Traumatized Anterior Permanent Incisors Among (7-12) Years- old School Children in Erbil City

Name: Alla Mahmud Mustafa

Degree: Master

Specialty: Preventive Dentistry

Date the discussion: 12/12/2010

Supervisor: Dr. May Ganim Saliem

Abstract

Anterior permanent incisors trauma is a significant clinical problem in children and adolescents. The purpose of this study was to determine the prevalence of traumatized permanent incisor teeth and to study the relation of trauma to age, gender, type of injury, upper lip position, behavior problems, causes of the trauma, overjet, overbite and other factors. A cross-sectional survey was carried out through the questionnaire and clinical examination of anterior permanent teeth using the classification of Ellis as modified by Holland. The sample comprising 2000 schools of children (1040 males and 960 females) aged 7-12 year-old from primary schools in Erbil city. A multi-stage cluster sampling technique was used in this study. The results showed that the prevalence of children with traumatic dental injuries was 4.80% of the total sample. Males were more affected than females (5.38% males and 4.17% females). (82.29%) of the affected subjects had only 1 injured tooth, and most of the traumatized teeth were maxillary central incisors (92.92%). Enamel and dentine fracture without pulp exposure was the most common type of injury (46.96%). The major reasons for the injuries were falls (60.42%) and collision with objects (15.63%). Most traumas (7.35%) occurred at age 11-12 years. Most traumas occurred at home (56.25%). The highest proportions of traumatized teeth were found in children with class II division 1 malocclusion, inadequate upper lip coverage and overjet more than 4 mm and overbite between 2 and 4 mm or more. Hyperactivities were significantly increased dental trauma. The prevalence of trauma decreased by increasing the parent's education level. (38.26%) of children with traumatized teeth had received treatment and 61.74% did not received any treatment. 50.70% of them did not need any treatment. It was concluded that educating children, parents and teachers play an important role for preventing dental trauma or reduce its effect.

The Effect of Denture Cleansers on Some Properties of Stained Denture Base Materials

Name: Mahabad Mahmud Saleh

Degree: Master

Specialty: Prosthodontics

Date the discussion: 13/1/2010

Supervisor: Prof. Salem Abdul-Latif Salem

Abstract

The maintenance of clean, aesthetic and odor free denture prostheses is important for the health of the patients; this can be obtained by the use of denture cleansers. The chemical immersed type denture cleanser is the most widely used method for this purpose but the prolonged use of such cleansers may have harmful effect on the components of the dentur. The present study was carried out to evaluate the effect of three prepared denture cleansers which were the 4% citric acid, 4% tartaric acid, and 4% oxalic acid in addition to the Protefix a commercially available denture cleansers, on some mechanical and physical properties (surface roughness, indentation hardness, color stability, water sorption, and solubility) of the acrylic resin (QC-20) and a nylon denture base (Vaplast) after immersion in tea solution. Two hundred specimens (200) were prepared in two equal major groups: acrylic resin and Valplast. For each test of the physical and mechanical properties, 50 specimens were prepared, 25 from acrylic resin and 25 from Valplast. Later on divided into five groups, one group used as control and immersed in distilled water, and remaining 4 groups used as test groups; by immersing in one of denture cleansers after staining in tea solutions for 10 days. The effect of denture cleansers on the properties was studied and compared with the control group. The findings showed that the 4 denture cleansers were equally effective, and did not cause significant alteration in the hardness, surface roughness, sorption and solubility of acrylic and Valplast. Both materials showed adequate color stability after immersion by using spectroscopic method. The only exception was for acrylic specimens immersed in oxalic acid since they showed less color stability.

Effect of canal dryness and flaring with the use of two irrigants on the accuracy of two electronic apex locators

Name: Bashdar Muhammad Hamed

Degree: Master

Specialty: Conservative Dentistry

Date the discussion: 1/11/2010

Supervisor: Dr. Ihsan Neimat Behnam

Abstract

This in vitro study evaluated the effect of canal dryness and flaring with the use of two irrigants on the accuracy of two electronic apex locators for working length (WL) determination. Ninety extracted teeth were used, after access opening was done, the occlusal surface was flattened to create stable reference point. The teeth were randomly divided into two equal main groups of flared and unflared group each one of 45 teeth, flaring was done with Gates Glidden drills. Radiographic WL was determined according to Ingl's technique for unflared group (45 teeth); the two main groups were further subdivided into three subgroups: dry canal, wet canal using 5.25% sodium hypochlorite (NaOCl), and wet canal using 2% Chlorhexidine digluconate (CHX) groups, Electronic WL of each sample was determined using both Root ZX and i-Root apex locator. Consequently, histologic WL was determined by shaving the apical 4mm of the root longitudinally and the tip of # 15 K-file was adjusted to the apical constriction under stereomicroscope at a magnification 20X, then the file removed carefully and the length was recorded using digital caliper. The data had been collected from two independent examiners and statistically analyzed using Student's t-test. The results show difference between flared and unflared canal, wet and dry, Root ZX and i-Root, CHN and NaOCl, and radiograph and apex locators, however the differences between them were statistically not significant, in which ($P \geq 0.5$) for all situations. As a conclusion dryness of the canal, coronal flaring, and use of NaOCl irrigation solution had little effect on the accuracy of electronic apex locators (EALs), Root ZX determine WL of the root canal more accurately than i-Root apex locator, however the difference between them is not significant, WL determination by using EALs is more accurate than radiograph; however the difference between them was not significant.

Evaluation of Some Salivary Cations In Gingivitis

Name: Zhwan Rasheed Aziz

Degree: Master

Specialty: Periodontology

Date the discussion: 20/12/2010

Supervisor: Assist. Prof. Ziwar Qassab

Abstract

In this study, selected cations in unstimulated whole saliva were determined. The salivary population consisted of 160 males individuals, their age ranged between 20-40 years, attending department of period ontology, College of dentistry. The concentrations of these elements were evaluated in relation to severity of gingivitis, oral hygiene, frequency of tooth brushing, salivary flow rates and pH. The plaque index for oral hygiene and gingival index for gingival health status. Salivary samples of supernatant were analyzed for determination of calcium, magnesium and zinc concentration, using atomic absorption spectrophotometer while flame photometer was used for determination of sodium and potassium concentration in saliva. pH meter was used for determining salivary pH. All the Subjects were divided into four groups (control, mild gingivitis, moderate gingivitis and sever gingivitis). The results showed a highly significant differences in salivary (calcium, magnesium, zinc, sodium and potassium) concentration in (mild, moderate and sever) groups of gingivitis in relation to plaque index and gingival index. The present study showed there was no any significant change in salivary pH value in mild, moderate and sever gingivitis comparing to control group. In respect to salivary inorganic elements statistically no significant differences were observed in salivary (calcium, magnesium, zinc, sodium and potassium) in mild group of gingivitis in comparison to control group. Statistically significant increase in salivary calcium and magnesium concentration were observed while significant decrease was observed in concentration of potassium in saliva in moderate group of gingivitis in comparison with control group while respect to salivary sodium and zinc concentration statistically no significant differences were observed. statistically highly significant increase in salivary calcium, magnesium and zinc concentration were observed while statistically no significant differences were observed in salivary sodium and potassium concentration.

The Effect of Chemomechanical Caries Removal and Different Bonding Systems on Shear Bond Strength of Sound and Carious Dentin

Name: Twana Ihssan Mohammed
Degree: Master
Specialty: Conservative Dentistry
Date the discussion: 11/12/2010
Supervisor: Dr. Shatha Abdullah Salih

Abstract

The purpose of this in vitro study was to determine whether shear bond strength to chemomechanically excavated dentine (by Carisolv) differed from the shear bond strength after conventional caries removal (by bur), with the use of the following adhesive systems: [Self-etch (Xeno v), one component self-etching dental adhesive]; [Total-etch (Compobond 1), etch, prime and bonding resin] and [No-etch (Compobond 1), prime & bond only]. One-hundred human molars, 50% sound & 50% carious occlusally, were used to prepare dentin samples which were assigned to 10 groups: (I-V sound & VI-X carious groups). In group I & VI the prepared samples treated with Compobond 1, group II & VII the prepared samples treated with Xeno v, group III & VIII the prepared samples treated with Carisolv and Compobond 1, group IV & IX the prepared samples treated with Carisolv and Xeno v, while in group V & X the prepared samples treated with Carisolv and Compobond 1, but without etching. For each sample there was light cured composite core build up. After water storage, the samples were tested in a single-plane shear test assembly. The results of sound groups demonstrated that the mode of caries removal had no consistent effect, whereas there were statistical significant differences between the bonding systems, while the results of carious groups showed statistical significant differences within the mode of caries removal groups and within bonding systems groups. In addition, the results indicated that the bond strength was greatly decreased when chemomechanical method was used with no etch, whether with sound or carious dentin groups. While the bonding systems significantly affected shear bond strength in sound and carious dentin at $p < 0.01$, with in favor of the Compobond 1 over Xeno v. The present data demonstrate that chemomechanical caries removal has no adverse effect on bonding of modern adhesive systems to sound dentine, but with the carious dentin there was either increase or decrease in bond strength in relation with different bonding systems.

The Relationship of the Inferior Dental Canal to the Roots of Impacted Mandibular Third Molar in Erbil Population

Name: Liqaa Jabur Hassan

Degree: Master

Specialty: Oral and Maxillofacial Radiology

Date the discussion: 13/10/2010

Supervisor: Assist Prof. Saeed N. Younis
Dr. Reiyadh K. Al-Kamali

Abstract

The mandibular third molars are teeth that are may remove frequently and the Inferior alveolar neurovascular bundle injury is one of the serious complications of third molar removal and involves important medico legal issues. So an accurate preoperative radiographic assessment of surgical difficulty is necessary to correctly plan the removal of impacted third molars and to estimate the risk of alveolar neurovascular bundle injury. Therefore, the preoperative knowledge of the exact location of the third molar roots in relation to the mandibular canal is mandatory. The purpose of this study is to evaluate the relationship between the third molar roots and the mandibular canal. A retrospective study was carried out by examination of 513 panoramic images, for patients of who referred to the X-ray department in Erbil specialized poly clinic during the period which extended from 2006 to 2010, their age ranged between 25 to 60 years and for both sexes third molars roots occurs. The digital radiographic system used in this study was (planmeca Proline CX Panoramic X-Ray with dimax 3), made in Finland. Out of the 513 selected images (patients) with 897 impacted mandibular third molars we found that 47.2% of them females and 52.8% were males with mean age 25 ± 5.5 for both sexes. The greater number of impacted third molars was of mesioangular position and accounted for (40.6%) of the total sample, while the vertical impacted third molar were accounted (39.5%), the horizontal impacted third molar were (15%), followed by the distoangular impacted third molars which were (2.7%), and the aberrant were only (1.2%). Only (1%) third molars were classified as buccolingual impacted third molars. Patients in the age group 25-29 years had the greatest number of impacted teeth (46.7%), while the age group 30-34 was the second (26.5%), and the age group 35-39 constitutes (15.7%). The age group 40+ were had the least number of impacted teeth (11.1%). The position of the Inferior dental canal was decisively demonstrated and, thereby, categorized according to its relationship to the roots in (94.09%) of impacted mandibular third molars. Accordingly, (49.7%) teeth were of adjacent, (23.3%) of superimposition, (17.7%) of notching, (3.2%) of grooving, and (0.2%) of perforating categories in relation to the Inferior dental canal. The remaining (5.9%) could not be placed under any of these categories and, therefore, were placed in the category none relation. Similarly, the relationship between the Inferior dental canal and angular position of the mandibular third molars was found to be more common in vertical impactions (40.6%) than any other type of impaction. The mesioangular impaction was (32.9%), and the horizontal impaction was (20.9%). Distoangular impaction was (2.5%), and for the buccolingual impaction was only Nine (1%). Nineteen impacted molars were in aberrant impaction (2.1%), and these fell into the superimposition category. The categories notching, grooving, and perforation were regrouped together and called a true relationship between Inferior dental canal and root apices. The results showed 21% of the total impactions fell into this group. While the category other relationship constitute 79%. In this study we concluded that the position of the Inferior alveolar canal varies with respect to the apices of the roots of the impacted mandibular third molars with the majority being in superimposed or adjacent positions. This variation should be appreciated, particularly by the oral surgeon, when undertaking surgical removal of the impacted mandibular third molars.

Evaluation of Proximity of the Floor of the Maxillary Sinus to the Alveolar Bone Crest Using Digital Panoramic Imaging System

Name: Sarkawt H. Ali

Degree: Master

Specialty: In Oral and Maxillofacial Radiology

Date the discussion: 9/12/2010

Supervisor: Assist.prof. Saeed Nadhim Younis
Dr. Othman Abubakir Omar

Abstract

A retrospective cross sectional study of Orthopantomogram (OPG) during 5 years from 2005 to 2010 for the patients attended the Department of Radiology of specialized dental polyclinic in Erbil city for those patients who took OPGs from the mentioned hospital and the sample size (OPG cases) divided in to 4 groups and each group consists of (50) Orthopantomograms and the aims of the study to determine the relationship between the deepest point of the maxillary sinus floor and maxillary posterior teeth and also to study the clinical benefit of using software program that existed in the digital computerized machine for measurements on the panoramic radiograph to measure the precise alveolar bone thickness in the region of maxillary sinus. The mean distance of SF-BC in fourth group(CE) cases was approximately half of the distance in first group(CG) due to extraction of teeth and consequent resorption of the alveolar ridge and decreasing vertical dimension of the ridge which make any operation in this area more difficult in comparison to control group cases and more complication might occur, and there was highly significant difference ($P < 0.001$) between first group, third group and fourth group cases, and there was significant difference= ($P < 0.005$) between first group and second group cases. From the results of the present study, it can be concluded that the objective assessment of alveolar bone height and its 2-dimensional relation to maxillary teeth is greatly helpful and more precise by applying the software program that existed in the digital computerized machine for measurement any lengths, angles or any distances between two points , lines or more on the panoramic radiograph, and this will provide information prior to any type of surgery in the upper jaw.

Prevalence of Developmental Dental Anomalies Among Students of Basic Education and Secondary Schools In Erbil City

Name: Fighan Jalal Hussein

Degree: Master

Specialty: Preventive Dentistry

Date the discussion: 20/11/2010

Supervisor: Prof. Ali F. Al-Zubaidee

Abstract

Developmental dental anomalies are an important category of dental symptomatology, their incidence and degree of expression can provide important information for phylogenic and genetic studies and help the understanding of variations within and between populations. This study was the first in Erbil city that discusses syndromic and non syndromic developmental dental anomalies with the epidemiological and radiological aspects aiming at determining the prevalence and the association of these anomalies with each others, with socio-demographic characteristics and with some possible etiological factors. This cross sectional study was carried out on 1525 randomly selected Erbilian students of both basic education and secondary schools whom their ages were ranged between 6-18 years old during the period of January, 1st 2010 to November, 1st 2010. Results of this study were as follow: The over all prevalence of developmental dental anomalies of the total sample was 31%. The prevalence of structure anomalies were 12.3% found in 188 students, amelogenesis imperfecta (0.1%), and environmental enamel defects that assessed according to the epidemiological index of developmental defects of enamel were (12.2%), the most commonly affected teeth with environmental enamel defects were permanent maxillary central incisors which were 115 teeth (24%) of the total affected teeth and the incisal halves were most commonly affected location (69%) of the total affected mouth. Regarding socio-demographic characteristics and some possible etiological factors, the only significant association was observed between environmental enamel defects and age of students. The prevalence of shape anomalies were (17.7%) found in 270 students, size anomalies (1.1%) found in 17 students, number anomalies (2.6%) found in 39 students and eruption anomalies (2.2%) found in 33 students of the total examined sample. In general, for association pattern between types of anomalies, highly significant association was found between number and size, eruption and size, eruption and number anomalies. Consequently, highly significant association was found between hypodontia and microdontia (peg shaped); between hypodontia and retained deciduous; between retained deciduous and microdontia (peg shaped); and significant association was found between retained deciduous and transposed teeth, otherwise there was no significant association between other types of anomalies. Non significant gender difference was found for each anomaly except for cusp of carabelli which showed significant difference. Three students showed syndromic dental anomalies (0.2%).

Early Childhood Caries among Preschool Children in Erbil City: Prevalence, Severity, Treatment Needs and Risk Factors

Name: Vian Namiq Mustafa

Degree: Master

Specialty: Preventive Dentistry

Date the discussion: 2/9/2010

Supervisor: Assist Pro. Dr. Amara Kamal Khaleel

Abstract

Dental caries is a complex disease process that affects a large proportion of the world's population, and due to the significant importance of preventing dental caries among preschool children, it was conducted an oral health survey among 1136 preschool children (559 boys, and 577 girls) with an age range (24-71) months from nursery schools and kindergartens in different areas of Erbil city. Aims of this study were to find out the prevalence, severity, treatment needs of early childhood caries (ECC) and to explain risk factors. Results showed that the prevalence of ECC was (70%), and the mean dmft value was (4.228 ± 4.238) for the total sample. There was a significant age differences ($P < 0.05$), while no gender variation was observed ($P > 0.05$). The dmfs value among the whole children was (7.88 ± 10.86) . The mean dmfs were increased significantly with age ($P < 0.05$). The boy's dmfs value was (8.13 ± 11.25) , while the girls was (7.64 ± 10.48) , with non significant differences between them ($P > 0.05$). The highest percentage of the type of treatment needs was in need of one surface restoration, followed by two or more surface restorations and the lowest percentage was recorded among those needed extraction. Statistical analysis showed no significant differences in the prevalence and severity of ECC in relation to the methods of feeding and the age of weaning ($P > 0.05$). Highly significant difference present in relation to the frequency of feeding at night ($P < 0.01$), and to the frequency of day time sugar and fermentable carbohydrate intake. A statistical analysis showed a highly significant differences between the prevalence of ECC and the mean dmft in relation to the plaque index and frequency of tooth brushing ($P < 0.01$). The prevalence of ECC and mean dmft of the children in the governmental schools was higher than that of the private schools, with significant differences ($P < 0.05$). Highly significant difference between the prevalence of ECC and the mean dmft, in relation to the fathers and mothers levels of education ($P < 0.01$). The under weight preschool children showed significant higher prevalence and higher mean dmft value than the overweight children.

Evaluation of oral health status in a group of pregnant women in kirkuk city (a comparative study)

Name: Suham Mansour Biya

Degree: Master

Specialty: preventive dentistry

Date the discussion: 27/11/2010

Supervisor: Assist. Prof. Namir G. Al-Tawil
Dr. May G. Saleem

Abstract

Pregnancy is a natural process; it represents a particular systemic condition that is able to induce, because of hormonal fluctuations, manifestations of different parts of the oral cavity. Pregnant women are an important target group for oral disease prevention programs and their oral health changes during the gestation periods are of interest for planning such programs. The study aims at assessing the oral health status and its association to socioeconomic status among the pregnant women in comparison to non pregnant women and to dental ante natal care visits among the pregnant women. This cross-sectional study was carried out from 10th March through 25th September 2010. Oral health status of a convenient sample of 300 pregnant women (mean age was 27.5 ± 5.83 years) in their 3rd trimesters has been investigated and compared with 300 non pregnant women (mean age was 27.98 ± 5.84 years), attending the outpatient clinic of Azady teaching hospital and Kirkuk general hospital in Kirkuk city. The present findings showed that 99.7% of the pregnant women had dental caries as compared to non pregnant which was 98.6%. The mean value of decayed, missing filled teeth and (\pm SD) for pregnant and non pregnant women were 18.07 ± 9.97 and 16.87 ± 9.24 respectively ($P > 0.05$). DMFS increased significantly with age in both of them. Concerning gingivitis, plaque and calculus, they were more prevalent and more severe among pregnant than non pregnant, gingival index mean was equal to 2.39 ± 0.49 and 2.08 ± 1.05 respectively ($P < 0.001$). Gingivitis was significantly decreased with increase frequency of brushing in both pregnant and non pregnant women. Results showed that 15.3% of the pregnant women had clinical pocket depth compared to non pregnant which was 7% ($P = 0.002$). Clinical pocket depth was significantly increased with smoking in both pregnant and non pregnant women. The rate of ante-natal care visits among the pregnant women was 46.3%. Gingival index was less among pregnant women who had dental ante-natal care visits than that those with no care visits ($P = 0.02$). For the total sample a weak correlation was found between socioeconomic status and the oral variables, but among pregnant, non pregnant women a highly significant difference in the mean value of gingival, plaque, and calculus index which was higher in low followed by medium and then high socioeconomic groups were found. Less than half of the pregnant women (41.7%) had sufficient dental ante-natal care knowledge, (54.3%) had positive attitude and (50.7%) had good dental ante-natal care behaviors. It was concluded that oral health status of the pregnant women was poor and education programs about the importance of dental ante natal care visits during pregnancy are needed.

Evaluation the effect of different instrumentation, obturation and sealers on apical microleakage (In vitro comparative study)

Name: Lanja Abubakir Ali

Degree: Master

Specialty: Conservative Dentistry

Date the discussion: 20/9/2010

Supervisor: Dr.Ihsan Niemat Bahnam

Abstract

This in vitro study evaluated and compared the apical sealing ability of two obturation techniques, two type of sealer and two type of instrumentation on the apical sealing. A total of 120 teeth were collected randomly divided into two groups 60 roots prepared using hand protaper, other 60 roots prepared using rotary protaper. In both techniques the master apical files were size # 40. 17%EDTA solution with 5.25%NaOCI were used between instrument sizes to remove the smear layer .Each group was subdivided randomly into two obturation groups of 30 roots for each; in group A- (obtura II) was used ,and in group B-(thermafill) was used. Each one of these obturation techniques was used twice; once with ZOE sealer and other with AH26 sealer with 15 roots for each. Then the samples in all groups left for a week at room temperature .at that time radiographic image were taken for each root from BL and MD direction. After coronal sealing, all surfaces of the root covered with three layer of nail polish except the apical 2mm, then each sample immersed in 10% black Indian ink dye for 72 hours .After that the samples rinsed and nail polish removed .then samples cleared & decalcified.Data had been collected from independent examiners and statistically analyzed using student t-test. The radiographic results showed that the (Thermafill) technique showed better results than (Obtura II) with non-significant difference. While the stereomicroscopic results showed that there was highly significant difference between hand and rotary instrumentation, with in favor of rotary instrumentation technique. Concerning the obturation techniques, Thermafill showed best apical sealing followed by Obtura II; however, the differences were not significant. Regarding sealers, AH 26 sealer had better sealing ability than ZOE sealer with no significant difference between them.

Effect of Topically Applied Licorice (*Glycyrrhiza glabra*) Root Extract on the Experimentally Induced Oral Mucosal Wounds in Rabbits

Name: Venus Dilshad Najeeb

Degree: Master

Specialty: Oral Biology

Date the discussion: 13/10/2010

Supervisor: Assist Prof. Ali Sultan Al – Refai

Abstract

The purpose of this study is to investigate the most effective concentration of aqueous licorice root (*Glycyrrhiza glabra*) extract on the most predominant microorganisms associated with the wound in the oral cavity of 36 male rabbits, three months old, and the histological evaluation of the oral wound healing potential of aqueous licorice root extract in different time intervals. For this reasons different weights of licorice powdered root were soaked in 80°C distilled water for 40 minutes to produce different concentrations per 100ml of distilled water. The results showed that α - haemolytic streptococci was the most frequent isolated microorganisms that related with oral wounds in cheek rabbit mucosa, and absence of sensitivity of α – haemolytic streptococci to different concentrations of licorice extract, and no inhibition zones were recorded with each concentration of licorice. This result disagree with other results and this may be due to the variation in the type of isolated bacteria, materials and methods that used in these studies in the preparation of licorice extract in comparison with this study. The histological features of the wounds in the study group one day post operatively, indicated that longer – epithelial tongue showed growth of its full thickness. The number of inflammatory cells was less than that of the control group, while the number of the fibroblast and blood vessels of the study group were higher than that of the control one but with no significant differences($p>0.05$). After three days post operatively, a well defined epithelial tongue in the study group showed growth of its full thickness covering larger exposed area of connective tissues. Less number of inflammatory cells and congested blood vessels and higher number of fibroblast cells were seen in the connective tissue in comparison to the control group with significant differences($p<0.05$). After five days post operatively, the connective tissue in the study group was covered completely by surface epithelium and complete closure of the wound region was seen. The number of inflammatory cells and blood vessels were less than the control group of the same period with significant difference, while the number of the fibroblasts and collagen fibers in the study group were higher than that of the control group.

Dental Attrition, the Associated Factors and Problems in Erbil City "An Epidemiological Study"

Name: Iman Jarjees Muhammedamin

Degree: Master

Specialty: Preventive Dentistry

Date the discussion: 25/9/2010

Supervisor: Assist. Prof. Amera Kamal Khaleel

Abstract

The objective of this study is to determine the prevalence of dental attrition in Erbil city and to compare it with the different etiological factors related to it. This study consisted of 1000 patients with age range from (18 – 45) years old, of both sexes, examined in the Erbil Dental Collective and Specialized Poly Dental Clinics in Erbil. The severity of attrition determined in all the teeth involved in the study except the third molar by using Attrition index. The results showed that the prevalence of dental attrition was (67.5%), the number of patients with symmetrical dental attrition was higher than the number of patients with asymmetrical dental attrition. The age group (18-24) years showed (41.65%) prevalence of dental attrition, while the other age groups showed (100%) dental attrition prevalence. The men showed higher prevalence of tooth attrition. The total dental attrition score was (18521) with a mean score of 0.66, and the mean increased gradually with the increase in the age. The anterior teeth are mostly affected, followed by the first molars, premolars, and lastly the second molars. The results also showed that (66.98%) of the attrition occurs within the enamel, (32.74%) reaching to the dentin, and only (0.08%) of the dental attrition exposed the secondary dentin or the pulp. Class III patients, patients with absent overbite or edge to edge relation, patients with a history of bruxism or with a history of TMD showed the highest percentages of dental attrition. The sum of anterior teeth attrition scores in relation to the age, gender, Angle's classification, overbite, overjet, bruxism and TMD was higher than the sum of posterior teeth attrition scores with a highly significant difference present between them ($P < 0.001$).

Skeletofacial measurements of attractive and non-attractive faces in a sample of kurdish dental students (A photographic and radiographic study)

Name: mariam fuad bilal

Degree: master

Specialty: orthodontics

Date the discussion: 13/11/2010

Supervisor: Dr. jameel abd-alwahid al-khashan

Abstract

The analysis of facial soft tissues, from both a quantitative and a qualitative (esthetic) point of view, is an essential part of orthodontic and maxillofacial diagnosis, treatment planning and evaluation of results. The main objective of this study was to evaluate facial attractiveness in a sample of Kurdish dental students in Erbil city. The sample consisted of 172 Kurdish dental students (87 males & 85 females) in Hawler Medical University with age range 18-25 years. They were selected according to specific selection criterias. Standardized digital frontal and profile photographs and conventional lateral cephalometric radiograph were taken for each student. Thirty nine variables including linear, angular and ratio measurements were analyzed using AutoCAD program 2008. Descriptive and inferential statistics for the data were done using SPSS program. The results revealed that four of the linear measurements had a statistically significant differences between the attractive and non attractive adults, these are; the total facial height (n-pg), the lower facial height (sn-pg), and the lower lip height (sto-me) with $P < 0.01$ and the nose width (al-al) with $P < 0.05$. Attractive females had wider upper face (ex-ex) when compared with non attractive females ($P < 0.05$). Attractive males had larger nasolabial (prn-sn-ls) angle than non attractive peers ($P < 0.05$). Regarding gender differences, all linear measurements were higher in males than females except the vermillion height which was higher in females but the difference ($P = 0.07$) did not reach significance level. Attractive males had more prominent maxillae relative to the mandibles (sl-n-sn), more obtuse nasolabial angles (prn-sn-ls) and more acute nasofrontal angles (g-n-prn) with $P < 0.05$. All radiographic variables showed non significant differences. So the conclusion is that some of the measurements gave quantitative characteristics of an “attractive” face.

Comparison of predominant Aerobic Bacteria and Candida on Conventional and Flexible Denture Base Materials

Name: Cheman Zaher Taher

Degree: Master

Specialty: Prosthodontics

Date of the Debate: 10/11/2010

Supervisor: Prof. Salem Abdul Latif Salem

Abstract

normally the oral cavity contains a large number and different types of bacteria, candida and other microorganisms. Bacterial plaque has been identified as a primary etiologic factor in the establishment of oral disease. Once the early colonization of the surface of the denture occurred, microbial succession has take place and the plaque reached maturity. tea healthy (50-70) years old, nonsmoking edentulous patients (5 female), were included in this study. A comparative study of periodominant bacteria and candida on conventional (acrylic resin) and (valplast) denture base materials was done. The samples were fixed in tissue surface of maxillary complete denture. the microbial floras of the edentulous mouth during four experimental periods were studied, starting from zero time, the time just of new dentures. the interval between the first two visits was one week, while two weeks interval was followed for the last two visits. Various selective media and biochemical tests were used to identify and isolated the different aerobic bacteria and candida

Effect of Sealer, Cement Types and Mode of Cementation on Custom-Cast Post Retention

Name: Samir Ahmad Hamad

Degree: Master

Specialty: Conservative Dentistry

Date the discussion: 12/12/2010

Supervisor: Dr. Shatha Abdullah Salih

Abstract

This in vitro study evaluated and compared the retention ability of custom-made metal posts using two types of cements, and determined the effect of two types of sealers & different cementation times on their retention. A total of eighty extracted human teeth of similar shape were selected and stored in ionized water with thymol solution. Randomly divided into two groups; 40 roots prepared using step-back technique & obturated by cold lateral compaction technique with Zinc oxide eugenol sealer and the other 40 roots prepared using step-back technique & obturated by cold lateral compaction technique with resin sealer; each group was subdivided randomly into two groups of 20 roots for each; in group A- posts cemented by Zinc polycarboxylate cement, and in group B- posts cemented by resin cement. Groups A & B were subdivided into two groups; one with immediate cementation and other with delayed cementation with 10 roots for each. All samples were then subjected to post space preparation by using peeso reamer of specific standardized size, (7 mm long; 1.2 mm diameter) attached to modified dental surveyor. The posts were fabricated by direct waxing of the canals of 7mm length & base metal post & ring-like core were obtained. The roots were individually attached to a custom device to be held secure in a vertical position and minimize the incidence of non-axial forces, so that traction forces could be applied parallel to their long axis. The ring was grasped by the clamping apparatus in Universal Testing Machine running at a crosshead speed of 0.5 mm/min until dislodgement of the post from the root. Maximum force required for post removal was recorded (N) for each specimen and means was calculated and analyzed statistically. The results showed that the delayed cementation time group gave higher retention than the immediate cementation time group. By using t- test, there was highly significant difference between the delayed cementation time & immediate cementation time groups at $p < 0.01$, with in favor of the delayed cementation time over immediate cementation time. By using t- test, there was highly significant difference between the resin cement groups & zinc polycarboxylate cement groups at $p < 0.01$, with in favor of the resin cement over zinc polycarboxylate cement. By using t- test, there was highly significant difference between the resin sealer groups & zinc oxide eugenol sealer groups at $p < 0.01$, with in favor of resin sealer over zinc oxide eugenol sealer. As conclusion, the delayed cementation time had better retention in conjunction with the resin cement type. The use of eugenol-containing sealer had bad effect on the retention of cemented posts.

Caries Experience, Periodontal Health Status and treatment Needs Among 6-18 Years old Type 1 Diabetic Patients

Name: Sazgar Muhammed Sabir

Degree: Master

Specialty: Preventive Dentistry

Date the discussion: 9/10/2010

Supervisor: Assist Pro. Amara Kamal Khaleel

Abstract

Oral health complications are known to be associated with diabetes. Diabetes is considered to be a common metabolic disorder causing major public health problems in Iraq, there are few up-to-date research reports in the literature with regard to caries experience and periodontal health status and treatment needs among type1 diabetics world wide. The present work designed to determine the distribution and severity of the dental caries experience, gingival and periodontal health status with their treatment needs and its relation to different risk factors and to study the relation between glycemic control and the evolution time of diabetes with dental caries experience and gingival health condition among the diabetic group. This study was carried out among 188 type 1 diabetic patients 6 -18 years in comparison to 200 healthy subjects with the age and sex-matched to the diabetic patients. The results showed that the total mean value of caries experience (dmft, dmfs, DMFT, DMFS) in the diabetic group was less than the control, with non significant difference ($P>0.05$). The highest percentage of both groups was in need of one surface restoration. Subjects in need of an immediate care were higher among the diabetic group compared to the control group. The gingival index (GI) among the diabetic group was higher than the control group with non significant difference ($P>0.05$). But the number of sextants or persons with bleeding on probing, calculus and pockets with 4-5 mm or ≥ 6 were higher among the diabetics in comparison to the control group. The total mean value of Simplified Oral Hygiene Index (OHI-S) in the control group was higher than that of the diabetic group with non significant difference. There was significant increase in the mean of DMFT and dmft in relation to the increased frequency of main meals and snacks/day, but there was non significant difference between OHI-S and GI in relation to the frequency of main meals in both groups, and significant difference for the frequency of snacking in the diabetic and control groups. Socio-economic class and body mass index-for-age percentiles showed no effect on the mean of DMFT, dmft, OHI-S, and GI. The means of DMFT, dmft, and GI were higher in the patients with glycosylated haemoglobin (HbA1c) ≥ 9 and these means were seen increased with the increase in the evolution time.

Dento Skeletal Characteristics in a Sample of Controlled β -Thalassemic Major Patients in Erbil City

Name: Deman Hassan Hamid

Degree: Master

Specialty: Orthodontics

Date the discussion: 12/12/2010

Supervisor: Assist prof. Omer Qadir Surchi

Lecturer Dr. Jameel A. Al-Khashan

Abstract

The facial appearance of β -thalassemic major individuals is readily recognizable and differs from normal healthy individuals in their skeleto-dental morphology. The main objective of this study was to determine any variation in the skeletal and occlusal features and arch dimensions between β -thalassemic patients and orthodontically normal subjects and between two thalassemic age subgroups.

The sample consisted of 30 β -thalassemic major patients and 30 normal healthy individuals matched for sex and age, selected according to specific selection criterias, and they were subdivided in to first age subgroup (6-11) and second age sub group (12-24) years. Study models for upper and lower arches were constructed for each subject and evaluated for measurements by using the digital electronic caliper, and ten linear distances were measured. Conventional lateral and posteroanterior (frontal) cephalometric radiographs were taken for each subject and eight angular, three linear and four proportional measurements were digitally analyzed using Auto CAD program 2008. Descriptive and inferential statistics were used for data analysis utilizing the computerized statistical program SPSS.

The results revealed that the β -thalassemic major patients had a higher percentage of upper anterior spacing. They also had a significantly larger upper molar vertical distance (U-MVD) than controls ($p < 0.05$). The jaws relationship (ANB) angle was significantly larger than the controls ($p \leq 0.01$), Thalassemic patients showed a significantly increased maxillomandibular plane (MMP) angle in general ($p \leq 0.01$). Thalassemic patients showed a significantly increased anterior facial height proportion ($p \leq 0.01$), significantly reduced posterior facial to anterior facial height ratio and upper to lower facial height ratio. The linear measurements were significantly narrower than the controls for (biorbito-lateral, bizygomatic and bigonial distances) with ($p < 0.05$). β -thalassemic major patients in Erbil city had class II skeletal jaws relationship, long face and tapered upper dental arches with their maxillary and mandibular incisor teeth were upright rather than proclined.

Effect of local metronidazole gel as an adjunctive therapy to scaling and root planing for chronic periodontitis in male smokers

Name: Aveen A. Jalal

Degree: Master

Specialty: Periodontology

Date of the debate: 10/1/2010

Supervisor: Assist. Prof. Ziwar A. Qassab

Abstract

The sample of the study were 40 male smokers with moderate to severe chronic periodontitis. The clinical evaluation was based on the measurement of plaque index, bleeding on probing, pocket probing depth, gingival recession and clinical attachment level. A split-mouth design was used, in which each half mouth received scaling and root planing with or without metronidazole 10% application. All parameters were recorded before the treatment at baseline examination. After the treatment, the parameters were reassessed at first, second and third months intervals.

The plaque index reduced gradually during the follow up period in both treatment groups, except for scaling and root planing alone in the first month. There is very high significant difference ($P \leq 0.001$) between the two groups at the first month.

The mean bleeding on probing was very highly significantly reduced after treatment in the two groups at the first, second and third month post treatment visits ($P \leq 0.001$). There was no significance difference in bleeding on probing between scaling and root planing with metronidazole gel and scaling and root planing alone at the first and second month recall visits ($P \geq 0.05$). However the difference at the third month was very highly significant ($P \leq 0.001$). The mean reduction in bleeding on probing in scaling and root planing with metronidazole gel was (0.02 ± 0.07) and the reduction in SRP alone was (1.0 ± 0.04) by the third month visit.

The mean pocket probing depth showed a very highly significant reduction, in both groups, at the first, second and third month post treatment visits ($P \leq 0.001$). There were no significant differences between the two treatment groups at the three post treatment visits ($P \geq 0.05$).

The mean gingival recession was decreased after treatment in scaling and root planing with metronidazole gel with no statistically significant differences ($P \geq 0.05$), where as in scaling and root planing alone group the mean gingival recession was very slightly increased after treatment with no statistically significant differences ($P \geq 0.05$). There was no statistically significant difference between the two groups at the first, second and third month post-treatment visits ($P \geq 0.05$).

Both study groups showed a statistically high significant gain of attachment level after treatment, in the first month visits ($P \leq 0.01$), and very high significant gain of attachment level in the second and third month post-treatment visits ($P \leq 0.001$). There was no statistically significant differences in the clinical attachment level between the two treatment groups at the first, second and third month post-treatment visits ($P \geq 0.05$).

Both subgingival scaling alone and subgingival scaling combined with metronidazole gel application led to improvement in the clinical parameters investigated.

Micro-hardness of Root Dentin Prepared with Different Instruments and Irrigants

Name: Manal Muhammed Tahir Al-Brefkany

Degree: Master

Specialty: Conservative Dentistry

Date the discussion:

Supervisor: Assist. Prof. Raid Fahim Salman

Abstract

The aim of this study was to measure the micro-hardness of root dentin after instrumentation with different file types (Nickel -Titanium K-file, hand protaper and rotary Nickel -Titanium protaper) using different irrigation regimen (17% ethylen diamine tetra acetic acid , 2.5% and 5.25% sodium hypochlorite) at different time intervals.

The roots samples (100 in number) were randomly divided into 5 groups; group1; (10 root canals) had been kept as a control group, neither instrumented nor irrigated, group2, which subdivided into three subgroups of 10 roots for each as follow; group2A: had been instrumented with rotary Nickel Titanium files (Protaper), group2B: had been instrumented with hand Nickel Titanium (Protaper), group 2C: had been instrumented with hand Nickel Titanium K-files, group3; which subdivided into three subgroups of 10 roots for each as follow; group3A: had been irrigated with 1ml of 17% EDTA for 1 minute ., group3B: had been irrigated with 1ml of 17% EDTA for 5 min., group3C: had been irrigated with 1ml of 17% EDTA for 10 min., group4; which subdivided into two subgroups of 10 roots for each as follow, group4A: had been irrigated with 1ml of 2.5% NaOCl for 1 min., & group4B: had been irrigated with 1ml of 5.25% NaOCl for 1 min., & group5; (10 root canals) had been instrumented with hand Nickel Titanium (Protaper) & had been irrigated with 1ml of 17% EDTA for 1 min. followed by 5.25% NaOCl for 1 min. After that, the roots were sectioned transversely into three dentin segments of 3mm long, using diamond discs forming coronal, middle, apical segments. Then samples were polished using sand paper and universal polishing machine and the micro hardness measurements was preformed by shore hardness tester.

The results showed that there was highly significant difference between all the groups. Instrumentation with Nickel titanium rotary files affected dentin micro-hardness significantly to a lesser extent when compared to hand protaper and Nickel titanium K-File. Also showed that the time dependant effect of 17% EDTA in micro-hardness reduction in comparison with (control group) & there were highly significant differences between the three groups of irrigation with EDTA at $P < 0.01$, & 5.25% NaOCl significantly reduced micro-hardness at $P < 0.01$, than 2.5% NaOCl. The single and combined use of EDTA & NaOCl decreased the micro-hardness of the root canal dentin significantly more than single use except EDTA at $P < 0.01$. In all group the apical third of root showed the highest value of micro-hardness compared to the middle & coronal thirds.

As conclusion, instrumentation and irrigation with NaOCl or EDTA changes the biomechanical properties of dentin.

The Effect of Thermocycling on Tensile Bonding Strength of Three Different Brands of Artificial Teeth with Denture Base in vitro study

Name: Ghalib Rahman Hawrami

Degree: Master

Specialty: Prosthodontics

Date the discussion: 5/10/2011

Supervisor: Prof. Souza A. Faraj

Abstract

Present study is designed to evaluate the tensile bonding strength of the teeth were treated with thermocycling. Three different brands of acrylic teeth: (M=MAJOR DENT), (K=KAILI HUGEDENT) and (S= SUPER NEWCLAR IDEAL DENT MAKOO) were subdivided to A=control, B=1000 cycle and B=2000 cycle (n=8). Thermocycling cycle was 30 seconds in 55oC and 30 seconds in 5oC using automatic designed device. Universal testing machine was used to evaluate the tensile bonding strength of teeth with denture base resin. In this study the tensile bonding strength of the group A shows K brands was the highest with (14.288 MPa) while the brand S lowest with (12.777MPa), but in group B it was found that M brand was the highest with (12.01MPa), and K brand was the lowest by (10.167 MPa). While in group C it's obvious that S brand was scored (11.017MPa), and the lowest one was K brand with (8.471MPa). A very high significant difference among the groups of M and K brand ($p < 0.0001$), with a significant difference among groups of S brand ($p < 0.05$). It's obvious that all brands were used in this study influenced by thermocycling. All failures which was seen was adhesive or mixed completely, the M brand failed adhesively and the thermocycling process not affect its property while the K and S brands were with mixed failure or adhesive failure and both brands was influenced by thermocycling and the mode of failure change to more adhesive.

Previous result give conclusion of that S brand is the best one in relation to K and M because it lost minimum amount of its bonding property after thermocycling, and the worst one was K since it lost maximum bonding properties. Also it was concluded that thermocycling affect all brands in different degree and change the mode of failure from mix to adhesive.

The Effect of Different Exposure Times on Some Mechanical Properties of Visible Light Cured Acrylic Resins

Name: Abdullqadir Majeed Qadir

Degree: Master

Specialty: Prosthodontics

Date the discussion: 6/10/2011

Supervisor: Dr. Rizgar Mohammed Ameen Hasan

Abstarct

Visible light cured (VLC) acrylic denture base materials are one of the developed polymeric acrylic denture base materials. The system consists of a pliable resin and curing unit emitting high intensity light in shorter blue 400-500 nm wavelength spectrum of visible light. The system manufactured in the form of sheets and ropes, gels and also in powder and liquid system. This material was found to be suitable for many dental applications: Removable, fixed, maxillofacial prostheses and orthodontics appliances.

The object of the present study is to evaluate the effect of different exposure times on some mechanical properties of VLC denture base materials and compare them with the currently used cold cured acrylic denture base materials.

Three types of (VLC) denture base materials were tested; VLC (Plaque, Promedica, and Durabase LC) denture base materials and cold cured denture base material (Paladent RR, Heraeus Kulzer) which considered as control group. The specimens of VLC were subdivided into three groups each group was cured by 3 different exposure times, the first group was cured (4 minutes), the second group was cured (8 minutes), and the third group was cured (12 minutes).

Testing of dimensional changes, hardness and dimensional stability (denture base adaptation).

The results showed that the different curing times have a considerable influence on dimensional changes, dimensional stability (adaptation to the underlying cast) of the VLC denture base materials.

Plaque materials exhibited lowest values of both dimensional expansion (linear dimensional changes) and volumetric dimensional changes (best adaptation to the underlying cast); it had highest values of hardness among other VLC materials (Promedica and Dura Base LC).

Regarding the control group which was the cold cure resin

(Paladent RR, Heraeus Kulzer) exhibit highest values of dimensional expansion, hardness and moderate values of dimensional stability. In conclusion the results of the present study showed that, VLC materials had properties which enable the dentist to use them for various purposes in prosthodontic in laboratory purposes specially for (Plaque) VLC materials.

Immunohistochemical Expression of P53 in Relation to Clinicopathological Parameters of Lip (Squamous) Cell Carcinoma)

Name: Hanan Abdulqader Abdulla

Degree: Master

Specialty: Oral Pathology

Date the discussion: 7/8/2011

Supervisor: Assist Prof. Ameera Kamal Khaleel

Abstract

Background: The lip is the most common site of malignancy after skin carcinoma in the head-neck region and squamous cell carcinoma of the lip is the most common histological type.

Aims of the study: Evaluate p53 protein immunohistochemical expression in cases of squamous cell carcinoma in the lip in relation with the different clinicopathological parameters.

Method: The materials used in this study were consisting of (40) paraffin-embedded lip biopsy specimens of squamous cell carcinoma, collected during the period between January/2008 and January/2011. From each paraffin block, 4 μ m thick sections were obtained and mounted for routine hematoxylin and eosin staining and for immunohistochemical staining which was done using Leica NovoLink TM Polymer Detection System code RE7140-K (UK).

Results: The p53 index for squamous cell carcinoma of the lip was ranging between 0.5%-58%, and (72.5%, 29 case) showed positivity for p53 and (27.5%, 11 case) were negative. The highest number and percentages of p53 positive cases were seen associated with males(74.19%), \geq 60 year's age group(73.33%), patients with outdoor occupations(100%), upper lip(75.0%), >2cm size lesions(73.68%), patients with palpable lymph node (74.91%), moderately and poorly differentiated type(77.78%), and positive involvement of surgical margins (78.57%). Statistical analysis showed no significant relation of the mean labeling indices with the sex, site, tumor size, the presence or absence of palpable lymph node, grade of differentiation, and involvement of surgical margins($p>0.05$), but it showed significant relation with the patient age and occupation($p<0.05$).

Conclusions: The old age patients (\geq 60 years) and patients with outdoor occupations showed the highest p53 labeling index significantly.

Maxillofacial Fractures in Erbil City (Clinical and radiographical study)

Name: Evan Namrud Youhanna

Degree: Master

Specialty: Oral and Maxillofacial Surgery

Date the discussion:

Supervisor: Dr. Tarik Mohamed Abdulla

Abstract

BACKGROUND & OBJECTIVES: Trauma is one of the most common clinical problems that confront the maxillofacial surgeon and radiologist alike. Facial injuries are clinically significant because they are often complex in nature and may have serious functional and cosmetic sequelae. Modern imaging modalities, especially CT, have been shown to be of value in the assessment and management of acute facial trauma. The aims of the study were to compare the clinical effectiveness of computed tomography

(2D-CT and 3D-CT) with conventional radiography in maxillofacial fractures.

METHOD: Eighty four patients who suffering from facial trauma were studied, they were examined clinically followed by radiographic examination (plain radiograph and CT scan (2D & 3D) of the maxillofacial region.

RESULTS: The age range was 14-72 years with sex distribution of 62 men and 22 women (sex ratio male : female 3:1). Most of maxillofacial fractures were result from road traffic accidents (42.85%), followed by fall from height, assault, sport injury, missile injury and industrial injury .Out of (108) maxillofacial fractures, mandibular fractures were the most frequent (44.44%), followed by zygomatic fractures (27.77%), LeFort fractures (7.4%), orbital blow-out fractures (4.62%), and nasoethmoidal injuries(3.7%).

McNemar's test show $P < 0.001$ which means highly significant different between computed tomography and conventional radiography in maxillofacial fractures.

CONCLUSION: The CT scan (2D&3D sections) provided superior definition of the fracture lines and the extent of comminution were better appreciated. This additional information improved the surgeons' ability to plan placement of interfragmentary wires and/or plates. Three-dimensional images of the facial skeleton made intraoperative conceptualization of the injury pattern easier. If open reduction and internal fixation is the mode of treatment , 3DCT is desirable because the added information makes preoperative planning more accurate and thereby facilitates surgical intervention.

The Effect of Ciprofloxacin and Ceftriaxone on Tooth Socket Healing. A Comparative Histological Study in Rabbits

Name: Sazgar Saadi Hussein

Degree: Master

Specialty: Oral Histology

Date the discussion: 29/6/2011

Supervisor: Assist. Prof. Rafah Hatim Al_Marroof

Abstract

Impairment and delayed healing of the extraction socket was found following administration of many drugs such as diclofenac, amlodipine, cyclosporine, and nicotine. This study was carried out to evaluate histologically the influence of the ciprofloxacin a second generation fluoroquinolones, and ceftriaxone a third generation cephalosporins, on the socket healing after tooth extraction in rabbits.

70 male rabbits weighing 1-1.5 kg were divided randomly into two groups, control and experimental group. The control group consisted of 20 rabbits, the experimental group involved 50 rabbits which were subdivided into 2 subgroups, 25 rabbits received two times daily 40mg/kg ciprofloxacin orally, and 25 rabbits received two times daily 40mg/kg of ceftriaxone intramuscularly (these 2 antibiotic are selected because are widely used, both are broad spectrum, bactericidal, and nearly have the same indications) for 14 days for both groups. Under general anaesthesia the mandibular left central incisors were extracted for the animals of the both, control and experimental groups. Half numbers of the control group (10) and (12) rabbit from each experimental group were sacrificed 10 days postextraction, while the remaining animals from control and experimental groups were sacrificed 21 days postextraction. Histological examination of the dental sockets and histomorphometric procedure of counting the osteocytes numbers and measuring the width of the newly formed bone trabeculae in the socket were performed for the two time intervals of all animals.

The histological examination revealed that the osteogenesis was more in the socket of the control group than the ciprofloxacin and ceftriaxone group; however, 21 days post extraction little difference in bone formation was seen between the control and the experimental group that received ceftriaxone. Histomorphometric analysis showed that bone trabeculae from the socket of the control group were more in thickness and less cellular than the two experimental groups at 10 and 21 days postextraction. At 10 and 21 days post extraction the bone trabeculae from the socket of the ciprofloxacin group were more cellular than the bone trabeculae from the socket of the ceftriaxone group.

These findings suggest that ciprofloxacin and ceftriaxone affect the healing process in sockets of rabbits after tooth extraction and the ceftriaxone effects appears to be less than ciprofloxacin especially 21 days postextraction. Clinically no any changed observed in healing of the socket.

The Effects of Salbutamol, Methylprednisolone and Their Combination on the Histology of Trachea in Rabbits

Name: Prshing Tawfiq Kurtas

Degree: Master

Specialty: General Histology

Date the discussion: 30/7/2011

Supervisor: Assist. Prof. Rafah Hatem Al-Marroof

Abstract

This study concludes that salbutamol and methylprednisolone produced many histological changes in the trachea and the combination of the 2 drugs limited these changes.

Salbutamol is a potent short-acting β_2 adrenoceptor receptor agonist that belongs to adrenergic bronchodilators. Methylprednisolone is a synthetic glucocorticoid which has a strong and prolonged anti-inflammatory, and anti-allergic activity. This study was done to investigate the effects of these 2 drugs separately and in combination on the histological features of the normal tissue of rabbits trachea.

Forty six rabbits were used were divided into two groups, control (10) rabbits (n=10) and experimental (36) rabbits (n=36). The experimental group was subdivided equally into three groups that received 0.5mg/kg salbutamol injection for six days weekly, 1.5mg/kg methylprednisolone injection 2 times weekly, combination of the 2 drugs with the same dose and the same time intervals respectively. The middle part of the trachea was collected 3 weeks and 6 weeks following the beginning of drug administration and the samples were subjected to histological (H&E) and histochemical (PAS stain) procedures.

The salbutamol group demonstrated discontinuities between the epithelial cells, increasing the number of goblet cells together with reduction in the thickness of smooth muscle. On the other hand, methylprednisolone group showed metaplasia of the epithelium in many sites together with increase collagen fibers formation in the lamina propria and prominent increase in the number of chondrocytes. The combination of the 2 drugs resulted in limited changes in the epithelium in few regions, with higher number of chondrocytes when compared with control group. The PAS stain was mainly concentrated in the apical cytoplasm of the epithelial cells in the methylprednisolone group and in the perichondrium in the combination group.

Effectiveness of Chlorhexidine Dentifrice in Compression to Persica Dentifrice upon Periodontal Health Status of Fixed Orthodontics Patients

Name: Bngen Mohammed Karam

Degree: Master

Specialty: Periodontics

Date the discussion: 24/11/2011

Supervisor: Dr. Zana Qadie Omer

Abstract

The present study was undertaken to evaluate the effectiveness of chlorhexidine (Kin) toothpaste in comparison to Miswak (Miswak-F) toothpaste on periodontal health status of fixed orthodontic patients. The subjects that comprised of 60 fixed orthodontic patients (Females=39, Males=21) and ranging in age (18-30) years, attended the Department of Orthodontics, College of Dentistry/Hawler Medical University and private orthodontic dental clinic in Erbil city. All subjects used orthodontic tooth brush. Then they were divided into three groups regardless the type of malocclusion. Each group comprised of (sample size=20; females=13, males=7). The first group used Kin toothpaste. The second group used Miswak-F toothpaste. The third group used Sensodyne toothpaste. The first and second groups were considered as a study groups while the third group was considered as a control group. Analysis was made after three and six months by using Plaque index, Gingival index and Probing Pocket Depth. Intragroups showed a highly significant between different times. After three months, the mean Plaque index of the Kin showed significant from the Miswak-F and a highly significant from the Sensodyne which showed no significant from the Miswak-F. Mean Gingival index of the Kin showed no significant from both the Miswak-F and the Sensodyne which showed no significant from the Miswak-F. After six months, mean Plaque index of the Kin showed highly significant from both the Miswak-F and the Sensodyne which showed no significant from the Miswak-F. Mean Gingival index of the Kin group showed highly significant from both the Miswak-F and the Sensodyne which showed no significant from the Miswak-F. Mean Probing Pocket Depth showed only significant after six months between Kin and Miswak-F. Difference between the males and the females showed no significant, except Probing Pocket Depth of the Miswak-F which showed significant after three and six months. The study concluded that although the Kin toothpaste showed superior to the other toothpastes, all the periodontal parameters showed increasing after bonding fixed orthodontic appliances so more preventive measures and the professional prophylaxis for the control of the oral hygiene are essential during fixed orthodontic treatment.

Verification of Built- in Torque Values in three Brand of Roth Brackets and Assessment of Normal Faciolingual Crown Inclination

Name: Tara Saleem Hamad

Degree: Master

Specialty: Orthodontics

Date the discussion: 19/4/2011

Supervisor: Dr. Jameel Abd-alwahid Alkhashan

Abstract

This study evaluates the degree of faciolingual inclination of maxillary and mandibular teeth crowns relative to a reported torque value. It aims to check the accuracy of torque built in the slot of Roth brackets of three different manufactures (Ortho-organizer, Dentarum, and Class one). Also measure the normal faciolingual crown inclination of a study sample by using standard Edge wise brackets. For such purpose, 180 maxillary and mandibular stone casts from 45 students (four pairs of casts for each students) at the college of dentistry and college of nursing with a normal occlusion, and no history of previous orthodontic treatment were examined. A custom device was made for measuring the degree of faciolingual inclination (torque) of bracket slots of orthodontic appliances relative to the functional occlusal plane.

Crown inclinations from the central incisors to the second premolar in the upper and lower dental arches (right and left) were measured relative to the functional occlusal plane in three different types of Roth brackets and mean tooth inclinations were calculated. It was found that all Roth brackets types show a close torque values but the Dentarum bracket was the closest to the original Roth torque values, second one was the Class one brackets and the last one was the Ortho-organizer brackets.

Concerning the faciolingual inclination of the crown in normal occlusion of the study sample, the results showed that the torque of the teeth in the study population was close to the torque value claimed by Roth. This justifies the wide use of Roth brackets in this local area. According to gender it was found that males have more buccal crown inclination than the females and this is attributed to the facts that males have stronger bone, heavier masticatory muscles and steeper occlusal plane than the females.

The Cosmetic Outcomes 2-Octyl Cyanoacrylate Tissue Adhesive and Subcuticular Skin Closure in Facial Lacerations (Clinical Comparative Study)

Name: Hozak Zaheer Rozhbayane

Degree: Master

Specialty: Oral and Maxillofacial Surgery

Date the discussion: 16/4/2011

Supervisor: Dr. Nonos Pauls Philip

Abstract

Lacerations are one of the most common causes of patients seek emergency medical care. The primary goal of facial laceration management is optimal cosmetic outcome. The Cyanoacrylate tissue adhesives are liquid monomers that polymerize on contact with tissue surfaces in an exothermic reaction creating a strong yet flexible film that bonds the apposed wound edges. The aim of this study was to compare the cosmetic outcome of skin adhesive with that of subcuticular skin suturing in treating facial lacerations at one week and at 3 months from laceration management.

The study was performed on 60 patients with facial lacerations divided into 2 equal groups. The patients were randomly assigned into one of two treatment groups: group A in which skin closure was done by subcuticular skin suturing, and group B in which skin closure was done by using skin adhesive 2-Octyl Cyanoacrylate. Then the healed wounds were examined after 1 week and after 3 months from injury using wound evaluating scale to evaluate the cosmetic outcome of each method of wound closure.

With Wound Evaluating Scale (70%) of group B and (73.3%) of group A got optimal wound score. There was no significant difference in cosmetic score between the 2 groups after 3 months ($p=0.774$). Mean time for skin closure in control group was 16.2 ± 7.98 minutes, in return to 2.8 ± 1.65 minute in study group, and there was significant difference ($p=0.001$).

2-Octyl Cyanoacrylate (Dermabond)[®] is a good alternative for closing facial lacerations, with same cosmetic outcome, after 3 months, and less working time consuming than subcuticular method of laceration closure.

Key words: 2-Octyl Cyanoacrylate, facial lacerations, wound closure, subcuticular suturing.

Gingival Health Status among Patients with β -Thalassemia Major in Erbil

Name: Dildar Abdullah Othman

Degree: Master

Specialty: Periodontology

Date the discussion: 3/12/2011

Supervisor: Assist. Prof. Omer Surchi

Lecturer Dr. Othman A. Omer

Abstract

Thalassemias constitute a form of anemia that has clear problems in relation to oral health. The purpose of this study to determine whether beta thalassemic disease is associated with increased risk of gingival disease.

In this case control study 50 beta thalassemic patients (25 male and 25 female) aged 12 to 24 years compared with 50 healthy control subjects (24 male and 26 female) matching in age and sex. At beginning both beta thalassemic patients and healthy control subjects were receiving scaling and polishing with good oral hygiene instruction and using the same tooth paste and tooth brush in order to obtain zero score at base line. Then the all subjects were followed up for six month at one week (base line), one month, three month and six month interval. Gingival health status was measured through these six months by application of Silness and Loe plaque index (PI), Ramfjord calculus index (Cal I) and Loe and Silness Gingival index (GI). Data were analyzed by using chi square, fisher's exact test, student t-test and paired t-test.

At base line results showed that plaque index and gingival index were higher among beta thalassemic patients than healthy control subjects with no statistical significance difference while regarding the calculus index there was no calculus in both groups at base line. After six month follow up (one, three and six month interval) results showed that plaque index, calculus index and gingival index were higher among beta thalassemic patients than healthy control group with statistically significant difference ($P < 0.05$).

Patients with beta thalassemic major showed significant difference in their gingival health status and therefore a special oral hygiene care program needed for this target group.

Effect of Non-Surgical Periodontal Therapy on Clinical Periodontal Health and Serum HbA1c Level in Type 2 Diabetic Patients

Name: Dijwar Salih Ibrahim

Degree: Master

Specialty: Periodontology

Date the discussion: 29/11/2011

Supervisor: Assist. Prof. Luqman Fawzi Omar
Lecturer Dr. Hassan Al Barazenji

Abstract

Periodontal disease is a common infection-induced inflammatory disease among individuals suffering from diabetes mellitus. This study was carried out to assess the effect of non surgical periodontal therapy on HbA1c value and periodontal health in type 2 diabetes mellitus patients with periodontitis.

In this clinical trial study, 50 patients with uncontrolled type 2 diabetes mellitus and chronic periodontitis were selected from Zakho diabetes center, 25 patients (treatment group) received mechanical periodontal treatment (oral hygiene instruction, full mouth scaling and root planing) and 25 patients (control group) did not receive any periodontal treatment . At base line and after 3 months, the glycated hemoglobin values (HbA1c) and clinical periodontal parameters; plaque index (PI), pocket probing depth (PPD), clinical attachment level (CAL) and bleeding on probing (BOP) were recorded.

After treatment, all patients (treatment group) showed clinical improvement in periodontal parameters (plaque index, pocket probing depth, clinical attachment level and bleeding on probing) . The HbA1c value reduced significantly after the 3 months of observation period .

In the control group, the study showed that there was significant increase in the mean of PI after three months, but the BOP, PPD, and CAL showed no significant increase. The study showed that there was no significant increase in the HbA1c in the control group after three months.

The results of our study showed that non surgical periodontal treatment is associated with reduction in glycated hemoglobin level in type 2 diabetic patients. Controlling periodontal infection as an important part of the overall management of diabetes mellitus patients, is recommended.

The Effect of Microwave Post-Polymerization Treatment on Some Properties of Cold-cured and Visible Light-cured Acrylic Resins Materials

Name: Shukriya Hussein Habib

Degree: Master

Specialty: Prosthodontics

Date the discussion: 17/12/2011

Supervisor: Prof. Souza A. Faraj

Abstract

Post-polymerization is an additional curing to which the polymerized acrylic is subjected, aiming for better properties. Microwave irradiation was used for this purpose. In the present study microwave was used for post-polymerization treatment of cold-cure (Paladent®RR) and visible light-cure (Major) acrylic resin materials. The effect on dimensional changes, porosity, indentation hardness and tensile strength had been evaluated. One hundred forty four (144) specimens were prepared, 72 cold-cure and 72 visible light-cure following manufacturer instructions. The specimens were subdivided into 4 groups, each group consist of 18 specimens, 9 specimens used as control and 9 specimens were used for testing the effect of microwave post-polymerization immediately after curing. The specimens were tested for porosity, using Optical Microscope. Shore hardness tester used for indentation hardness, Universal testing machine for measuring tensile strength, and Traveling Microscope for measuring dimensional changes. The results obtained showed that microwave post-polymerization used in the present study did not affect significantly on the porosity and hardness of both cold-cure and visible light-cure acrylic materials. While the effect on dimensional changes was significant shrinkage for cold-cure; however, visible light cure specimens showed non-significant expansion compared with the control group. Tensile strength of cold-cure specimens increased significantly after microwave but the visible light-cure materials showed non-significant decrease of tensile strength. Conclusion; microwave post-polymerization used in this study, had more significant effect on cold-cure rather than visible light-cure acrylic resin materials.

Immunohistochemical Expression of p53 in Benign Pleomorphic Adenoma of Salivary Glands

Name: Layla Muhamad Fatah

Degree: Master

Specialty: Oral Pathology

Date the discussion: 24/11/2011

Supervisor: Assist. Prof. Ameera Kamal Khaleel

Abstract

Background: Mutation of p53 tumor suppressor gene often occur in a variety of human tumors, including benign pleomorphic adenoma which is the most common neoplasm of the salivary glands and was shown sometimes to undergo malignant transformation in its course.

Aims of the study: This research was designed to study the clinicohistopathological picture of pleomorphic adenoma, and p53 immunoexpression in relation to this clinicohistopathological picture. Method: Paraffin blocks of 45 cases of pleomorphic adenoma, which found during the period between Jan/2008 and Dec/2010, were used in the study, From each block two sections (four μm thickness) were cut, one of them was stained with hematoxylin and eosin for histological re-evaluation and the other was subjected for immunohistochemical staining of p53 by using Leica NovoLinkTM Polymer Detection System(UK).

Results: Pleomorphic adenoma has male's predominance with a male to female ratio equal to 1.37:1. Pleomorphic adenoma was more common in (21-30) years age group, and the parotid gland was mostly affected. The duration of the symptoms varied from 3months to 120 months, with a mean of 23.42 months. The tumor sizes varied from (1cm to 9cm) with a mean of 3.49 cm. The cell-rich subtype constitutes 57.78%, stroma-rich 31.11%, and only 11.11% were classic. P53 expression was positive in (40%) of the cases and (60%) showed negativity for p53. Statistical analysis showed no significant relation of the mean p53 labeling index with the sex, age, duration of the tumor, size, and histopathological subtype ($p>0.05$), but it showed significant relation with the gland site ($p<0.05$).

Conclusions: Higher p53 mean labeling index was seen associated with submandibular gland and this may need a long follow up after its surgical treatment.

Assessment of New Root Canal Filling Material Based on Polymer-modified White Portland cement with CaCl₂

Name: Saud Jassim Dizayee

Degree: Master

Specialty: Conservative Dentistry

Date of the discussion: 11/1/2011

Supervisor: Dr. Raid Fahim Salman

Abstract

This study aimed to assess a new root canal filling material which may known as Polymer-modified White Portland Cement and investigate its properties in comparison with other materials. Six trails were done to evaluate this material.

The experimental materials were prepared from 20% bismuth oxide and 80% white Portland cement. Later on CaCl₂ was added to them. Polymer was added to the developing material to enhance the workability of this material to be used as injectable root canal filling, so the mixture of 17.5% polymer, 12.5% CaCl₂ and 20% water was the most favorable one that comply the requirements. This formula was subjected to further testing of Flow-injectable filling materials according to ANSI/ADA Spec. No. 57 and ISO 6876 and initial setting time ANSI/ADA Specification No. 30-1990.

Biocompatibility study was done to evaluate the biocompatibility and tissue damaging effects of the tested materials after implantation in the subcutaneous tissue of rats, which divided in to 3 groups, five rats for each group, for three time intervals (3, 7, and 21 days), with three implants per each animal. The 3rd group was empty tubes (-ve control).

PH study was conducted to measure the PH value of the experimental material and Portland cement with CaCl₂, 10 samples were used for each material.

The percentage of solubility of the experimental material and Portland cement with CaCl₂ was determined by modified method of American Dental Association specification #30 (ANSI/ADA 1991). Ten specimens were used for each tested material.

The Push out test was also executed using twenty extracted sound human mandibular premolars which were sectioned transversally at the cement-enamel junction; the specimens were randomly assigned into two groups of ten root pieces for each. Group 1: The root piece space was filled with AH 26 sealer; group 2: The mixed experimental material. The tip of computerized universal testing machine used for load application in the push-out test. After pressure was applied, the load required to dislodge or fracture the cements was recorded in N that converted to MPa.

Leakage study used thirty extracted single-straight rooted human teeth with single canal. The samples were randomly assigned into three groups; Group 1: Thermafil size # 40 was used for obturation. Group 2: Modified white Portland cement with 10% CaCl₂ & group 3: experimental material. After 7 days incubation, a linear dye micro-leakage was assessed by using 0.2% Rhodamine B solution. After that, the roots were sectioned longitudinally in a bucco-lingual direction and viewed under a stereomicroscope at 20x magnification. Apical and coronal dye penetration was evaluated by two independent examiners.

The result of the initial setting time of the experimental material was (26.1 ± 1.125) . The flowbility of the same material was $(2*1.8)$ in cm.

For the biocompatibility, it was shown that the empty tubes had the least histopathological reaction and the experimental had the highest reaction. There was non significant difference between experimental material and PC2 (White Portland Cement + 20% bismuth oxide and 10% calcium chloride) with in favor of the PC2.

The PH value, it was shown that the experimental material had higher mean value of PH which was (8.22 ± 1.3) than that of the PC2 which was (8.0 ± 1.1) . there was non significant difference between experimental and PC2. Regarding the solubility of the experimental material the value was less than the control.

The push out test, it was shown that the AH26 sealer had higher mean value of bond strength than the experimental, there was non significant difference between the experimental and AH26 sealer. when dye penetration leakage was evaluated, it was shown that the lowest mean scores of dye penetration was the PC2 and the highest mean scores was for the Thermafil with AH26 Sealer , there was non significant differences between the materials.

Finally it was concluded that this new material (Polymer-modified White Portland Cement) had comparable biocompatibility with Portland cement & better or comparable other properties with recent used root canal filling materials.

Mesio-Distal Crown and Arch Dimensions of Normal Occlusion and Different Malocclusion Groups in Erbil City Kurdish Sample

Name: Rawand Jassim Othman

Degree: Master

Specialty: Orthodontics

Date of the discussion: 8/3/2011

Supervisor: Dr. Jameel A. Alkhashan

Abstract

It is essential to know the tooth crown size and dental arch dimensions in order to provide accurate diagnosis and treatment planning to ensure the satisfactory outcome of orthodontic treatment.

The aims of the present study was to measure and compare mesio-distal crown diameter and dental arch dimensions of a Kurdish sample in Erbil city with normal and different classes of malocclusion.

The mesiodistal tooth width, arch width, length, segment and perimeter were measured by an electronic digital caliper on a total of 150 (75 males and 75 females) orthodontic models of school students aged 16–20 years of different occlusal relationships (Class I normal occlusion, Class I, Class II division I, Class II division II, and Class III malocclusions).

The results show that (1) Females have smaller teeth and arches than males; (2) There were asymmetry between the right and left side in tooth size; (3) Class I malocclusion showed tendency toward larger teeth than the rest of the other occlusal categories; (4) No statistically significant differences in tooth size were found in the Class II division I, division II and Class III malocclusions when compared to normal occlusion; (5) Class II division II malocclusion showed a significantly smaller upper inter canine width, arch length, incisor molar and incisor canine and upper and lower dental arch perimeter when compared to all other groups; (6) The upper inter premolar and inter molar width was significantly narrower in Class II division I malocclusion than in normal occlusions and Class III malocclusion and also narrower in Class I malocclusion than in normal occlusions for both arches; (7) The arch length was significantly longer in Class II division I when compared to all other groups and (8) No statistically significant differences were found in all the arch dimensions for Class III malocclusion when compared with the normal occlusion.

Comparison between Retention of Maxillary Acrylic and Nylon Denture base Materials

Name: Hawraz Sardar Abdulkareem

Degree: Master

Specialty: Prosthodontics

Date of the debate: 20/1/2011

Supervisor: Prof. Salem Abdul-Latif Salem

Abstract

One of the factors influence patient responses regarding their complete dentures is the quality of retention. Usually complete denture base are composed of heat polymerized polymethylmethacrylate (PMMA). However, this material presents limitations, particularly in terms of flexural and impact strength and patients representing allergic reaction to PMMA, so nylon denture base material could be useful alternative to PMMA especially in the patient shows allergy to PMMA.

This study was conducted to estimate the difference between retention of conventional acrylic and Valplast maxillary denture base.

Ten edentulous patients (5 males and 5females) none of them had previous dentures with an age range of 45-60 years were selected. For each patient two maxillary dentures were constructed, one from acrylic resin and other from Valplast denture base materials. Specially designed strain gauge-measuring device was used to measure the force required to dislodge the two dentures from basal seats.

Six measurements of retention of newly inserted denture base were recorded for each patient (three for maxillary acrylic denture base and three for maxillary nylon denture base).

By using paired t-test, a significant improvement in retention obtained by nylon denture base materials in comparison with conventional maxillary acrylic denture base.

The Effect of Chemical Disinfectants on Some Properties of Valplast and Acrylic Denture Base Materials

Name: Omer M. Faruk Abdulrahman

Degree: Master

Specialty: Prosthodontics

Date of the discussion: 19/1/2011

Supervisor: Prof. Salem Abdul-Latif Salem

Abstract

The disinfection of dental prosthesis should be capable of rapid inactivation of pathogenic microorganisms without causing any adverse effect on the denture base resins.

The present study was undertaken in attempts to study the effect of chemical disinfections on some mechanical properties (Transverse strength, tensile strength, shore hardness and color stability) of acrylic resin materials and valplast materials.

The specimens were prepared according to the manufacturer instructions. After preparation, the samples were polished and then stored in distilled water at 37°C for 50±2 hours prior to the immersion inside the chemical disinfections. Disinfection methods include scrubbing with 4% chlorhexidine gluconate for 1minute, immersion for 10 minutes in one of the disinfectant solutions (4% chlorhexidine gluconate , 5.25% sodium hypochlorite and 2% glutaraldehyde) and immersion in water for 3 minutes. The disinfection procedures were repeated 4 times.

The results obtained in the present study showed that there is no changes in the acrylic resin and valplast properties when the samples were immersed in the disinfectant solutions compare to that immersed in distilled water. Furthermore no significant difference were observed between acrylic resin and valplast specimens in respect to color stability test but, there was significant difference in respect to transverse strength, tensile strength, shore hardness testing groups.

Finally, it can be concluded that the used disinfectant solutions were suitable to be used for disinfection of both the acrylic resin and valplast materials without producing significant adverse effect on the mechanical properties tested.

CT scans Findings in clinically diagnosed maxillary sinusitis

Name: Sangar Hamid Ali

Degree: B.D.S

Specialty: Oral and Maxillofacial Radiology

Date of the Debate: 25/1/2011

Supervisor: Assit. Prof. Saeed N. Younis
Assist Prof. Luqman F. Omar

Abstract

Chronic sinusitis is repeated bouts of acute infection or persistent inflammation of the sinuses lasting more than 12 weeks, described by the Task Force definition of the American Academy of Otolaryngology-Head and Neck Surgery. A clinical and cross sectional study has been done for 228 patients of clinically diagnosed chronic sinusitis. CT scan examination performed for the presence of features of chronic sinusitis and to evaluate the frequency of the different odontogenic chronic sinusitis.

The patient age range was between 9-74 years, 112 females and 116 males. 184 (80.7%) out of the 228 patients showed signs of chronic sinusitis on CT scan. Mucosal thickening of the sinuses was most common finding (86.4%) out of the 184 cases followed by polyp (22.8%), then retention cyst (8.3%), air-fluid level (7%) and sclerosis found only in 1 patient. Maxillary sinus was most commonly involved by chronic sinusitis followed by ethmoid, frontal and sphenoid sinus was the least commonly involved

The frequency of odontogenic chronic sinusitis was 25 (10.97%) out of 228 patients of clinically diagnosed chronic sinusitis. Among 271 maxillary sinuses with positive CT scan findings of chronic sinusitis in 164 patients; dental etiologies influencing the sinus mucosa were found in 25 (10.7%) sinuses. Oroantral fistula, Periapical infection, progressive marginal periodontitis and non-surgical endodontically treated antral tooth, showed statistically significant relation with odontogenic chronic sinusitis. There was significant relation between the presence of dental pain and the odontogenic chronic sinusitis.

Clinical Assessment of Different Treatment Modalities of Three Perio Endo Conditions (Short-term in Vivo Comparative Study)

Name: Vian Shamoon Paulus

Degree: Master

Specialty: Periodontics

Date of the debate: 5/2/2011

Supervisor: Assist Prof. Ziwar A. Al-Qassab

Abstract

The objectives of this in vivo study were to assess and compare clinically the success of different treatment modalities of true combined perio-endo conditions, to explore the relationship between different pulpal and periodontal conditions and the effect on each other, and to compare between closed mechanical root debridement with and without subgingival irrigant solution in controlling chronic periodontitis.

The study included 35 patients with a total of 60 teeth. The included teeth were stratified into five treatment groups according to the diagnosis eventuated from the diagnostic aids used in the study; group (1-A) twelve teeth were diagnosed as primary periodontal condition may end with endodontic condition and received periodontal treatment as closed mechanical root debridement alone with five weeks observation period, group (1-B) twelve teeth were diagnosed as primary periodontal condition may end with endodontic condition and received periodontal treatment as closed mechanical root debridement plus 10% povidone-iodine solution as a subgingival experimental irrigant with five weeks observation period, group (2) twelve teeth were diagnosed as primary endodontic condition may end with periodontal condition and received an endodontic treatment under a standardized conventional protocol with six weeks observation period, group (3-A) twelve teeth were diagnosed as combined periodontal-endodontic conditions and received an endodontic treatment with six weeks observation period followed by periodontal treatment with five weeks observation period, group (3-B) twelve teeth were diagnosed as combined periodontal-endodontic conditions and received combined endodontic and periodontal treatments in conjunction with six weeks observation period.

Clinical periodontal parameters included plaque index, gingival index, probing pocket depth, bleeding on probing, and clinical attachment level. Clinical pulpal parameters included tenderness on vertical percussion together with electric pulp test and thermal cold test. Both periodontal and pulpal parameters were recorded at baseline and all follow up visits for all groups. Periapical radiographs were taken and evaluated at baseline visit and last follow up visit of each observation period for all groups.

The clinical and radiographic results showed that both treatment modalities of combined periodontal-endodontic conditions were effective; however, conjunctive treatment modality showed better results than the other treatment modality with highly significant difference between both treatments ($P < 0.01$). In addition, the clinical and radiographic results supported the effectiveness of the standardized conventional endodontic treatment modality in controlling endodontic infection. The teeth treated with povidone-iodine solution demonstrated that it offered no additional clinical effect over mechanical root debridement alone, although both treatment modalities were effective in reducing the clinical signs of periodontal disease.

As conclusion, conjunctive treatment modality can be considered a reliable alternative new treatment to traditional one in treating combined perio-endo disease. The teeth with endodontic infection showed better periodontal pocket depth reduction after treatment than teeth with healthy pulp. Furthermore, improvement in pulpal conditions after treatment was better for periodontally diseased teeth. It was proved in this study that a strong interrelationship presents between periodontal and pulpal conditions.

Comparison between Immediate and delayed dental implant placement (clinical and radiographic study)

Name: Arshad Subhi Latif

Degree: Master

Specialty: oral and maxillofacial surgery

Date of the Debate: 23/2/2011

Supervisor: Assist. Prof. Ahmad Abdullah Hydar

Abstract

The purpose of this study was to compare immediate implant with delayed implant clinically and radiographically. Forty six patients (26 males and 20 females) were participated in the present study! The age of the patients ranged from (20-58) years with mean of 39 years old. All patients were healthy, with no history of systemic disease that affects the osseointegration of the implants. The patients were divided into two groups, in the Group A thirty implants were placed in healed extraction socket and in Group B thirty implants were placed in the fresh extraction socket. Clinical and radiographic examination was carried out to assess the implants condition. Clinical examination included recording pain and swelling, implant mobility was assessed by using universal torque ratchet at the end of healing period (4 months). The periapical radiograph was carried out to assess marginal bone loss around the implants at 3 and 6 months' time intervals. Two implants mobility was reported in the Group A, while in the study group no implant mobility was reported. The difference in the marginal bone resorption between both groups was. Not significant. The success rate of immediate implant placement was 100%, while the success rate of delayed implant placement was 93.3%. The study showed insignificant relation of age, gender, implant length and width with the success rate.

Arthrocentesis versus conservative treatments for temporomandibular joint dysfunctions a preliminary prospective study

Name: Saeed Hameed Saeed Tutmayi

Degree: Master

Specialty: oral and maxillofacial surgery

Date of the Debate: 3/5/2011

Supervisor: lecturer Dr. Reiadh Kamal Al-Kamali

Abstract

The temporomandibular disorders present with a variety of signs and symptoms which include pain in the joint and its surrounding area and/or Structures, jaw sounds, limited jaw opening, jaw deviation and headache.

The aim of this study was to compare the results and efficacy of Arthrocentesis with those of conservative treatments for temporomandibular joint disorders.

In a clinical positive case-control comparative prospective study 45 patient of both sexes were enrolled in this study according to inclusion criterias. The Arthrocentesis group consist of 22 patients (31 joints), 5 male represent 22.73% and 17 female represent 77.27% with age ranging from 17-60 years with a mean of 10.1). The conservative treatment group consist of 23 patients (34 joint), 6 male represent 26.09% and 17 female represent 73.91% with age ranging from 17-68 years with a mean of (32.3±12.2). For both groups pretreatment and forth posttreatment parameters (visual analogue scale for pain, visual analogue for jaw dysfunction, maximum mouth opening and joint sounds score) were recorded. The results revealed that highly statistically significant difference between all pretreatment and forth month posttreatment parameters means for both groups ($P < 0.001$) this means that both arthrocentesis and conservative treatments were effective. Also there were a highly statistical significant difference between for month posttreatment parameters means for both groups ($P < 0.001$) this showed that arthrocentesis superior to conservative treatment. The overall success rate was 87.1% for arthrocentesis and 55.89 % conservative treatment.

We conclude that early treatment either with conservative methods or with arthrocentesis beneficial in treatment of temporomandibular joint dysfunctions. However, arthrocentesis seems to be superior.

Comparison the fracture resistance of different types of post crown using finite element analysis

Name: Salam Khalid Omer

Degree: Master

Specialty: Conservative Dentistry

Date of the Debate: 14/3/2011

Supervisor: Assist. Prof. Raid Fahim Salman

Abstract

Aim of this study was to assess the occlusal stress distribution on different structures (tooth, post dowel, core material & artificial crown) with their interfaces using Finite element analysis (FEA), to measure the fracture resistance of different crown systems & to correlate between the FEA results & the fracture resistance in vitro study.

A finite element model was developed to analyze the stress distribution in a post core restored endodontically treated maxillary central incisor. The generation of the finite element model, calculation of the stress distributions and post processing were carried out using (ANSYS Version. 11). For the fracture resistance study, sixty freshly extracted single rooted teeth were selected. The anatomic crowns of all teeth were sectioned horizontal to the long axis 12mm from the apex. The root canal for each root was instrumented with a conventional step-back technique and obturation was done using lateral condensation and eugenol-free sealer. The gutta-percha was removed from the root canals with Peeso drills to a depth of 7 mm.

The sixty roots were randomly divided into six groups of 10 roots for each; group 1 and 2 prefabricated metal screw tapered post with composite resin

Core/ metal-ceramic crown with and without ferrule design respectively. Group 3 and 4 Custom metal post & core/ metal-ceramic crown with and without ferrule design respectively. Group 5 and 6 Computer-assisted Design/ Computer-aided manufacturing (CAD-CAM) post & core/ CAD-CAM all-ceramic crown with and without ferrule design respectively. Fracture tests were conducted using a universal loading machine.

The results showed that the presence of the ferrule increase the fracture resistance of the samples with ferrule over the groups without ferrule however, the difference was statistically non-significant at $P > 0.05$. It showed that fracture resistance of groups using all-ceramic CAD-CAM crown coverage was higher than the groups using ceramo-metal crown coverage & the difference was highly significant at < 0.01 . Also it showed that fracture resistance of the groups using custom post design was higher than the groups using screw prefabricated post & the difference highly significant at $P < 0.01$. Comparable results had been obtained from the FEA data.

As conclusion, there was strong positive correlation between the FEA results & the fracture resistance in vitro study.

Immunohistochemical expression of p53 and histopathological parameters assessment in chronic periodontitis in relation to smoking habit

Name: Chinar Musa Sulaiman

Degree: Master

Specialty: Oral Pathology

Date of the Debate: 16/12/2011

Supervisor: Assist. Prof. Ameera Kamal khaleed

Abstract

Background: Inflammatory periodontal diseases are infections caused by different types of micro-organisms and smoking is one of the important risk factors.

Aims of the study; This study was aimed to measure the thickness of the gingival epithelium, number of inflammatory cells and blood vessels, and p53 protein immunoexpression in gingival tissue samples of smoker and nonsmoker patients with chronic periodontitis.

Materials and methods: A total 60 subjects, 30 smokers and 30 non smokers with different severity of chronic periodontitis, have been selected from Duhok Health Centers, in the period from November 2010 to March 2011. Gingival biopsies were collected and processed for hematoxylin and eosin staining and for immunohistochemical staining for p53 protein using Leica NovoLink™ Polymer Detection System (UK).

Results; The results showed marked increase in the major epithelial thickness and the epithelial base thickness with increase severity of the smoking status ($p < 0.05$), and no significant differences were found in the median numbers of inflammatory cells ($p > 0.05$) between the nonsmokers, moderate, and heavy smokers, in addition to that, the heavy smokers showed less number of gingival blood vessels than moderate smokers.

The heavy smokers showed more median p53 labeling index but with a non significant differences between groups ($p > 0.05$). A non significant associations also present between the median p53 labeling index with the major epithelial thickness and the epithelial base thickness, and the number of blood vessels in the gingival connective tissue ($p > 0.05$), in contrast, a significant association was present with the number of inflammatory cells ($p < 0.05$).

Conclusions; the results of this study indicated that p53 protein was found to play an important role in chronic periodontitis.

The histological effects of estrogen deficiency and its replacement on oral soft tissue healing process in rabbits

Name: Shelana Saber Khursheed

Degree: Master

Specialty: Oral Histology

Date of the debate: 11/12/2015

Supervisor: Assist. Prof. Rafah Hatim Al-Marroof

Abstract

Healing process has been a matter of discussion for many years, non healing or chronic wounds are a significant healthcare problem today; the quest for better wound healing agent is perhaps one of the oldest challenges for medical practice. One such agent that has been tried in wound healing is estrogen which is a female sex hormone secreted by the ovary.

This study was carried out to assess histologically the possible effects of estrogen deficiency as well as the effect of its replacement on oral mucosal wound healing in rabbits.

Thirty six adult female rabbits were divided randomly in to two groups, control group were with intact ovary & uterus without HRT (12 animals) & experimental group were bilaterally Ovariohysterectomized (24 animals). After ten days post operative care, 12 rabbits from experimental group started to receive intramuscular injection of (5mg/kg body weight per week) estradiol valerate for 42 days as a hormonal replacement therapy, the other half (12 animal) of the experimental group received no hormonal therapy.

After 42 days from starting hormonal therapy, a wound was created at the buccal mucosa of the rabbits of all groups opposite to the molar teeth. Seven days post wounding, samples of buccal mucosa including site of wound were collected & processed for H&E staining and histological evaluation.

The histological examination of the control group, revealed the persistence of small microscopical with growth of epithelial projection at both sides of the wound with obvious signs of healing (re-epithelialization, new collagen bundles formation & neovascularization) were observed.

The Effect of Tumor Necrosis Factor A Inhibitor on the Wound Healing Of Oral Mucosa in Induced Diabetic Rats Oral Histology

Name: Farhad Fared Tawfiq

Degree: Master

Specialty: Histology

Date of the Debate: 11/6/2011

Supervisor: Assist Prof . Raffah H. Almaroof

Abstract

Impaired wound healing is a major complication of diabetes mellitus. This study was carried out to determine the histological events of oral mucosal wound healing in diabetes mellitus and the role of tumor necrosis factor alpha inhibitor (infliximab) in healing process.

Thirty eight male rats weighted 250-350 gm were randomly divided into two groups, the control (11 rats), and the experimental group (27 rats).

The experimental group rendered diabetic by alloxan injection 90 mg/kg subcutaneously. Two months later, a wound was created in the left ventral side of the tongue for both control and experimental groups. The experimental group then subdivided into two subgroups, one of the subgroups (14 rats) was injected with 5mg/kg infliximab subcutaneously at the day of wound creation while the other subgroup (13 rats) received no injection.

Seven days after wound creation, all animals were sacrificed and biopsies of the tongue including the site of wound were collected and they underwent histological and histochemical examination using Hematoxylin and Eosin (H&E) and Periodic acid Schiff stain (PAS stain) respectively.

The histological examinations showed that the healing in the diabetic group was impaired with persistence of epithelial discontinuity and large amount of granulation tissue that filled with large number of inflammatory cells and very little amount of collagen fiber together with destruction of the underlying muscle fibers. While in the subgroup injected with infliximab, the healing process was well demonstrated clinically and histologically approaching the control group, and complete reepitheliazation of the wound was well demonstrated with more well arrangedvascularised collagen fibers. Using PAS stain, the diabetic group examination revealed a dramatically increase in the amount of the darkly stained PAS positive precipitants in the lamina properia, especially in the wall of the blood vessels basement membrane and muscle fibers that showed signs of destruction and necrosis, while in the group injected with infliximab, the amount of the darkly PAS+ve precipitants were sill higher than the control group but less than the diabetic group without infliximab injection with very prominent feature of the presence of many blood vessels appeared with PAS+ve reaction. These findings suggest that infliximab improved or accelerated mucosal wound healing in the diabetic rats with the formation of well organized connective tissue.

The types and management of maxillofacial injuries among children in Erbil city

Name: Mhabat Mohamed Hussein

Degree: Master

Specialty: Oral and Maxillofacial Surgery

Date of the debate: 17/3/2011

Supervisor: Dr. Tarik Mohamed Abdull

Abstract

The aim of the study was to determine the types, causes, and severity of maxillofacial injuries in children who visited the Casualty and Rizgary Hospitals in Erbil, and to evaluate treatment provided for them. The present study provides information on types and management of the number of cases with maxillofacial injury found in children visiting these hospitals.

A total of 626 child patients with traumatic maxillofacial injuries were examined from the two hospitals from June 2009 till July 2010. Boys sustained more maxillofacial injuries compared to girls, with an overall male to female ratio being 1.5:1. The age range of the patients treated for maxillofacial injuries in these two hospitals during the 13 months period was 1 month-12 years. Those in the age group of 2-6 years constituted the major proportion (71.08%) of these maxillofacial injuries. Of the 7 causes for sustaining maxillofacial injuries, falls were the most common cause (66.6%) followed by RTAs (19.5%). Maxillofacial injuries peaked in March (12.5%) and October (10.7%).

The dentoalveolar fracture was the most common constituting about (51.1%) of the maxillofacial injuries, followed by nasal bone fracture (17.1%). Condylar fracture was the most common (4.6%) mandibular fractures. (53.3%) of maxillofacial injuries in children were diagnosed by clinical examination, 2.5% by orthopantomogram and 5.7% by Dental Periapical radiograph.

About 43.27% of the patients treated for maxillofacial injuries by conservation. (41.15%) of soft tissue injuries were sutured under local anesthesia and 6.39% sutured under general anesthesia. (2.12%) dentoalveolar fracture treated by arch bar fixation and 1.05% by interdental wiring fixation. And for (7.14%) of facial bone fractures reduction with fixation under general anesthesia was the treatment choice.

Orthodontic treatment need and demand among fourteen years old students in Duhok Governorate (an epidemiological study)

Name: Delkhaz Fakhry Taher

Degree: Master

Specialty: Orthodontics

Date of the Debate: 14/5/2011

Supervisor: Dr. Jameel Abdel wahid Al-khashan

Abstract

Malocclusion is a common oral disorder that affects esthetic and function of orofacial region.

The main benefit of orthodontic treatment relate to the improvement of oral function and appearance so the aim of this study was to determine the prevalence of malocclusion and orthodontic treatment need in Duhokgovernorate in relation to gender and residency.

This study was carried out through the clinical examination of 822 students aged fourteen years old from 32 intermediate schools in Duhokgovernorate using the Modified Index of Orthodontic Treatment Need (M-IOTN), and by the aid of special M-IOTN ruler.

As a result obtained from this study the highest malocclusion criteria between the subjects were the increased overjet, while the lowest malocclusion criteria was the reversed overjet.

Prevalence of malocclusion according to dental health component (DHC-MIOTN) was 29.56% and according to Aesthetic component (AC-MIOTN) was found to be 12.9%.

There were significant differences in treatment need between urban and rural area while no significant differences were found between male and females.

There were significant differences between the dental health component of the M-IOTN and the esthetic component of the M-IOTN and this raise the issue of the need and demand for orthodontic treatment in the studied population.

Effect of high dose of iodine on the anatomical and histological features of the thyroid gland in rabbits

Name: Soran Mustafa Karim

Degree: Master

Specialty: general Anatomy

Date of the Debate: 4/12/2011

Supervisor: Assist. Prof. Ali Sultan Al-Refai

Abstract

There are few data on the effects of the high dose of iodine the thyroid gland in rabbits, the purposes of this study were to investigate the effects of the highest tolerable oral dose of iodine (11mg/kg of body weight) on the rabbit offspring's thyroid glands using the following parameters; the presence of anatomical variations, developmental disturbances and calculating the weight and volume of thyroid gland, in addition to evaluation of different histological parameters. The study was carried out on 32 pregnant, fetal and newly born rabbits, (16 were control & 16 were study) and each was further subdivided into 4 different age groups (collected at 14th day of gestation, 21st day of gestation, at birth and at 7 days after birth). In the study groups the 16 mother rabbits were given the highest tolerable oral dose of iodine (11 mg/kg of body dissolved in 1 ml of distilled water) twice daily, for a period of one and a half month. The study showed significantly higher rate of anatomical variations, decrease in the animal weight and increase in the thyroid gland weight and volume of the study group compared with that of the control group with the total absence in the developmental anomalies. The high dose of iodine affected the thyroid gland of the study animals by decreasing the cell height and increasing its width with increase in follicles diameter, and these large follicles contained colloid that showed obvious cracking. The number of follicles in the study group was significantly less than control group, and a significant decrease was found in the thyroid blood vessels number in the postnatal period of the study group compared with that of the control group .in conclusion the toxic dose of iodine produced goitrogenic effect on the thyroid glands of the study animals by including enlargement , increase in weight and histologically increasing the width of the thyrocytes and diameter of the thyroid follicle that coincided with the decrease in the thyrocytes height, number of the follicles and number of the blood vessels.

Comparison between Flapless and Flap Implant Surgery (Clinical and Radiographic Study)

Name: Abduljaleel Azad Samad

Degree: Master

Specialty: oral and maxillofacial surgery

Date of the debate: 20/5/2012

Supervisor: Assist Prof. Ahmad Abdullah Haider

Abstract

The purpose of this study was to compare flapless implant surgery with traditional flap implant surgery clinically and radiographically. Sixty patients (23 males and 37 females) were participated in the present study. The age of the patients were ranged from (19-75) years with mean of 39.65 years old. All patients were healthy, with no history of systemic disease that affects the osseointegration of the implants. The patients were divided into two groups, in the Group 'A' thirty implants were placed by traditional flap surgery and in Group 'B' thirty implants were placed by flapless implant surgery (punch technique). Clinical and radiographic examination was carried out to assess the implants condition. Clinical examination included recording pain and swelling for 7 days (the day of surgery and six days later) with the visual analog scale (VAS scale), and implant mobility was assessed by using universal torque ratchet at the end of healing period (6 months). The periapical radiograph was carried out to assess marginal bone loss around the implants at 3 and 6 months after implantation. Two implants failure was reported; one implant for each of the Group 'A' and 'B'. The statistical analysis (analysis of variance for repeated measures, $P < 0.05$) showed high significant difference between the two groups with regard to pain and swelling ($P = 0.000$) for the all seven days. No correlations were found between age, gender or duration of surgery, and postoperative pain and swelling. And the study showed no significant difference between the two groups with regard to the marginal bone resorption ($P = 0.48700$). The success rate for both groups was 96.6%. The study showed insignificant relation of age, gender, implant length and width with the success rate.

Effect of different methods for the removal of overhanging amalgam restorations on periodontal health status

Name: Dana Mahmood Yawer

Degree: Master

Specialty: periodontology

Date of the debate: 15/4/2012

Supervisor: Dr. Dara Hamarasheed Saeed

Abstract

Overhanging (iatrogenic) tooth restorations can become a risk factor for periodontal breakdown due to the production of environmental changes and disturbance of the balance between beneficial bacteria and periodontopathogens. The aims of this study were to find the prevalence of amalgam overhangs and evaluate the periodontal status after using different methods for amalgam overhang removal. For prevalence study about 1200 patients examined in College Of Dentistry, Hawler Medical University and (Khanzad) Specialized Centre for Dentistry for presence of proximal amalgam restoration. The patients also have proximal restorations were examined clinically and then radiographically by taking bitewing radiograph. For this interventional and prospective study, (45) patients with amalgam overhang were divided into three groups each (15) patients according to size and position of amalgam overhang each had one type of the following treatment (Refilling, Diamond Bur, EVA system) and (15) patients without amalgam overhang (Control group) selected completed the trial. Clinical periodontal parameters including plaque index, gingival index, calculus index, bleeding on probing and probing pocket depth were measured in teeth with amalgam overhang at baseline, 2 week, 1 month and three months after amalgam overhang removal by (Refilling ,Bur and EVA system). Data were analyzed using paired t-test and ANOVA and LSD tests. The results showed the prevalence of amalgam overhang to be 25.4% among examined proximal amalgam restorations. The periodontal parameters showed a gradual decrease in all groups throughout the follow up visits (except calculus index) and became a statistically significant in the three months follow up following treatment ($P < 0.001$), with more reduction found in Refilling group followed by EVA system then Diamond bur group. It was concluded that there was high percentage of overhang among proximal amalgam restorations and it's better to replace the restoration rather than to use the other methods of treatment according to periodontal health which recorded by periodontal parameters (PI, GI, Call, BOP, PPD).

Evaluation of Certain Immunological Parameters in Patient With Periodontitis in Relation to Body Mass Index

Name: Solav Abdul-Qadir Mustafa

Degree: Master

Specialty: Periodontics

Date of the debate: 2/5/2012

Supervisor: Assist prof . Omer Surchi

Lecturer Dr. Haween T. Nanakaly

Abstract

This study was designed to find out the relationship between Body Mass Index (BMI) and periodontitis through estimation of proinflammatory cytokines Interleukin-1Beta, Tumor Necrosis Factor-Alpha, Leptin and Resistin.

One hundred and sixty subjects have been included in this study, 80 healthy subjects that represented a control group and 80 patients with periodontitis that represented the study group. Their age ranged from 25 to 45 years. Then subjects of both the study and control groups were subdivided into four groups based on the WHO classification of Body Mass Index: group A; Under-weight, group B; Normal-weight; group C; Over-weight and group D; Obese. Full-mouth periodontal assessment was performed and Clinical periodontal parameters included clinical attachment level and probing pocket depth.

In periodontitis subgroups, the mean of clinical attachment loss, probing pocket depth) and mean concentration of proinflammatory cytokines (TNF- α , IL-1 β , Resistin, Leptin) were significantly higher in obese group than other groups.

In control subgroups, the mean concentration of serum proinflammatory cytokines (TNF- α , IL-1 β , Resistin and Leptin) in obese group was higher than other groups.

This study indicated a direct correlation between the body mass index and periodontitis. The occurrence of periodontitis was higher among obese groups. This study suggested that there were a relationship age, gender with obesity and periodontitis. In both periodontitis and control subgroups the mean concentration of proinflammatory cytokines was higher among obese subgroups. Clinical attachment level and probing pocket depth appear to be higher in obese periodontitis group.

Periodontal health status in relation to two types of removable partial denture materials

Name: Mahmud Jawad Abdulbaqi

Degree: Master

Specialty: Periodontology

Date of the Debate: 15/2/2012

Supervisor: Dr. Rizgar Muhammad Amin Hassan
Dr. Hassan Ali Al-Barznji

Abstract

A removable partial denture (RPD) is a common treatment modality for restoration of partially edentulous ridges. However this type of treatment

May produce serious periodontal problems for remaining teeth. The aim of this study was to find the difference between the effect of Cobalt chromium RPD and flexible RPD on the clinical periodontal parameters of the abutment teeth.

For this interventional and prospective study, 16 patients (8 males and 8 females) were selected. All patients had Kennedy class I, n and bilateral class HI partial edentulous areas and were supposed to use removable partial dentures. All patients received a special designed RPD which was consisted of flexible RPD on one side and Cobalt chromium RPD on the other side. Clinical periodontal parameters including plaque index, gingival index, calculus index, bleeding on probing and probing pocket depth were measured in abutment teem at baseline, 1 week, 1 month, 2 months and three months after delivery of RPDs. Data were analyzed using student t-test, paired t-test and chi square test

At baseline the results showed that there is no significant difference between the two groups of RPDs regarding the periodontal parameters, because before insertion of the prosthesis all the participants received a professional scaling and polishing of all the remaining teeth The periodontal parameters showed a gradual increase in both groups throughout the follow up visits (except calculus index) and the increase was higher in the flexible RPD group than in the Cobalt chromium RPD group (especially for plaque index and gingival index) and the difference was statistically significant $CP < 0.001$.

The result of this study showed that flexible RPD had more adverse effect on the periodontal health of the abutment teeth than Cobalt chromium RFD and it seems that this difference is due to more accumulation of the bacterial plaque on the flexible RPD and more gingival coverage by the clasps of the RPD. So, use of appropriate design and recommendation of intense oral hygiene may decrease the severity of side effects of using RPDs.

Incidence of orofacial tumors among patients attending Rizgary teaching Hospital (a two year combined prospective and retrospective hospital based study)

Name: Jodal Mohammadamin Ahmed

Degree: Master

Specialty: oral and maxillofacial surgery

Date of the Debate: 3/11/2012

Supervisor: Assist. Prof. Ahmad Abdullah Haider

Abstract

The orofacial region is the sites of many neoplastic conditions which could be either malignant or benign and epidemiological studies are important in the search for factors in the development of a wide range of neoplastic diseases. The observation of 'clustering' of cases of a certain type of cancer in a particular geographical location may provide a pointer to an environmental etiological factor.

The aim of this study was to determine the incidence of orofacial tumors in patients who and referred to Rizgary Teaching Hospital in Erbil from 1 November 2009 to 131 October 2011.

A total of 120 patients with orofacial tumors from total of 5107 patients who attended the oral and maxillofacial surgical department of the Rizgary Teaching hospital, Erbil, were studied from 1 November 2009 to 31 October 2011. Both malignant and benign tumors were recorded and were more common among male than female, with an overall male to female ratio being 1.26:1.

Orofacial tumors were more common in the 50-59 and 30-39 year ages group, A total of 120 tumors were diagnosed as malignant 54 (45%), 16(13.33%) as benign odontogenic tumors, and 50 (41.66%) as benign non-odontogenic tumors. mandible, buccal mucosa, maxilla and parotid gland were the most often affected sites. Soft tissues were affected more than hard tissues, (51.7%) and (48.3%) respectively.

The most common malignant tumor was squamous cell carcinoma (SCC), (34/120, 28.3%). The most common benign odontogenic tumor was ameloblastoma, (10/120, 8.3%) and the predominant non-odontogenic tumors were pleomorphic adenoma and haemangioma with equal proportion of, (12/120, 10%).

Assessment of Some Salivary Biochemical Composition in Cigarette Smoker with Chronic Periodontitis

Name:Yadgar Ghazi Mahmood

Degree: Master

Specialty: Periodontology

Date of the Debate: 8/1/2012

Supervisor: Assist Prof. Ziwar A. Al- Qassab

Assist Prof. Bakhtiar M. Ahmad

Abstract

Cigarette smoking is an important risk factor that has a clear strong association with the prevalence and severity of chronic periodontitis. Salivary biochemical compositions and physical properties are affected by both smoking and periodontitis.

The study included 80 systematically healthy males, who were grouped based on their periodontal and smoking status into four equal groups.

Unstimulated whole saliva was collected from each subject in all groups.

Flow rate was measured during collection of the sample, then the pH also was measured. Biochemical Parameters such as salivary total protein, salivary albumin, salivary glycoproteins (total fucose and salivary protein bound fucose) and salivary C-reactive protein were estimated.

Salivary flow rate was not altered regarding to smoking status or periodontal health status. Salivary pH was lower in smokers comparing to non- smokers, while salivary pH was not affected by periodontal health status.

Salivary total fucose, salivary total protein and salivary albumin were higher in chronic periodontitis patients and salivary protein bound fucose was lower in chronic periodontitis patients comparing to healthy control, while their concentration did not affect by smoking status except salivary albumin.

Smokers with chronic periodontitis patients had lower salivary albumin concentration comparing to non smokers with chronic periodontitis.

Salivary C-reactive protein was higher in smokers comparing to non- smokers, while its value was not affected by periodontal health status.

Smoking and chronic periodontitis affect some salivary biochemical parameters and physical properties, thus these parameters could be used as indicators for periodontal disease progression and severity.

Congenitally missing permanent teeth in non-syndromic cleft lip and /or palate in comparing to non-cleft sample in Erbil City/ Iraq

Name: Laylan Jamal Namq

Degree; Master

Specialty: Orthodontics

Date of the Debate: 5/5/2012

Supervisor: Assist. Prof. Fadhil Yaseen Jasim

Assist. Prof. Zana Qadir Omer

Abstract

Both orofacial cleft and congenitally missing permanent teeth have direct clinical implication. Relatively few studies in Iraq have compared congenitally missing permanent teeth in relation to different severities of cleft defect this study was the first study in Erbil city which discusses the congenitally missing teeth in term of prevalence of congenitally missing teeth, sides of missing teeth; most frequently missing teeth, and gender difference, in group of patients with non-syndromic cleft lip and/or palate. This comparative study consist of 90 patients with different Severity of clefts, matched with 377 subjects from the general normal population as a control group, both examined clinically and radiographically. Results of this study were as follow: The overall prevalence of congenitally missing permanent teeth in the total non-syndromic cleft lip and/or palate sample was (48,9%), which was higher than that of the general normal population (6.6%), The prevalence of congenitally missing teeth was (3.3%) in cleft lip, (4.4%) in cleft palate, and (41,1%) in cleft lip and palate. Males with cleft lip and/or palate have two times more prevalence of congenital missing permanent teeth (33.4%) than females with cleft lip and/or palate (15.6%). Congenitally missing teeth occur more bilaterally than unilaterally, on cleft side more than non-cleft side, and on left-sided cleft (53.5%) more than right-sided cleft (46.5%). The most frequent missing teeth in region were the maxillary lateral incisors and mandibular incisors, and second outside the cleft region. There was no significant association between congenitally-missing teeth and gender, or congenitally missing teeth and cleft lip or with cleft lip and palate. However a highly significant association was found teen congenitally missing permanent teeth and cleft palate, between study and control group, and between males and females in regard to cleft sides.

Maxillary Sinus Membrane Elevation and Simultaneous Implant Placement without Grafting Materials: (Clinical And Radiographical Study)

Name: Akram Mahmood Elias

Degree: Master

Specialty: oral and maxillofacial surgery

Date of the Debate: 22/4/2013

Supervisor: Assist. Prof. Luqman Fawzi Omar

Abstract

The purpose of the present study was to investigate the clinical and radiographic results of the maxillary sinus membrane elevation technique and simultaneous implants placement without adding any graft material. 15 patients with maxillary resorbed ridges received 27 implants protruding into 18 sinuses either via lateral osteotomy window (n=20) or via crestal osteotomy (n=7). The age of the patients were ranged from (28-66) years with mean of 44.4 years old. All the patients were healthy, with no history of systemic disease that affects the osseointegration of the implants. Cone Beam Computed Tomography (CBCT) scan taken immediately post-operatively to assess the clot formation and to measure the anchoring residual bone height all around the implants (i.e. mesiodistally and buccopalatally), and after 6 months healing period another CBCT was taken to assess the new bone formation. The mean (\pm SD) residual bone height was 4.96 ± 1.64 mm preoperatively. The post load follow-up period of implants ranged from a minimum of 2 months to a maximum of 6 months.

All the implants (except one) survived till the end of the follow-up period giving a survival rate of 96.3%. CBCT scan demonstrated an average of 3.11 ± 1.7 mm of intra-sinus new bone formation 6-months after the surgery, the highest bone gain was 9.3 mm and the lowest was 0.425 mm. there was positive moderate correlation significant statistically between the implant protrusion length and the amount of bone gain ($r = 0.406$; $p = 0.036$).

The present study demonstrates that the sinus membrane elevation and simultaneous implants placement without adding grafting materials can lead to new bone formation beyond the original limits of the sinus floor over a period of 6 months. This technique has the advantages of reducing the risks for morbidity related to harvesting of bone grafts and eliminates the cost of grafting materials.

Comparison of Shear Bond Strength of Edgewise Bracket Bonded To Composite Restoration By Using Three Regimes of Orthodontic Adhesive Systems

Name: Hasan Sabah Hasan

Degree: Master

Specialty: Orthodontic dentistry

Date of the debate: 7-10-2013

Supervisor: Dr.Bayan Abdulla Hassan

Abstract

Direct bonding of orthodontic attachment has removed some of the esthetic concerns many adults previously had when considering orthodontic therapy. With an increase in adult treatment comes the challenge of direct bonding to non-enamel surface, such as composite restoration. This in vitro study was designed to compare the effect of using three regimes of orthodontic adhesion systems on shear bond strength when bonded edgewise brackets to composite restoration.

The study samples (90 specimens) were randomly divided in to three groups (30) specimens for each group , group I using resilience orthodontic adhesive material (4th generation) consist from acid-etching , primer and adhesive, group II include using of heliosit orthodontic adhesive (1st generation) consist from acid-etching and adhesive without bonding agent, group III using of self-etching / self-bonding orthodontic adhesive (Totalcem)(7th generation).

The result of the study showed that the light cured bonding adhesive resilience orthodontic(group I) has the highest mean of shear bond strength (33.7 Mpa) followed by dual-cure automix bonding self-etch/self-bonding adhesive resin cement (23.6 Mpa). while the light cured bonding adhesive heliosit showed the lowest mean of shear bond strength (18.04 Mpa).

The cohesive failure (score 2) was the predominant mode of the bond failure in group(I)(4th generation) of this study, also the adhesive –composite interface failure was the predominant especially in group (II)(1st generation). In group (III)(7th generation) while the adhesive -composite interface failure was predominant , but cohesive failure (score 2) and composite detachment (score 4) was found but in less percentage if compared with adhesive –composite interface failure in the same group

Evaluation of immediate loading of single dental implants in the maxillary esthetic zone (clinical and radiographical comparative study)

Name: Serwan Saeb Al Naqshabandi

Degree: Master

Specialty: oral and maxillofacial surgery

Date of the Debate: 23/5/2013

Supervisor: Dr. Othman Abubakir Omer

Abstract

In the original protocol, studies have advocated a 2-stage surgical protocol for load-free and submerged healing to ensure predictable osseointegration. However, the discomfort, inconvenience, and anxiety associated with waiting remains a challenge to both patients and clinicians. Hence, loading at right after placement was attempted and has gained popularity among clinicians. Therefore the aim of this study was to evaluate the clinical and radiographical outcomes of immediate loading of single tooth dental implant in healed alveolar ridges and fresh extraction sockets and make a comparison between them.

Forty patients ranging in age from 18 to 53 years, presented for the placement of single dental implants in the maxillary esthetic zone. Twenty implants were placed into fresh extraction sockets (Group A), and the other twenty implants placed into healed alveolar sites (Group B). Placement of the permanent crown was done within two weeks after implant placement. Clinical examinations including implant survival, implant mobility, esthetic outcomes and patient satisfaction were evaluated during the follow up period that was from 6-12 months post loading the restoration. Radiographical examination was carried out by using standardized digital peri-apical radiographs to assess marginal bone loss around the implant at 3 and 6 months time intervals postoperatively.

Two implants failed from the total number of implants placed giving a cumulative survival rate of (95%). All failures occurred in extraction sockets resulting in a survival rate of (90%), while no implant failed in healed sites achieving (100%) survival rate and there was no significant difference between them regarding survival rate. Regarding esthetic results, implants in group (A) recorded higher esthetic results than in group (B), which was statistically

Significant ($p=0.008$). Also statistically significant differences were found between both groups regarding marginal bone loss around dental implant.

The results of this study showed that immediate loading of single tooth dental implant in maxillary esthetic zone is a viable clinical concept and lead to favorable treatment outcomes.

Effect of Calcium Carbonate Nano Fillers on Some Properties of Maxillofacial Silicone Elastomer

Name: Fahd Sudad Ikram

Degree: Master

Specialty: Prosthodontics

Date of the debate: 25-11-2013

Supervisor: Prof. Salem A.L. Salem

Abstract

Facial disfigurement can be the result of a congenital anomaly, trauma or tumor surgery. Surgical reconstruction may not be possible owing to size or location of the defect. The patient's medical condition or personal desires may also preclude reconstructive surgery. In such cases, prosthetic rehabilitation is indicated. A facial prosthesis restores normal anatomy and appearance, protects the tissues of a defect, and provides great psychological benefits to the patient.

Maxillofacial materials should have ideal physical and mechanical properties and must be compatible with surrounding tissues. None of the tested commercial materials fulfilled the above criteria.

The objective of this study was to determine the effect of addition of CaCO_3 nanoparticle at (0.5%, 1%, 1.5%, 2%, 2.5% and 3% by weight) concentrations on the biocompatibility and some physical and mechanical properties of M511 silicone elastomer before and after accelerated aging.

The material mixed in vacuum mixer in ratio of 10:1 base/catalyst according to manufacturer instruction. Part A and part B were weight by using digital weight scale. Then the calcium carbonate nanoparticles were weight and added in small trace amount to the mix of silicone elastomer. Seven sample formulas were prepared according to the calcium carbonate nanoparticles content. The cured silicone tested for the tensile strength, tear strength, percent of elongation, colour stability and shear bond strength before and after accelerated aging, it also tested for water absorption, biocompatibility and scanning electron microscope used to ensure homogenous dispersion of the CaCO_3 nanoparticles.

The results showed that CaCO_3 had no effect on the tensile strength before aging, while improvement was observed after aging when 1% CaCO_3 nanoparticle was added to the silicone elastomer. A significant improvement of the ultimate elongation was observed at 0.5% loading of CaCO_3 before aging, while after aging a significant reduction was observed for the group that contain 3% CaCO_3 . The tear strength value was similar to those of tensile strength except the group containing 3% CaCO_3 , was the most significantly changed group. The colour stability test showed that the group containing 3% CaCO_3 was the most unstable group after aging, while the 1% and 2% CaCO_3 groups showed the least colour changes after aging. While before aging the bonding strength was not significantly changed when CaCO_3 added at the different ratios, however a significant improvement was observed after aging for the groups that contains CaCO_3 up to 2%. Regarding water absorption, there was significant improvement after adding of 0.5% CaCO_3 , while the group that contains 2% CaCO_3 absorbed the greatest amount of water. SEM revealed homogenous distributions of the small content of CaCO_3 within the silicone matrix, but at higher concentrations agglomerations within the silicone matrix was noticed.

In conclusion it was noticed that the addition of CaCO_3 nanoparticles up to 2% slightly improved the mechanical and physical properties of maxillofacial silicone elastomer, beyond this concentration there was a reduction in these properties.

Calcium Carbonate Nano-Particles Reinforcement of Acrylic Resin Denture Base Material

Name: Jawad Mohammed Michael

Degree: Master

Specialty: Prosthodontics

Date of the debate: 14-1-2014

Supervisor: Prof. Salem A.L. Salem Al-Samarraie

Abstract

Background and objectives : limited resistance and permeability of X-rays to rule poly methyl Methacrylate user base sets of teeth is of great concern , and have used many methods to promote dental acrylic base crowns and make it radiopaque ray (Radiopaque).

Purpose: The purpose of this study is to prepare a poly -methyl Methacrylate user base sets of teeth amended by adding different ratios (2 % and 3% , 4% , 5% and 6% in weight) of nanoscale particles of calcium carbonate powder (CaCO_3), and study mechanical and physical properties , and biological acrylic average.

Materials and Methods: Treatment grained nanoparticles of calcium carbonate used in the study powder article Association (coupling agent) Tri-methoxy propyl Methacrylate, was grained nanoparticles distribution in monomer acrylic (liquid) by Atsunekenz device at different rates, it was then mixed with acrylic powder, as in The traditional way usual.

Prepared for this study, a total of four hundred and ninety-seven (497) sample, samples were divided into six groups, the first group was the control group (unmodified samples). The remaining five groups of calcium carbonate nanoparticles and strengthened to achieve shipments of 2% 0.3% 0.4% 0.5% and 6% by weight of acrylic powder.

It was rated mechanical and physical and biological properties . Each group was tested 80 samples (10 for each property) in addition to the test scanning electron microscope to five groups that have been used in it (15) sample (3 samples per group) and to test the biological compatibility was tested two samples (one for the comparison group and the second for the fourth group, which showed better mechanical and physical properties).

Results : Results of the scanning electron microscope showed a homogeneous distribution of nanoparticles of calcium carbonate particles within the polymer matrix with the exception of the fifth and sixth group which showed agglomeration of the particles within the matrix. Found a significant increase in the strength of the shock and force reviewed in Group D , while the reduction of these values in the fifth Groups And sixth . The increased surface hardness significantly in all groups that contain nanoparticles , on the other hand, the surface roughness was not affected significantly. There was a slight change in acrylic color in groups II and III , and IV , but there was a clear change in color groups V and VI . There was also a very large increase in radiopacity in the fourth , fifth and sixth groups. The biological compatibility test showed that there is not the possibility of toxicity to the cells for each of the comparison group and the fourth group .

Conclusion : The strength of the shock , transverse strength and surface hardness of the material poly -methyl Methacrylate user base sets of teeth can be significantly enhanced by the addition of 4% calcium carbonate nanoparticles to acrylic . Also add this percentage of nanoparticles of calcium carbonate for Acrylic increases the opacity radial significantly, without negative effects on the color and material of biological compatibility poly methyl Methacrylate.

Evaluation the Effects of Non-Surgical Periodontal Therapy on Some Serum Antioxidants in Chronic Periodontitis

Name: Arkhawan Ali Abdulhaq

Degree: Master

Specialty: Periodontology

Date of the debate: 21-12-2014

Supervisor: Assist Prof. Ziwari A. Al- Qassab

Abstract

Background and objective: Chronic periodontitis is an immune-inflammatory disease of the periodontal tissue characterized by destruction of bone and connective tissue attachment. Over the past few years, strong evidence has emerged to implicate the presence of free radicals and oxidative stress in the pathogenesis of chronic periodontitis. An antioxidant is molecule that can inhibit oxidations and free radicals' harmful activities. Non-surgical periodontal therapy involves plaque control by the patient, mechanical instrumentation (supra-and sub gingival scaling and root planing) and the administration of antibiotic by professionals. The present study was designed to evaluate some serum antioxidants in patient with chronic periodontitis before and after non-surgical periodontal therapy (scaling and root planing).

Patients and methods: This study is a prospective cohort study; it was conducted on 35 patients with chronic periodontitis. The clinical periodontal parameters included; probing pocket depth, clinical attachment loss, bleeding on probing and gingival index were measured. Blood were collected before and after scaling and root planing. The levels of serum vitamin C, uric acid, zinc and copper were assessed t-test; paired t-test was used to analyze the data. The P value < 0.05 was considered significant.

Results: The results of this study showed that clinical periodontal parameters; probing pocket depth, clinical attachment loss, bleeding on probing and gingival index were significantly and substantially reduced after treatment. The levels of serum vitamin C increased significantly after treatment as compared with base line of treatment. Serum zinc concentration also increased after treatment, but non significantly as compared with base line of treatment ($P > 0.05$). serum copper concentration was reduced significantly after treatment as compared with base line of treatment ($P < 0.005$).while serum uric acid level was not changed after treatment as compared with base line of treatment ($P > 0.05$).

Smear Layer Removal and Apical Extrusion Evaluation among Different Irrigating Techniques and Solutions

Name: Sazgar Sarbast Qassim AL-Hawezi

Degree: Master

Specialty: conservative Dentistry

Date of the debate: 26-3-2014

Supervisor: Assist. Prof. Dara H. Saaed

Abstract

Objectives: The aim of the present study was to compare the effectiveness of Endovac, Vibringe and needle with different irrigation solutions on removal of smear layer and apical extrusion of irrigating solution.

Methods: Seventy two sound human premolar teeth were used and divided into three experimental groups (n=24) according to the type of irrigation technique used: In group 1 irrigation was performed with Vibringe. In group 2 irrigation was performed with a 30 gauge side-vented irrigation needle. In group 3 irrigation was performed with Endovac. Instrumentation was performed by using the ProTaper files. Each main group divided into three sub-groups (n=8) according to irrigation solution used: In sub-group 1 Irrigation was performed with 5.25% Sodium hypochlorite (NaOCL). In sub-group 2 Irrigation was performed with 17% Ethylene Diamin Tetra Acidic Acid (EDTA). In sub-group 3 Irrigation was performed with 5.25% NaOCL and 17 % EDTA. The amount of extruded irrigating solution was then measured by subtracting the weight before final irrigation from the weight after final irrigation using the electronic balance. The cleanliness of smear layer removal was evaluated using scanning electron microscopy.

Results: The results showed that the group that resulted in more irrigation extrusion was as follow from highest to lowest: side-vented >Vibringe> Endovac. The difference among all groups was significant. As for cleaning results, smear layer collection in both EndoVac and Vibringe groups were less than side-vented group and these differences were significant. When the three irrigating solutions compared the differences among all the groups were significant and combination of (5.25% NaOCL and 17 % EDTA) resulted in more smear layer removal.

Female Sexual Events Referred To Medico Legal Institute in Erbil

Name: Dilman Azad Hassan

Degree: Master

Specialty: Oral & Maxillofacial surgery

Date of the debate: 18-2-2014

Supervisor: Assist Prof. Yasin Kareem Amin

Abstract

Background: Sexual violence is a critical global issue that affects millions of people worldwide, claiming a victim every 45 seconds according to the American Medical Association, and it is a major public health and social problem spread beyond the boundaries of social and cultural rights. In fact, SA survivors suffer from the effects of the attack for a lifetime. One of the key aspects of practitioners working with individuals, families and communities affected by the SA is to understand the background and the nature and extent of the problem; considerations as well as the importance of forensic medicine and support services.

Objective: The aims of the study: 1-to investigate loss of the virginity during sexual events, 2- determine the time of injury to hymen (new or old defloration), 3- recognize the prevalence of anal injury during sexual assault.

Patients and Methods: This study is a prospective study only, it include cases of rape, newly married and trauma (fall from height or on sharp objects, and traffic accidents). That were received by medico legal institute at Rizgary teaching hospital in Erbil governorate during the period of 1st December 2013 to 1st July 2014. It includes a total 110 cases.

Results: These cases divided into three groups: raped 50 cases 45%, traumatic 30 cases 27%, and married 30 cases 27%, In raped cases the age is ranged from (2-35) years old, and the mean of the age (17.44 ± 6.42), among raped cases most of them with no trauma to body (76%), no use of force and weapon (64%), with consensual sexual act but regarded as raped case because they are under 18 years old. And the most common site for tear in the hymen is at 6 o'clock (i.e.) the postero inferior area of the vagina. Regarding the duration of the tear in raped cases (32%) is new tear while

Certification of the examining committee and endorsement of the Dean of College

Name: Twana Hoshyar Saleem

Degree: Master

Specialty: Oral & Maxillofacial

Date of the debate: 18-12-2014

Supervisor: Assist. Prof. Othman Abu-Bakir Omar

Abstract

Infection is one of the causes that due to early dental implant failure.

So, mostly antibiotic is indicated during surgical implant placement either preoperatively or postoperatively as prophylaxis, but at the same time some investigators conceder's surgical implant wound as clean contaminated wound, so, at that time antibiotic not indicated because regarding antibiotic side effects that mostly due to antibiotic resistance.

The present study was designed to determine the postoperative effectiveness of clindamycin on (swelling, wound dehiscence, and pus formation) in dental implantology between three groups, and in what instances pre- or post- operative antibiotic regimes should be prescribed.

Sixty patients included without regarding the age, sex, site and number of implant placement, they divided on three groups (Group A: 20 patients preoperative single dose 600 mg clindamycin hcl, Group B: 20 patients postoperative 150 mg clindamycin hcl every 8 hrs. for three day and Group C: 20 patients postoperative Placebo capsules every 8 hrs. for three day). The patients followed up postoperatively in 3rd day, 1st week & 3rd week to see the clindamycin effectiveness on (swelling, pus & wound dehiscence).

A total of (155) dental implants were placed for (60) patients 29 males and 31 females, the age range from (20 - 67) years. For swelling in 3rd day ($P= 0.163$), 1st week ($P= 0.071$), 3rd week ($P= 1.000$) there were no statistically significant differences between groups. For pus and wound dehiscence there were no patients recorded during study.

In conclusion we gated that clindamycin have no effect on the success dental implant. Because only swelling considered as inflammatory process during first week, and as we gated in the study there is no record for pus and wound dehisces which are the signs of infection

Preventive Effect of Honey on Methotrexate Induced Oral Microsites in Albino Rats (An Immunohisto chemical Study)

Name: Zainab Hussein Alwan

Degree: Master

Specialty: Oral Pathology

Date of the debate: 20-10-2014

Supervisor: Assist Prof Dr. Ameera Kamal Khaleel

Abstract

Background: Oral mucositis is an inflammatory, painful, debilitating and a common complication of cancer chemotherapy such as methotrexate, which represent one of the most potent classical anticancer drugs. Oral mucositis can be a dose-limiting toxicity of cancer chemotherapy with direct effects on patient survival, therefore; the control of oral mucositis is becoming increasingly more important, and effective intervention is considered a high priority in cancer patients.

Aims of the study: The present study was designed to assess the effects of methotrexate and/or natural honey on the body weight of Albino rats during the experiment, and evaluate the effectiveness of honey as a preventive measure for methotrexate induced oral mucositis in Erbil/Kurdistan region/Iraq during the period from February to July 2014.

Method: Forty females Wister-albino rats weighing 140-200 g were used in the study and divided into two groups: control and study. Each group was subdivided into two groups: distilled water and honey treated groups (5 g/ kg/day) in which the animals were gavaged by distilled water or honey from day one until day eight. For the induction of oral mucositis, single toxic dose of 60 mg/kg of methotrexate was administered intraperitoneally to each animal in the study group at day four. Normal saline (0.9% NaCl) in a similar dose of methotrexate was administered intraperitoneally in the control group at the same day. All rats were sacrificed by overdose of anesthesia at day eight and biopsies from the buccal mucosa of the animals were taken and processed for hematoxylin and eosin staining, and immunohistochemical staining for Ki-67 and Bcl-2 protein done using NovoLink™ Polymer Detection System code RE7140-K from Leica Microsystem (UK). Throughout the experimental period, the body weight was monitored daily.

Results: The methotrexate/ honey treated group showed a significant decrease ($p < 0.01$) in the severity of weight loss, significant increase ($p < 0.01$) in the thickness of the epithelium, significant decrease ($p < 0.01$) in the number of congested blood vessels in the connective tissue of rat cheek mucosa, non significant increase ($p > 0.01$) in Ki-67 immune expression and a significant increase ($p < 0.01$) in Bcl- 2 immune expression in comparison with the methotrexate/water treated group.

Conclusions: Natural honey at a concentration of (5 g/ kg/day) produced protection against methotrexate induced oral mucositis and therefore can be used as a natural protective measure for oral mucosa against methotrexate induced cytotoxicity in cancer patients.

Effects of Chamomile Extract On Oral Microsites Induced By 5-Fluorouracil

Name: Agreeen Safeen Abbas

Degree: Master

Specialty: Oral Pathology

Date of the debate: 28-10-2014

Supervisor: Assist. Prof. Ameera Kamal Khaleel

Abstract

Background: 5- Fluorouracil is anticancer drug which has been used to treat various types of malignancy. Oral mucositis is one of the most common side effects of cancer treatment. It is an inflammatory process that affects the mucosa of the oral cavity, giving rise to erythematous area and intense pain associated with the oral ulcers. This in turn may require reduction or even suspension of the antineoplastic treatment, with the risk of seriously worsening the patient prognosis.

Aims of the study: The present study was designed to evaluate the effectiveness of chamomile extract as a treatment for the 5-fluorouracil induced oral mucositis, and to evaluate the effects of 5-fluorouracil and/or chamomile extract on body weight of Albino rats during the experiment.

Method: Sixty two females Wister-albino rats 7-8 weeks old and weighing 140-180g were used in the study. Sixty animals were randomly divided into two groups: control and study group. Each group was subdivided into two groups: distilled water treated group and chamomile extract treated group (100 mg/kg, two times daily). For the induction of mucositis, 60 mg/kg of 5-fluorouracil was administered intraperitoneally to each animal in the study group at day 0, and 40 mg/kg was administered at day 2. A physiological saline (0.9% NaCl) in a similar dose of 5-fluorouracil was administered intraperitoneally in the control group at the same days. The right buccal mucosa was scratched twice with the tip of a sterile needle at days 3 and 4 for all the animals. The animals were sacrificed at day 8, 12, and 16 (five animals each) and biopsies from the right cheek mucosa of the animals were taken and processed for hematoxylin and eosin staining and for immunohistochemical staining for Ki-67 and Bcl-2 protein using NovoLink™ Polymer Detection System code RE7140-K from Leica Micro system (UK). Throughout the experimental period, the body weight was monitored daily.

Result: Chamomile extract causes a significant increase ($p < 0.05$) in the number of cells staining positive for Ki-67 at day 8 and 12, and cells staining positive for Bcl-2 at day 8, 12 and 16 in comparison with the water treated group. The animals that developed oral mucositis and were treated with chamomile lost significantly less weight ($p < 0.05$) and exhibited significantly lesser degree of oral mucositis throughout the evaluation period in comparison to the water treated group ($p < 0.05$).

Conclusions: Chamomile at a concentration of (200gm/kg/day) can decrease the cytotoxicity of 5-fluorouracil in the oral mucous membrane and can be used as a treatment of natural product to prevent oral mucositis in a rat model.

Comparison of Cleaning & Shaping Efficiency of Different Endodontic Systems (In Vitro Study)

Name: Sazan Tahir Musheer Gardy

Degree: Master

Specialty: Conservative Dentistry

Date of the debate: 10-3-2014

Supervisor: Dr. Raid Fahim Salman

Abstract

The aim of this study was firstly; to compare cleaning effectiveness of two reciprocating single file systems, (Wave-One and Single F2) with ProTaper rotary instruments during the preparation of curved root canals of extracted human teeth. Secondly; to compare shaping ability and incidence of instrumentation errors of these instruments during the preparation simulated curved canals.

A total of 60 root canals with 10 mm length and apical diameter of size # 15 ISO were selected. Based on radiographs taken prior to instrumentation, the canals were balanced with respect to the angle canal curvature into two groups of 30 canals with curvatures ranging between 15° and 34°. Each subgroup was divided into three groups of 10 canals. Group A: ProTaper, group B: Wave-One, group C: Single F2. The extruded debris were collected in glass vials, dried by microwave oven then weighted by a digital balance. The roots were vertically dissected later on and the amount of smear layers was examined under Scanning Electron Microscope. Two groups of standardized simulated canals 30 of each, with angle of curvature 30° and 45° were instrumented by similar grouping design and the incidence of (separation, ledge, zip, elbow, perforation) was recorded in addition to centering ability.

No statistical significant differences were found among the groups neither in cleaning effectiveness nor in shaping ability at $p \geq 0.05$, with no procedural errors for the Wave-One.

Under the conditions of this study both single reciprocating files showed good cleaning ability and comparable shaping ability and can be alternative to multi sequence ProTaper files.

Evaluation of Salivary Calcium, Phosphorus and Alkaline Phosphatase Levels in Children (4-6) Years with Nursing Caries in Erbil City

Name: Baydaa Adnan Khoshnaw

Degree: Master

Specialty: Pediatric Dentistry

Date of the debate: 30-302014

Supervisor **Dr. Zana Qadir Omar**

Abstract

Nursing caries is a complex and severe form of tooth decay. Which usually affects an infant's teeth, especially the upper anterior teeth that may lead to severe pain, loss of teeth and psychological problems for the child. This form of decay is caused by primary factors (host, cariogenic bacteria, fermentable carbohydrate and the time) and other additional factors.

Due to the significant importance of preventing nursing caries among children the aim of study was to find out relationship between calcium, inorganic phosphorus and Alkaline phosphatase in supernatant of unstimulated whole saliva with nursing caries, by measuring the concentrations of these salivary elements among a selected group of children with nursing caries and comparing them with caries-free children matching for the age and gender as well as assessment of infant feeding habits and their relation to the development of nursing caries in children.

The sample consist of 374 children aged 4-6 years: 324 of them were the study group (with nursing caries) while 50 of them were control group (caries-free), the case sheet and questionnaire include the child's feeding habits and oral hygiene. (1.5-2 ml) of saliva was collected from the selected children using spitting method.

The result showed that study group children demonstrated a higher calcium and alkaline phosphatase concentrations than the control group children, with statistically highly significant difference ($P < 0.01$), while the same group demonstrated a lower inorganic phosphorus concentration than the control group, with statistically highly significant difference ($P < 0.01$).

The result showed that, the addition of sugar to nursing bottle, frequency of sweet intake, sleeping with nursing caries containing milk or sweetened beverage, tooth brushing practice seem to have a highly significant effect in initiation and on the severity of nursing caries in children ($P < 0.01$).

The result between the two groups showed that the children of the study group demonstrated a prolonged weaning time when compared with the children of control group with statistically highly significant difference ($P < 0.01$), suggesting it seem to have important effect on the severity of nursing caries in the children.

this study concluded that: concentration of Calcium and Alkaline Phosphatase were higher in study group and with positive correlation with dmfs index, statistically were highly significant differences. But inorganic phosphate was lower in study group with positive correlation with dmfs index, statistically was highly significant differences.

The child feeding habits showed the highly significant effect on the development of nursing caries through addition of sugar to nursing bottle or sleeping with nursing bottle or frequency of sweet intake, and prolonged weaning time.

Effects of Co- Administration Dexamethasone and Diclofenac Potassium on Pain, Swelling and Trismus Following Surgical Removal of Impacted Lower Wisdom Tooth (Clinical Comparative Study)

Name: Blend J. Ibrahim

Degree: Master

Specialty: Oral and Maxillofacial Surgery

Date of the Debate: 18-2-2014

Supervisor: Dr. Reiaadh Al Kamali

Abstract

The apparent interactions between the mechanisms of action of non-steroidal anti-inflammatory drugs and steroids suggest that co-therapy may provide beneficial inflammatory and pain relief. The aim of the study / was to evaluate the pain, swelling and trismus following surgical removal of impacted lower third molar by using co administered (dexamethasone-diclofenac potassium) drug. Forty five patients who have mesio-angler impacted lower wisdom teeth were randomly divided into three groups (one control and two studies). We using two different sites of injecting dexamethason .The teeth were extracted by same surgical protocol for all patients. In the control group the diclofenac potassium tab. (50mg) was used to control the postoperative pain and swelling. In both study group co-therapy (dexamethasone 4mg IM -diclofenac potassium tab. 50mg) was used to control the postoperative pain and swelling (in first study group dexamethasone was injected into masseter muscle and in second study group dexamethasone injected into dorsogluteal muscle, then diclofenac potassium given in both) . The VAS has been used to asses' postoperative pain in days 1, 2, 3, 4, 5,6and 7. Facial swelling was assessed in days 3and 7 by using black silk suture record between 4 anatomic points on the face. We checked C - reactive protein level in blood in day 3 post operatively in all groups. On the other hand trismus measured using a calibrated caliper preoperatively and post-operatively in day3 3and 7. Conclusion / the co-administration therapy is more effected than diclofenac potassium alone in controlling post operative sequelae (pain ,swelling ,trimus) and CRP level ($P < 0.05$) we recommend to use co-administration Drug therapy to control post operative sequelae after surgical extraction of lower wisdom teeth.

The Effect of Non-Surgical Periodontal Therapy on Clinical Parameters, Salivary and Serum Melatonin, Interleukin Levels in Chronic Periodontitis Patients

Name: Hozan W. Azeez

Degree: Master

Specialty: Periodontology

Date of the debate: 17-3-2014

Supervisor: Assist Prof. Ziwar A. Al- Qassab

Abstract

Chronic periodontitis is defined as inflammation of the gingiva extending into the adjacent attachment apparatus. Melatonin is a hormone that possesses antioxidant, free radical scavenging, and immunoenhancing properties that promote fibroblast activity and bone regeneration. Interleukin -6 is a key cytokines in the initiation and maintenance of systemic inflammation which have been implicated in progression and severity of periodontitis. Non-surgical periodontal therapy is one of the periodontal treatment methods that affect etiologic factors. This study was carried out to assess the effect of treatment (scaling and root planning) on clinical periodontal parameters, melatonin and interleukin-6 levels. It was conducted on 45 patients with moderate to severe chronic periodontitis. The clinical periodontal parameters included; bleeding on probing, probing pocket depth, and clinical attachment loss. Un-stimulated saliva and blood were collected before and after scaling and root planning. The levels of melatonin and interleukin-6 in serum and saliva were assessed by using Enzyme Linked Immunosorbent Assay technique. In order to analyze the data t-test, paired t-test was used. The P value < 0.05 was considered significant. The results showed that clinical periodontal parameters were significantly and substantially reduced one month after treatment as compared with base line of treatment ($P < 0.001$). The levels of melatonin in serum and saliva of patients with chronic periodontitis was increased at one month after treatment, but with no significant difference as compared with base line of treatment ($P > 0.05$). Whereas the level of interleukin-6 in saliva was highly significant reduced after one month treatment as compared with base line of treatment ($P < 0.001$), while in serum the level of interleukin-6 was reduced after treatment, but with no significant difference as compared with base line of treatment ($P > 0.05$).

These results indicate that there was an effect of treatment on the recovery of clinical periodontal parameters, in addition to its effect on both melatonin and interleukin-6 which can be demonstrated by an increase in the level of melatonin in both serum and saliva and a decrease in the levels of interleukin-6 in both serum and saliva.

Evaluation of Three Obturation Techniques of Two Different Materials for Deciduous Teeth

Name: Rwa Mohammed Ibrahim Al-Qazzaz

Degree: Master

Specialty: Pediatric Dentistry

Date of the Debate: 17-2-2014

Supervisor: Dr. Hemn Muhssin Sarmamy

Abstract

The main objective in pediatric dentistry is to maintain primary teeth in the oral cavity till exfoliation; endodontic therapy has to be done to treat infected pulp. In primary teeth, a tight apical seal, complete debridement of the canals and obliteration of the canal space is not always possible, even in pulpectomies that succeed. The Aim of this study was to evaluate the two obturating root canal materials of primary teeth (zinc oxide eugenol and vitapex) and to compare the effectiveness of different obturation techniques using vitapex tip, side vented needle and lentulo spiral for obturation of root canals of primary teeth.

The sample consists of 60 extracted primary canine teeth; obturation performed for 30 roots with standard mix of zinc oxide eugenol in three test groups using lentulo spiral, vitapex syringe with its original tip and vitapex syringe with side vented needle. And the other 30 roots were obturated with vitapex in the same three test groups.

The result showed that there were no significant differences among the three obturation techniques ($P>0.05$) when the root were obturated with zinc oxide eugenol, and vitapex syringe with its manufacture tip is better than lentulo spiral when the roots were obturated with vitapex. When comparison made between the two materials when the roots was obturated with the same technique, the results showed that there were no significant differences between the two materials. The result showed that there were no significant differences among the six groups.

Within the limitations of this study it can be concluded that: With optimum operator skills equal filling results can be achieved by using both zinc oxide eugenol and vitapex as a root canal filling material when obturating by lentulo spiral, vitapex syringe with its manufacture tip and vitapex syringe with side vented needle.

BIOMECHANICS OF DEEP BITE CORRECTION BY VARIOUS INTRUSIVE METHODS (AN IN VITRO COMPARATIVE STUDY)

Name: Rebin Ali Muhammed Amin

Degree: Master

Specialty: Orthodontics

Date of the debate: 2-3-2014

Supervisor: Dr. Zana Qadir Omer

Abstract

Deep bite is a complex orthodontic problem that is a common feature of many malocclusion. Treatment of deep bite is one of the fundamental goals of orthodontic therapy because of the potential negative effects that deep bite can have on the teeth and their supporting periodontal tissues. In patients with deep bite due to over eruption of maxillary and mandibular incisors, incisor intrusion is the treatment of choice.

The present study aimed to compare and investigate the effect of five different intrusive techniques (accentuated curve of spee 0.016"x 0.022" and 0.014"x 0.020", microimplant supported incisor intrusion, Connecticut intrusion archwire and utility intrusion archwire) on the amount of true intrusion, axial inclination change, their effect on first molar position in sagittal and vertical plane and angulation and inter molar width and arch length using typodont simulation system.

The method included the use of maxillary typodont model with central incisor and first molar reference bar representing the estimated longitudinal axes of them, wood table with wooden base to receive typodont model using cephalographic machine for imaging the process. The standardization criteria were all maxillary teeth situated in well aligned position. They were repositioned using various acrylic plane which adapted to labial, buccal, palatal aspect of typodont wax form and occluding surfaces of teeth. Special acrylic plane used for placement of two microimplant between maxillary right and left lateral incisors and canines. The intrusion arches were activated to deliver 60 gm of intrusive force. The force measured carefully by tension gauge at the level of bracket slots of incisors. The techniques were divided into five groups, each group were tested ten times, before and after intrusion radiographic image were taken on a scale and transferred to personal computer to be analyzed by Autodesk AutoCAD software.

The result of this study showed insignificant true intrusion of maxillary incisors by all groups, significant increase in axial inclination of incisors by microimplants, significant increase in arch length by all groups, significant decrease in inter molar width by all groups except microimplants, significant extrusion of maxillary first molars by utility intrusion archwire and Connecticut intrusion archwire, significant distal tipping of first molars by all techniques except microimplants.

Effect of Non-Surgical Treatment on the Serum Levels of Il-6 and Tnf- α Inchronic Periodontitis.

Name: Sazan Sartip Abdulhameed

Degree: Master

Specialty: Periodontics

Date of the debate: 16-3-2014

Supervisor: Dr.Haween Toufiq Nanakaly

Abstract

Background and objectives: Chronic periodontitis is a multifactorial inflammatory disease characterized by destruction of tooth supporting- tissues. Environmental, genetic and immune system participate in this process. This study was designed to assess the effect of non –surgical periodontal treatment in patients with chronic periodontitis (with and without using chlorhexidine 0.2% mouthwash) on clinical and the selected inflammatory cytokines as an inflammatory marker before and after treatment.

Materials and methods: Forty four patients aged from 30 to 50 years (28 males and 16 females) with moderate to severe localized chronic periodontitis. They were divided in to 2 groups: Group I; Twenty two patients were treated by scaling and root planning without using of chlorhexidine mouthwash and follow up after one month. Group II; Twenty two patients were treated by scaling and root planning with 0.2% chlorhexidine mouthwash and follows up after one month. The clinical evaluation was depending on the measurement of bleeding on probing (BOP), probing pocket depth (PPD), and clinical attachment loss (CAL). Serum proinflammatory cytokines [Interleukine-6(IL-6) and Tumor necrosis factor- α (TNF- α)] levels were determined by a commercially available ELISA kits.

The Effect of Feeding Methods and Non-Nutritive Sucking Habits on Early Childhood Caries and Development of Occlusion.

Name: Huda Raad Mahdi

Degree: Master

Specialty: Pedodontics

Date of the debate: 3-5-2014

Supervisor: Dr. Bayan Abdulla Hassan

Abstract

Early Childhood Caries (ECC) is the most common chronic disease condition in childhood and involves the presence of one or more decayed (noncavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in children under 72 months of age (American Academy of Pediatric Dentistry, 2010a; Prakash *et al*, 2012). Time and frequency of breast-feeding, artificial feeding and of non-nutritive sucking habits can influence orofacial development (Wadsworth *et al*, 1998), and when negative can provoke instability of orofacial function (Luz *et al*, 2006). Sucking habits involving digits or dummies are the most tangible environmental factors that play a role in the etiology of malocclusion (Morre, 1996).

Aims of the study: were to evaluate the effects of type of feeding on early childhood caries development and on occlusion development, and to evaluate of the effect of non-nutritive sucking on occlusion development. A cross sectional study performed on a convenient sample of 500 preschool children in Erbil city.

No significant association between type of feeding and early childhood caries. Fisher's exact test showed that type of feeding was not related to the development of molar relations, bottle feeding was significantly related to class II canine relation. Pearson Chi-square showed that type of feeding was not significantly related to development of increased over jet ($> 4\text{mm}$).

logistic regression analysis showed that there was no significant association between type of feeding and anterior open bite. Posterior cross bite development was found to be not clearly affected by type of feeding. Non-nutritive sucking was not significantly associated with molar relation. While non-nutritive sucking was significantly associated with development of class II canine relation. Although the prevalence of increased over jet ($> 4\text{mm}$) was higher in children with history of non-nutritive sucking especially in children with finger sucking, Pearson Chi-square test showed that non-nutritive sucking was not significantly associated with increased over jet ($> 4\text{mm}$).

Logistic regression showed significant association between non-nutritive sucking and development of anterior open bite. Significant association was found between non-nutritive sucking and posterior cross bite development in the right and left sides except for finger sucking which showed no significant association with development of posterior cross bite in the in the right side indicating that unilateral posterior cross bite was found to be associated with finger sucking.

In conclusion: Type of feeding was not found to be related to development of early childhood caries in primary dentition of preschool children. Bottle feeding was considered as a risk factor for development of class II canine relation. Non-nutritive sucking (finger, pacifier sucking and both) were found to be risk factors for the development of anterior open bite and posterior cross bite. Finger sucking produces the development of unilateral posterior cross bite in primary dentition.

Evaluation of Close Relation of Inferior Alveolar Canal Impacted Lower Third Molar by Using Cone Beam Computed Tomography

Name: Hana Adnan J. Al-Barzenji

Degree: Master

Specialty: Oral & maxillofacial Radiology

Date of the debate: 3-2-2015

Supervisor: Lecturer. Dr. Sameeah A. Rashid

Abstract

Background: surgical extraction of impacted mandibular third molar is a routine procedure in oral surgery, Various radiographic modalities have been used by maxillofacial radiologist in the preoperative assessment of the relationship between the mandibular third molar and inferior alveolar canal. The purpose of this study was to make a comparison and correlation between cone beam computed tomography and panoramic images in predicting the anatomical relationship of impacted mandibular third molars with inferior alveolar nerve preoperatively.

Materials and Methods : This cross-sectional study included 120 impacted mandibular 3rd molar teeth in 100 individuals who showed close relation between the mandibular canal and third molars on panoramic radiographs, the most common risk injury signs of inferior alveolar nerve (darkening of roots, interruption of white line of mandibular canal, deviation of mandibular canal, and or narrowing of mandibular canal) and then the surgeon referred the patients to maxillofacial radiology for further evaluation by cone beam computed tomograph (CBCT). The CBCT was analyzed for buccolingual position of the inferior alveolar canal to the mandibular 3rd molar , state of cortex and the proximity of the canal with root, Chi-square test and Fisher's exact test were used to make a correlation between panoramic signs and CBCT finding.

Result : the commonest two panoramic radiographic sign was interruption of the mandibular canal wall and root darkening (58% and 37% respectively).

A statistically significant association was observed between the panoramic radiographic signs, and CBCT finding of buccolingual position

Evaluation of Micro Leakage in Three Different Types of Pit and Fissure Sealants Using Invasive and Non-Invasive Techniques (An In-Vitro Study)

Name: Hiwa Saeed Khidir

Degree: Master

Specialty: Pediatric Dentistry

Date of the debate: 8-4-2015

Supervisor: Lecture. Dr. Hemn Muhssin Sarmamy

Abstract

Background: Occlusal pits and fissures are ideal places for caries development. Pit and fissure sealants are one of the best methods of preventing occlusal caries, it occludes them from accumulation of plaque and cariogenic bacteria. But caries still occurs in pits and fissures with sealant loss. Optimal pit and fissure sealing is determined by surface preparation techniques and choice of sealant materials. Occlusal pretreatment procedures and choice between the invasive and non-invasive techniques remains a matter of debate. In evaluating fissure sealants, one of the main criteria is the degree of microleakage.

Aims of the study: The aims of this study was to; Evaluate the amount of in-vitro microleakage of three chemically different types of pit and fissure sealants (Vertise Flow, Kerr), (Helioseal-F, IvoclarVivadent), (GC Fuji TRIAGE, GC corporation) and the effect of occlusal preparation on the leakage value.

Method: Sixty extracted human premolars randomly divided into 6 groups (n=10/group). Teeth fissures of three non-invasive groups (I, III, V) were left intact, fissures of other three invasive groups (II, IV, VI) were opened up with ¼ round carbide bur, cutting dimension was equivalent 0.5mm. Teeth fissures in group (I, II) sealed with self adhesive Vertise Flow, group (III, IV) acid etched and sealed with filled fluoride release Helioseal-F, while group (V, VI) fissures were sealed with Glass Ionomer GC Fuji TRIAGE fissure sealant. The teeth were thermocycled between 5±2°C and 55±2°C for 500 cycles with a dwell time of 30 seconds and then stored in 0.9% normal saline. All teeth were sealed apically and coated within 1.5 mm of the sealant margin with two layers of nail varnish, then immersed in 1% Methylene blue solution for 48 hours. Subsequently, two

Evaluation of Orthodontic Treatment needs Of Kurdish Students Aged 13-16 Years in Soran City

Name: Hersh Hasan Sherwany

Degree: Master

Specialty: Orthodontic

Date of the debate: 2-4-2015

Supervisor: Dr. Bayan Abdulla Hassan

Abstract

Over recent years the demand for orthodontic treatment was increased. For publicly funded programs all patients seeking treatment cannot be treated because of limited resources, therefore it is important to determine need before planning to treatment. The principal aim of the present study was to evaluate orthodontic treatment need of Kurdish students aged 13-16 years in Soran city.

Seven hundred fifty students aged 13-16 years old of both genders were selected by systematic random sampling method in all (18) schools of Soran city. Index of Orthodontic Treatment Need (IOTN) was used to determine treatment need. Chi square test was used to compare between proportions. A p value of ≤ 0.05 was considered statistically significant.

The results showed that (9.7%) of the students need orthodontic treatment according to Aesthetic Component (AC) of IOTN scored by the researcher, (10.4%) according to (AC) scored by the students, and (22.1%) according to Dental Health Component (DHC) of IOTN. There was non significant difference between males and females. There was significant difference between (AC) scored by researcher and (AC) scored by students ($p < 0.001$) and between (AC) and (DHC) of IOTN ($p < 0.001$).

The prevalence of malocclusion according to (DHC) of IOTN was (64.9%) and the most prevalent malocclusion traits found were increased overjet (16.6%), displacement of contact points (13.1%), and crossbite (10.2%). Only (0.5%) of the students were under or had previously undergone orthodontic treatment.

It is concluded that the findings of the present study provide useful epidemiological data on the orthodontic treatment need of 13-16 years old students in Soran city that can be used for better planning and provision of orthodontic treatment

Detection and Measurement of Anterior Loop of Inferior Alveolar Nerve Based on Cone Beam Computed Tomography

Name: Kharman Khdhr Rahman

Degree: master.

Specialty: Oral & Maxi facial Radiology

Date of the debate: 26-3-2015

Supervisor: Dr. Edris Jarjes Ahmed

Abstract

Background: The anterior loop of the inferior alveolar nerve described as “an extension of the inferior alveolar nerve, anterior to the mental foramen (MF), prior to exiting the canal”. Neurosensory alteration of the anterior mandible can occur if important vital structures such as mental foramen (MF) and anterior mental loop are not properly identified and protected.

Objectives: Detect and measure the length of the anterior loop of inferior alveolar nerve by Cone Beam Computed Tomography (CBCT) in order to help avoid nerve damage during different surgical procedures in the interforaminal region.

Methods: Two hundred Cone Beam Computed Tomography (CBCT) scans were taken for various clinical indications included in this retrospective study. The cases were categorized by side (right and left), gender (male and female). The visibility and length of the anterior loop were assessed..

Results: The anterior loop of inferior alveolar nerve was visible in 81% (162) of cases where at least one side anterior loop was present. the mean anterior loop length (ALL) on the right side was 1.28 ± 0.619 mm and 1.23 ± 0.618 mm on the left side.

Conclusion: There was no significant difference between the visibility of anterior loop and anterior loop length on right and left side, gender groups.

The Effect of Addition of Barium Sulphate Nanoparticles on Some Properties of Acetal Resin

Name: Kaify Wali Ahmed

Degree: master.

Specialty: Prosthodontics

Date of the debate: 3-2-2015

Supervisor: Lecture . Dr. Rizgar Mohammed Ameen Hasan

Abstract

Background: This study evaluated the influence of the addition of radiopaque barium sulfate (BaSO_4) nanoparticles on the mechanical and physical properties of Acetal resin or (POM), which is a radiolucent denture base material, by addition of 3% of barium sulphate nanoparticles to the thermoplastic Acetal resin.

Aims of the study: The main aim of this study was to produce of nanocomposites with the addition of 3% BaSO_4 nanoparticles enough to acquire radiopaque properties while maintaining the mechanical and physical properties of the matrix.

Method: The tested specimens were obtained by melt extrusion in to the mold equipment followed by injection molding. The radio-opacity of non modified and modified Acetal resin was investigated by Densitometer reading of X-rays and radiopaque contrast tests.

Results: The results of radio-opacity test showed that the radiographic density of BaSO_4 3% Acetal resin specimens was at the same level of 2mm thickness of the aluminum stepwedge. Non significant decrease noted in surface roughness, creep in all strain regions, debonding test with artificial tooth and acrylic resin and compressive strength and modulus of elasticity. There was a significantly change in the color stability of the modified Acetal resin specimens in both before and after immersion in tea solution, on the other hand water sorption and solubility was not affected significantly.

Conclusion: It has been concluded that the addition of barium sulphate 3% nanoparticles produced an acceptable radio-opaque Acetal resin denture base material. Although the addition caused some changes in properties but the modified Acetal resin remained as a flexible thermoplastic material.

Evaluation of Simultaneous Implant Placement with Horizontal Alveoli Bone Augmentation

Name: Rawkar Abdullah Hammadamin

Degree: master.

Specialty: Oral & Maxillofacial surgery

Date of the debate: 25-3-2015

Supervisor: Assist. Prof. Luqman Fawzi Omar

Abstract

The purpose of the present study was to evaluate the clinical and radiographical outcome of simultaneous implant placement with horizontal alveolar bone augmentation. Thirty Implants with augmentation procedure using easy-graft bone substitute were carried out for twenty patients having atrophied alveolar ridge. The age of the patients ranged from 19-59 years with mean age of 37.7years. Ten patients (50%) were males and ten patients (50%) were females. All the patients were healthy, with no history of systemic disease that affect the osseointegration of implants. A cone beam computed tomography scan was taken three times for every patient, preoperatively for measuring alveolar ridge width and height, immediately postoperatively to evaluate and measure the bone graft thickness and height. After eight months healing period another cone beam was taken to assess the new bone formation in the augmented area and the rate of bone resorption by again measuring thickness and height of newly formed bone and measuring the rate of bone to implant contact, evaluating the density of newly formed bone by cone beam and evaluating the implant stability by periotest device. The overall follow up period was eight months post operation. The average of newly formed bone after eight months was (1.90±0.41 mm thickness) and (7.70± 2.35 mm height). The average of labial/buccal bone resorption after eight months was (0.48 ± 0.42 mm). The average of marginal bone loss after eight months was (1.92± 1.12 mm). All the implants (except one) survived till the end of follow up period giving a survival rate of 96.7% and the failure rate was 3.3%. The rate of bone to implant contact was 83.79%. The average of periotest value range for all implants was (- 0.35±1.50) and the density of newly formed bone was (1799± 177.18). There was statistically significant reduction of both thickness and height after eight months (p<0.001 Thickness, p<0.001 Height). No statistically significant influence of age and gender on the outcome of bone augmentation was noted. Removable denture had significant influence on the height of newly formed bone (p=0.041). The average rate of bone to implant contact has positive statistically significant correlation with the height of newly formed bone (r= 0.598) (p=0.001). The average rate of bone to implant contact has no significant correlation with the thickness of newly formed (r= 0.278) (p=0.144).

Quantitative Evaluation of Sealing Ability of Three Different Endodontic Sealers (In Vitro Comparative Study)

Name: Bahra Hassan Ahmad

Degree: master.

Specialty: Conservative Dentistry

Date of the debate: 13-5-2015

Supervisor: Assist. Prof. Raid Fahim Salman

Abstract

The aim of this study was firstly; to evaluate the micro-leakage of different obturating materials for root canals of extracted teeth. Secondly; to compare the gap discrepancies that formed at that interface between the root canal walls at specific points and different root canal filling mixtures by SEM.

A total of 80 single rooted human teeth with single canal and comparable dimensions were selected. The roots were divided randomly into two main groups; group 1 "microleakage group" while group 2 "Adaptation group". Each group was further divided into four subgroups of 10 samples each. Group A: roots obturated with gutta-percha & AH plus sealer. Group B: roots obturated with gutta-percha & MTA. Group C: roots obturated with gutta-percha & calcium silicate sealer. Group D: roots obturated with gutta-percha without sealer. All canals were instrumented with rotary ProTaper system. A 2% black India ink dye was used to evaluate the micro-leakage at the root canal wall obturating materials interfaces and different magnifying degrees were used to measure the gap space between them using SEM. For micro-leakage study results; no statistical significant differences were found among the materials tested at $p > 0.05$, ($p = 0.371$). For the SEM study results; ANOVA test showed that the difference among the tested materials was nonsignificant at $p > 0.05$, ($p = 0.756$). Post hoc LSD test for the difference between each pair of the four groups showed that the difference was non-significant at $p > 0.05$, within favor of the gutta-percha & AH plus sealer mixture for both studies. Under the conditions of this study; the gutta-percha & calcium silicate sealer had comparable leakage and adaptation results to common obturating materials and can be used as bioactive material alternative solution for obturating the root canal spaces well to conventional inert materials.

Evaluation of Some Physical and Mechanical Properties of Tooth Colored Restorations

Name: Bnar Ahmed Perdawood

Degree: Master.

Specialty: Conservative Dentistry

Date of the debate: 20-5-2015

Supervisor: Assist. Prof. Dara H. Saeed

Abstract

Background; development in posterior teeth colored restoration and bulk fill composite improvement is recommended. Therefore, aim of this study: was to measure and compare depth cure, flexural strength, surface roughness and marginal adaptation of some direct posterior tooth colored restoration which were (Filtek-Z250) as controlled group, (Filtek-P90) low polymerization shrinkage, and two recently introduced bulk fill resin-base composites (Xtra-fill /Voco and Sonic fill- Kerr). The following properties depth of cure, flexural strength was examined according to ISO standard 4049. Depth of cure was determined by using scraping test. Flexural strength was determined by using a three point bending test. Surface roughness determined by using surface roughness tester. Marginal adaptation was done by using Scanning Electron Microscope (SEM) evaluation.

The result found that in depth of cure there was highly significant difference among all studied materials at ($P < 0.001$), Xtra-fill/ Voco showed greater depth curing than Sonic fill composite. Flexural strength showed that there was non-significant difference among the study groups at ($P > 0.05$). Surface roughness showed that the difference among the test groups was highly significant at ($P < 0.001$) however there was non-significant difference between (Filtek-Z250) and (Filtek- P90) group. Marginal adaptation result showed that the difference between all tested groups was non-significant at ($P > 0.05$).

In conclusion; based on result of this study bulk fill composite showed high depth of cure than that of conventional composite. In addition the mechanical properties of bulk fill composite were similar to that of conventional composite; therefore bulk fill composites have good potential for replacing conventional resin composite. In addition (Filtek-p90) provided good marginal adaptation for class II tooth restorations.

Comparison of Outcomes of Dental Implant Insertion by Conventional Drilling and Piezosurgery (Clinical and Radiographic Study)

Name: Rawand Muhammed Maruf

Degree: Master.

Specialty: Oral & Maxillofacial Surgery

Date of the debate: 29-3-2015

Supervisor: Assist. Prof. Reiadh Al-Kamali

Abstract

Purpose: this clinical and radiological prospectively study, compare the post-operative pain and swelling of implant preparation site by conventional drilling and Piezo. with regard to success rate and relation of age and gender.

Methods: sixteen patients (9 males and 7 females) were participated in the present study. The age of the patients were ranged from (27-52) years with mean of 42.6 years old. The patients were divided into two groups, in the Group 'A' fifteen implants were placed by conventional drilling and in Group 'B' fifteen implants were prepared by Piezo. clinical and radiographic examination was carried out to assess the implants condition. Clinical examination included recording pain and swelling for 7 days with the visual analog scale (VAS scale), and implant mobility was assessed by using Periotest-M at the end of healing period (3 months). The periapical radiograph was carried out to assess marginal bone loss around the implants at 3 and 6 months after implantation.

Results: two implants failure was reported; one implant for each Group. The statistical analysis (analysis of variance for repeated measures, $P < 0.05$) showed significant difference between the two groups less pain and swelling in Piezo. group ($P = 0.009$) for the first four days. No correlations were found between age, gender or duration of surgery, and postoperative pain and swelling. And the study showed no significant difference between the two groups with regard to the marginal bone resorption ($P = 0.88$). The success rate for both groups was 93.3%. The study showed insignificant relation of age, gender with the success rate.

Conclusion: within the limits of our clinical trial study, there are advantages of piezo. over conventional drilling in implant preparation site, there are less swelling and pain after surgery for first 4 days after surgery, and therefore it has less discomfort to the patients.

Dento-Skeletal Changes Associated With Buccal and Palatal Distalizing Appliances in Adolescent Patients (IN VIVO STUDY)

Name: Haval Jalal Rasheed

Degree: Master.

Specialty: orthodontic

Date of the debate: 8-6-2015

Supervisor: Lecture. Dr.Zana Qadir Omer

Abstract

One of the main objectives in orthodontics is to treat different malocclusions in oral cavity, including Angles class II malocclusion, which can be treated with many orthodontic techniques, one of these techniques is maxillary molar distalization, there are many appliances used for molar distalization and each of them has its advantage and disadvantage. The Aim of this study was to evaluate two distalization appliance (Pendulum) and (K-loop combined with temporary anchorage device) and to compare their effectiveness of them.

The study sample consist of 20 adolescent patients (age range 14-16 years) where divided to two groups of equal No. of 10, first group were treated with pendulum appliance, while the second group patients were treated with k-loop a combined by temporary anchorage device to augment the anchorage, the treatment last for 3 months for both group, during which each patient from both groups where evaluate radiographically and by making study models before starting and after finishing of the treatment.

The results showed that there were significant differences among the two distalization techniques ($P < 0.05$). The Pendulum & (K-loop –Temporary Anchorage Devices) combination appliances do almost same action, except that K-loop have higher rate of distalization rate when compared by pendulum appliance, whilst pendulum appliance associated with higher degree of distal tipping and intrusion of maxillary 1st molar, and higher control of maxillary first premolar axis.

Within the limitations of this study it can be concluded that: K-loop combined with TADs show satisfactory distalization effect as pendulum with better results in some instances and worse in others but with more comfortable design and less lab dependence one, It also found that buccally placed TADs bind to maxillary canines show satisfactory anchorage control.

The Effect of Combination of Calcium Carbonate and Zinc Oxide Nano Fillers on Some Properties of Maxillofacial Silicone Elastomer

Name: Shahla Hamarasheed Omer

Degree: master.

Specialty: Prosthodontics

Date of the debate: 27-12-2015

Supervisor: Prof. Salem A.L. Salem Al-Samarraie

Abstract

Silicone elastomers have been used to fabricate facial prostheses for individuals with facial defects resulting from resection, trauma, or congenital anomalies.

These materials should have ideal physical and mechanical properties and must be compatible with surrounding tissues. None of the tested commercial materials fulfilled the above criteria.

The objective of this study was to determine the effect of addition of zinc oxide and calcium carbonate nanoparticle at (0.5%, 1.0% and 1.5% by weight) concentrations on some physical (color stability) , mechanical (tensile strength, tear strength, percent of elongation, surface hardness) and biological (antibacterial) properties of M511 silicone elastomer before and after outdoor weathering.

The material mixed in vacuum mixer in ratio of 10:1 base/catalyst according to manufacturer instruction. Seven sample formulas were prepared according to the calcium carbonate and zinc oxide nanoparticles content for each group. The cured samples were tested for the above mentioned properties.

The results showed that calcium carbonate and zinc oxide had no effect on the tensile strength before outdoor weathering, while after outdoor weathering it was noticed that the addition of 1.0% of zinc oxide and 1.0% calcium carbonate nanoparticles slightly increased tensile strength. A significant increase of the ultimate elongation was observed at 0.5% loading of zinc oxide and 0.5% calcium carbonate before outdoor weathering, while after outdoor weathering a significant increase was observed for the group that contain 1.0% of zinc oxide and calcium carbonate. The calcium carbonate and zinc oxide had no effect on tear strength value before and after outdoor weathering except the group containing 0.5% zinc oxide and calcium carbonate was most significantly changed group after outdoor weathering. The shore A hardness test showed that all groups became harder after outdoor weathering. The specimens containing 1.0% calcium carbonate and 1.0% zinc oxide was the most unstable color stability after outdoor weathering. Regarding antibacterial activity, there was no significant improvement after adding zinc oxide nanoparticle before and after outdoor weathering.

In conclusion it was noticed that the addition of zinc oxide and calcium carbonate nanoparticles up to 1% slightly improved the mechanical and physical properties of maxillofacial silicone elastomer, beyond this concentration there was a reduction in these properties.

Evaluation of Some Properties of Heat Curing Denture Base Materials by Using Different Curing Techniques

Name: Twana Omer Bakr

Degree: Master.

Specialty: Prosthodontics

Date of the Debate: 15-2-2015

Supervisor: Dr. Rizgar Mohammed Ameen Hasan

Abstract

Background: The aim of this study was to evaluate some properties of heat cured acrylic resin, cured by a new technique (Pressure curing device) and comparing with microwave and conventional technique.

Materials and methods: Two hundred fifty two specimens prepared from two brands of heat curing acrylic resin (Paladent20 and major), the specimens cured by three techniques (dry heat pressure curing, conventional curing and microwave irradiation), for each curing seven specimens is prepared, then some mechanical and physical properties have been tested.

Results: The results of the hardness test showed that the best one is dry heat pressure curing unit of paladent20 acrylic resin, while conventional curing of major acrylic resin has least porosity, in the other hand highest force need to fracture the specimens of microwave irradiation of major acrylic resin, also highest value show in dry heat pressure curing unit of paladent20 acrylic resin in tensile strength, also less water sorption show in specimens cured by microwave irradiation of major acrylic resin, at the end the less residual monomer show in dry heat pressure curing unit of paladent20 acrylic resin.

Conclusion: It has been appeared that some properties of the dry heat pressure curing device better than other curing technique, also microwave irradiation have some good properties when compared with other technique but still the conventional curing technique is the best one for curing acrylic resin and the paladent20 acrylic resin has better properties than the major acrylic resin.

Incidence of Maxillofacial Bone Fractures In Hawler City: A Retrospective and Prospective 3 Years Study

Name: Zardasht Haji Khalil

Degree: Master.

Specialty: Oral & maxillofacial

Date of the debate: 10-3-2015

Supervisor: Assist .prof. Ahmed Abdulla Haider

Abstract

BACKGROUND & OBJECTIVES: Maxillofacial bone fracture is one of the most common clinical problems that confront the maxillofacial surgeons. Facial injuries are clinically significant because they are often complex in nature and may have serious functional and cosmetic sequelae. The aim of the study was to determine the incidence and frequency of different types of maxillofacial bone fractures in Hawler city.

METHOD: All patient files with maxillofacial fractures regardless of age, gender, and systemic diseases were recorded from the different hospitals in Hawler city (Rizgary Teaching Hospital, East Erbil Emergency Hospital, West Erbil Emergency Hospital, Emergency Management Center, Sardam Private Hospital, Zheen International Private Hospital, Rassul Private Hospital, Hawler Private Hospital) within three years from July 2011 till July 2014. Soft tissue injuries and files with deficient data were excluded.

RESULTS: A total of 837 patient files with 973 maxillofacial bone fractures were recorded from the different hospitals in Hawler city. However, 19 files were excluded due to insufficient information recorded and there were 26 repeated cases also excluded. The age range was 4-71 years and the mean age was 27.8 years, those in the age group of 20 - 29 years constituted the major proportion (24.9%) with sex distribution of 606 male and 231 female (male to female ratio 2.6:1). Most of maxillofacial bone fractures were result from road traffic accidents (40.5%), followed by fall, assault, sport injury and interpersonal violence. Out of 973 maxillofacial bone fractures, mandibular fracture was the most frequent type (37.6%) of maxillofacial fracture, followed by zygomatic fracture (35.1%), maxillary fracture (20.2%), and nasal bone fracture (14.2%) respectively. Mandibular angle was the most common mandibular fracture (36.5%).

CONCLUSION: The result of this study showed a decrease in road traffic accidents; this may be due to new road traffic legislations like seat belt legislation, vehicle safety regulations, and Radar speed-limit monitoring. Mandible was the most common maxillofacial bone fracture followed by zygoma.

Evaluation of Enamel Microhardness and Shear Bond Strength of Composite Resin to Enamel Post Different Bleaching Treatments

Name: Mohammed Rashed Nabi Bandi

Degree: Master.

Specialty: Conservative Dentistry

Date of the Debate: 19-8-2015

Supervisor: Assist. Prof. Shatha Abdullah Salih

Abstract

The aim of this study was the evaluation of enamel microhardness and shear bond strength of composite resin to enamel post different bleaching treatments and morphological change of enamel examined by SEM.

A total of seventy extracted premolars were selected. The teeth were divided randomly into seven groups, two teeth from each group just subjected to treatment then prepared to be evaluated under SEM, the groups were as follow: G1:- The specimens were treated with in office bleaching. G2:- The specimens were treated with in office bleaching + antioxidant application. G3:- The specimens were treated with in office bleaching + storage period for two weeks. G4:- The specimens were treated with at home bleaching. G5:- The specimens were treated with at home bleaching + antioxidant application. G6:- The specimens were treated with at home bleaching + storage period for two weeks. CG:- No treatment with bleaching or antioxidant, just subjected to the two tests.

Results: for hardness test the final results showed highly significance difference between groups when comparing between before and after treatments and between all treatment groups and CG, while for shear bond strength test: bleaching treatment groups showed significant difference while anti-oxidant treatment groups showed non-significant difference in comparison with control groups. Finally SEM revealed morphological changes with the surface of enamel with all treatment groups.

Conclusions: Bleaching with (In office ; Opalescence® Boost ultra-dent 40%, At home ; Opalescence® PF ultra-dent 35%) reduced microhardness of enamel surface and also reduced bond strength of composite resin to enamel. The bond strength was improved by the use of ethanol as anti-oxidant.

Immediate Placement of Dental Implant into Fresh Extraction Socket with and Without Chronic Periodical Lesion.

Name: Saad Mohammed Sulaiman

Degree: master.

Specialty: Oral and Maxillofacial Surgery

Date of the debate: 16-5-2015

Supervisor: Assist. Prof. Ahmed Abdulla Haider

Abstract

Back ground and objective: The purpose of this study is to assess the success of immediate placement of dental implant into fresh extraction socket with and without periapical lesion.

Patients and methods: Fifty implants were immediately placed for fifty patients (31 males and 19 females) that participated in the present study. The age of the patients ranged from (20_59) years. All patients were healthy, with no history of systemic disease that affects the osseointegration of the implants. The patients were divided into two groups, control group in which 25 implants immediately placed into fresh extraction socket without periapical lesion, while in the study group 25 implants immediately placed into fresh extraction socket with periapical lesion. The periapical lesion diagnosis based on clinical feature as pain, fistula, and radiographically as radiolucency at the apex of a root. Clinical and radiographic examination was carried out to assess the implants success. The periapical radiograph was carried out to assess marginal bone loss around the implants at 3 and 6 months interval.

Result: Two implants failed to osseointegrate according to success criteria in study group, with success rate of the immediately placed implant into extraction socket with peri-apical lesion was (92%). while in the control group all implants were osseointegrated with success rate of immediate implant was (100%). The study showed nonsignificant relation of age, gender, implant length and width with the success rate.

Conclusion: Immediate implant placement into fresh extraction socket with periapical lesion shows success rate which can be considered as a viable and safe procedure as compared with immediate placement of implant into fresh extraction socket without periapical lesion.

Correlation between Chronological and Dental Ages in a Sample of Kurdish Subjects Aged (9-15) Years Old in Erbil City

Name: Mahmoud Kanan Mohsin

Degree: Master.

Specialty: Orthodontics

Date of the Debate: 30-4-2015

Supervisor: Lecture. Bayan Abdulla Hassan

Abstract

Dental maturation is widely used to assess maturity and to predict age. Age estimation plays a great role in clinical dentistry, especially in orthodontics, Pedodontics and forensic dentistry, such information aid in diagnosis and treatment planning. There are several methods that are used to predict the age and assess maturation. Demirjian method is one of commonly used method which was described in 1973 by Demirjian *et al.*, as based on French-Canadian children. The aim of this study was to find out the applicability of Demirjian's method for dental age estimation for Kurdish subjects in Erbil City, 9-15 years of age.

Orthopantomograms were taken for 125 (65 male, 60 female) Kurdish subjects in Erbil City, (9-15) years of age, to assess dental age by using Demirjian method. Dental age was compared to chronological age by using a paired t-test.

Results showed a strong linear correlation between dental and chronological ages for both boys and girls ($r = 0.845, 0.893$) respectively. The mean difference between the chronological and dental ages showed overestimation of 0.18 and 0.56 years for boys and girls respectively.

Demirjian's method of dental age estimation showed accuracy in most age groups (except in 9 and 12 age groups in girls) in Kurdish subject in Erbil City.

Evaluation of Shear Bond Strength and Microleakage of Different Ceramic Veneer Preparations (In Vitro Study)

Name: Karwan Rashid Saeed

Degree: master.

Specialty: Conservative Dentistry

Date of the debate: 15-4-2015

Supervisor: Assist Prof. Raid Fahim Salman

Abstract

The aim of this study was firstly; to measure the shear bond strength of the interface between the ceramic veneer and tooth structure by using two different surface treatments for the ceramic veneer. Secondly; to compare the leakage at that interface cervically and incisally at two different tooth preparation techniques; no preparation and minimally invasive preparation.

A total of 56 extracted premolars with comparable coronal dimensions were selected. The teeth were divided randomly into two main groups; group 1 (minimal-preparation group): the buccal surface was prepared 0.3mm, while group 2 (no-preparation group): the buccal surface was not prepared. Each group was further divided into two subgroups of 14 samples. Group A: Porcelain veneer of 5x4x1 mm in dimensions was surface treated with hydrofluoric acid (HF). Group B: The veneer was surface treated with sandblasting (SB). Shear bond strength test was performed in a universal testing machine at 0.5 mm/min until bonding failure. A 2% methylene blue dye was used to evaluate the microleakage at the tooth/composite /veneer interfaces.

For shear bond strength results; no statistical significant differences were found between prepared and non prepared groups at $p \geq 0.05$, however, significant difference was found between HF and SB surface treatment at $p < 0.05$. For the microleakage; no significant differences were found between prepared and non prepared groups and significant to highly significant difference between HF and SB surface treatment with in favor of HF in both SBS and leakage studies.

Under the conditions of this study; the non preparation technique was comparable conservative alternative solution for ceramic veneer restorations with higher bonding values by using hydrofluoric acid for the surfactreatment.

Evaluation of the Effect of Different Light Curing Systems on Depth of Cure, Degree of Conversion and Hardness of Two Types Resin Based Composite

Name: Ganjo Ghawtha Khdir

Degree: master.

Specialty: Conservative Dentistry

Date of the debate: 20-4-2015

Supervisor: Assist Prof. Dara H. Saeed

Abstract

Aims of this study were to evaluate the depth of cure, surface hardness and degree of conversion, of two types resin based composite (resin based composite Increment) and (resin based composite bulkfill) by three different light curing system. Quartz tungsten halogen , Light emitting diode and Plasma arc .

A total 126 sample for the three tests were selected based on the three main groups (G1 . G2 .G3), For the group 1 of the depth of cure which are 42 sample 21 resin based composite bulk fill and 21 resin based composite increment and each subgroup are cured by different light curing system which were (QTH 7 sample composite bulkfill , 7 sample composite increment) , (LED 7 sample bulkfill , 7 sample increment) and (PAC 7 sample bulkfill , 7 sample increment)

For the Depth of cure stainless steel mold fabricated 9mm in length 4 mm in diameter, depth of cure measured by scraping technique .

For the hardness, stainless steel metal mold fabricated according American Society for Testing and Materials and hardness measured by Shore D hardness tester . For the degree of conversion measured by FTIR Fourier transform infrared spectroscopy for the determination of conversion LED showed highly significant difference than the QTH and PAC light curing system which was highly significant, for the hardness show LED highly significant than the QTH and PAC, while for the degree of conversion show no significant difference between the QTH and PAC and significant difference between the LED and QTH and PAC and LED.

Under this condition of the study there was a difference in the depth of cure and hardness and degree of conversion of composite resin effected by the light source and type of composite .

Effect of Oral Health Educational Tools on Oral Health Status among Secondary School Students Sample in Erbil City.

Name: Mohammed Nabil Ahmed

Degree: Master

Specialty: Dental Public Health

Date of the debate: 1/10/2015

Supervisor: Lecturer. Sazan Sherdil Saleem

Abstract

Oral health is an integral part of overall health status as well as the oral diseases are the most prevalent of all health problems, as efforts continue to improve the health of all citizens, oral health could not be overlooked, it is not possible to be healthy without oral health. The present study consists of two parts. First part was to compute among different educational ways and the effect of education on the oral health care. A total of 300 secondary school students aged between thirteen to fifteen years old were selected. The students were divided into two main groups each with 150 students; group one (male), while group two (female). Then each of these main groups divided into three groups: group I (control group), group II (students subjected for lecture only), group III (students subjected for lecture and visual aid posters, and demonstration). The student's plaque, gingival and calculus indices were checked before educational intervention then the students re-examined after one month from the intervention to see the effect of difference in ways of education. In second part of the study we prepared a questionnaire of twenty four questions as a shape of personal interview about Knowledge attitude and behavior, for one hundred fifty students. On comparison of the three groups, highest improvement was seen in group III, followed by group II and group I. A reason for lack of significant improvement of oral hygiene in some indices in group II may be that the students did not put into practice what they had learnt through health education. It is believed that the reduction in indices scores and improvement of oral hygiene seen in the test groups compared to control group was most likely due to the information students received at the educational session and that this information females had showed better improvement in all indices mean value than males in the third group with a difference significant in plaque index (PI) and gingival index (GI) and not significant in the calculus index (CI). The present study concluded that the mean knowledge scores of students improved one month after provision of health education. The mean indices scores of students decreased in the test group after health education.

