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Abstracts

Oral Preventive Intervention in Children with Acute Lymphoblastic Leukaemia

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SUMMARY

Saliva is crucial for the maintenance and function of all tissues in the mouth. Any situation that disturbs its secretion or alters its quality may have negative consequences in the mouth and may result in oral complications. On the other hand, the oral mucosa has a high replication rate and is susceptible to infections by agents used for chemotherapy. Dental caries, gingivitis and periodontal diseases have multifactorial aetiology, but salivary factors play an important role in their development.

Chemotherapy affects the quality and quantity of saliva. Therefore patients with leukaemia are at high risk to develop dental caries and oral complications. The untreated oral diseases affect general health and quality of life, cause discomfort and pain, increase time and cost of hospitalization, and sometimes threaten for the individual's life.

The implementation of an oral preventive regime before the immunosuppression targets to reduce the risk of morbidity, maintain oral health during aggressive chemotherapy, and ensure quality of life. The health education aims to increase awareness on oral health issues. The dietary habits must be changed and adapted to the patient's needs and the oral hygiene has to be implemented according to the haematological parameters. The aggressive polices with fluoride and saliva stimulation help to maintain oral health during chemotherapy.

Key Words: Leukaemia; Oral Health; Prevention

Serum IgG Subclasses in Patients with Oral Lichen Planus

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SUMMARY

Objective: The purpose of the study was to determine the levels of IgG subclasses (IgG₂ and IgG₄) in patients with oral lichen planus (OLP).

Subjects and methods: 17 patients with reticular, 26 patients with erosive form of OLP, and 2 respective groups with sex and age matched healthy controls, were used in this study. Serum levels of IgG₂ and IgG₄ were estimated by the ELISA method.

Results: Mean serum IgG₂ level (2.5±0.2 mg/ml) in patients with reticular form of OLP was lower but not statistically significant compared with that of controls (3.9±3.4 mg/ml) (P=0.67). No significant differences were also noted between patients with erosive OLP and controls mean values of IgG₂ (2.4±0.1 and 3.9±3.4 mg/ml, respectively) (p=0.66). IgG₄ mean value in patients with reticular form of OLP was found to be higher but not statistically significant compared with the control group (1.3±0.2 and 0.7±0.9 mg/ml, respectively) (p=0.55). No significant differences were also noted between patients with erosive OLP and controls mean values of IgG₄ (1.2±0.3 and 0.7±0.9 mg/ml respectively).

Conclusions: The above findings suggest that IgG₂ and IgG₄ antibodies do not play an important role in the etiopathogenesis of OLP. Whether humoral immunity is involved in OLP remains to be elucidated.

Key Words: IgG Subclasses; Serum; Oral Lichen Planus

Polymorphisms of Vitamin D Receptor (VDR), Interleukin-1A and -1B Genes in a Greek Population

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SUMMARY

The purpose of the present study was to estimate the prevalence of the polymorphisms of IL-1A, IL-1B and VDR genes, alone or in combination, in a Greek population of unknown periodontal status, and to compare this prevalence with the one from a group of patients with chronic periodontitis. 43 healthy subjects of unknown periodontal status and 45 patients with chronic adult periodontitis were genotyped using a polymerase chain reaction (PCR) based method, and primers described in the literature. Data were analyzed using the Fisher's exact test and setting statistical significance at the 95% level.

No differences were observed in any of the parameters tested between the 2 groups. Given the high prevalence of these polymorphisms in the general population observed in the present study, our results do not support a possible predictive value of the presence of allele *t* of the VDR gene, or allele 2 of the IL-1A and IL-1B genes alone, or in combination, for discrimination of chronic periodontitis.

Key Words: Gene Polymorphisms; Chronic Periodontitis

Flexural Modulus and Polymerization Shrinkage of Class V Composite Resin Restorations

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SUMMARY

The purpose of this study was to determine the flexural modulus (FM) and polymerization shrinkage (PS) of Class V restoratives in comparison to a hybrid composite. A flowable composite (Filtek Flow), a compomer (F2000), an ion-releasing composite (Ariston AT), a micro-filled composite (Filtek A110) and a hybrid composite (Filtek Z-250) were used in the study. FM data were determined with a universal-testing machine. The apparatus of Watts and Cash tested the PS. Statistical analyses were performed with 1-way Anova and Post hoc Bonferroni test.

The mean values and standard deviations of FM were 5.4 ± 0.9 GPa, 8.7 ± 0.5 GPa, 14.6 ± 1 GPa, 13 ± 0.5 GPa and 5.4 ± 0.5 GPa for Filtek Flow, Ariston AT, F2000, Filtek Z250 and Filtek A110, respectively. The mean values and standard deviations of PS were 3.5 ± 0.1 %, 2.3 ± 0.1 %, 2.2 ± 0.1 %, 1.8 ± 0.1 % and 1.7 ± 0.1 % for Filtek Flow, Ariston AT, F2000, Filtek Z250 and Filtek A110, respectively. It is concluded that Filtek A110 and Ariston AT are suitable materials for class V restorations in terms of FM and PS.

Key Words: Composite; Flexural Modulus; Polymerization Shrinkage

The Accuracy of Composite Resin Provisional Crowns

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SUMMARY

The primary objective of the provisional crown is to maintain good gingival health prior to placement of the final restoration. The purpose of this study was to compare the marginal accuracy of Bis-GMA composite provisional crowns. 36 acrylic resin crowns were made and fitted on artificial molar dies with cement. All restorations were applied an axial load of 5 kg in a standardized manner. Specimens were sectioned in the vestibulo-lingual direction and measured with a profile microscope.

There were statistically significant differences between relining + venting hole groups and relining and control groups ($p < 0.05$). Relining + venting-hole group revealed for lesser cement thickness than relining and control groups.

Key Words: Bis-Acryl Composite Resin; PMMA Resin; Provisional Crown; Temporary Crown; Marginal Fit

Coronal Seal of Roots Obtruded with Low-Viscosity Resins

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SUMMARY

The aim of the present study was to determine the coronal seal of root canals obtruded with a low-viscosity resin. 14 mandibular first premolars were used, extracted for orthodontic treatment. Chemo-mechanical debridement of the root canals was accomplished using the modified double flare technique. Copious irrigation with 5.25% sodium hypochlorite was done. Canals were divided randomly into 4 groups. In the first group gutta-percha proper for the tooth whose canal length has been determined was chosen. The whole canal has been filled with resin (Degufill SC Microfill, Degussa, Germany) and by placing the chosen gutta-percha. In the second group, 2 apical thirds of the tooth canal length were filled with gutta-percha and 1 third of the coronal part with adhesive. In the third group, the canals have completely been filled with gutta-percha. In the fourth group, the canals have completely been filled with resin. Then, scratches have been prepared so that all of the teeth's root lengths could be divided into 5 equal pieces. All surfaces of the teeth were covered twice as 2 layers with nail polish. ¹³¹I radioisotope has been 50% diluted with serum physiologic. At the entrance of all cavities 2 drops of this solution have been dropped. Cavities have been covered with composite material and kept waiting for 72 hours in a vertical position. At the end of the period, canal length has been divided into 5 pieces. The radioisotope counting of all samples has also been determined by using gamma spectrometer system on the same day. Obtained values have been statistically evaluated by using a variance analysis method.

Statistical analysis showed that there were significant differences in leakage between groups compared. The group in which the whole of the root canal has been filled with gutta-percha showed a considerably worse seal than the others. There were significant differences between the groups in which resin has been used and the one each has been filled with gutta-percha. Adhesive resin reduced the coronal microleakage in a considerable amount through penetrating into the dentine properly.

Key Words: Root Canal Treatment; Coronal Microleakage; Low Viscosity Resin;
¹³¹I Radioisotope

The Influence of Restorative Materials on the Microorganisms in Carious Dentin

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SUMMARY

Fluoride releasing materials have bactericide effect *in vitro*, which could be a positive knowledge for the contemporary dental science aiming to preserve the tooth tissue during dental treatment. The aim of this clinical study was to investigate *in vivo* the influence of the glass ionomer cement (GIC) over the bacterial content in the carious dentin that remains under restoration, compared with that of the amalgam.

40 pairs of molar teeth from 20 patients aged 18-25 were selected for this study. Through clinical and radiographic examination occlusal caries reaching in depth the surface under the enamel-dentin border was diagnosed in all the teeth. The samples were taken in aseptic conditions. The enamel was displaced using diamond burs; after that the carious material was taken by using of steel bur or excavator, which was subsequently placed on blood agar in order to isolate the aerobic bacteria and on Schaedler's blood agar in order to isolate the anaerobic bacteria serving for semi-quantitative microbiological research. This procedure was performed on both chosen molar teeth, and after that, without further displacement of the caries, one of the teeth was closed with GIC (Chemfil, Detry Dentsply), and the other with amalgam (KERR). After 2 months, the samples were taken again in the similar way, and after complete displace of the carious dentin, the teeth were permanently restored.

The microbiological findings after the period of 2 months were positive in both examined groups. It was noticed that the bacterial findings for the examples restored with GIC decreases comparing to those restored with amalgam.

Key Words: Antibacterial Effect; Carious Dentine; Restorative Materials

Colour Stability of Denture Base Materials after Soaked in Different Denture Cleansers and a Mouthwash

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SUMMARY

Purpose: The aim of this study was to evaluate the effects of disinfectants on the colour stability of 3 different denture base materials.

Material and Methods: In this study 2 heat-polymerized resins (Impact, Meliodent) and 1 auto-polymerizing denture base resin (Meliodent) were investigated after treatment with 6 different disinfecting agents (Corega, Efferdent, Efferdent plus, Janina, Polident, Steradent). The specimens were exposed to disinfecting agents for 1, 7, 14, 21 and 28 days. The treatment results were investigated with the use of a spectrophotometer. Colour stability was quantitatively measured, and colour differences (ΔE^*) were calculated.

Results: After 28 days, Meliodent was found to have the best colour stability ($\Delta E^* = 1.12$). The greatest colour change was noted for Impact ($\Delta E^* = 2.4$).

Conclusions: All materials tested showed clinically acceptable colour changes after 28 days of exposure to the disinfectants tested.

Key Words: Colour Stability; Denture Base Resin; Disinfectant

Effect of Hydrogen Peroxide on Biomechanical Properties after Intracoronaral Bleaching

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SUMMARY

The effect of different hydrogen peroxide concentrations in combination with sodium perborate trihydrate for intracoronaral bleaching of the endodontically treated human teeth, bleached by using walking bleach technique, was evaluated. 30 freshly extracted human mandibular premolar teeth with intact crowns were used. Standardized conventional root canal treatment was performed on all of the teeth using laterally condensed gutta-percha and the teeth were prepared for the intracoronaral bleaching. Dimensions of the teeth were measured to ensure the standardization of the groups, and then the teeth were distributed into 3 groups. Teeth in the group 1 were bleached with a paste of sodium perborate and 30% H₂O₂. Teeth in the group 2 were bleached with a paste of sodium perborate and 10% H₂O₂. Only distilled water was applied to the third group, serving as the control group. After the intracoronaral bleaching procedures, access cavities were filled with composite resin and the teeth were embedded into acrylic resin blocks. The specimens were then mounted in a Universal Testing Machine and load was applied at a constant crosshead speed of 1.0 mm/ min until fracture occurred.

There wasn't any statistically significant difference for the fracture resistance between the groups ($p > 0.05$).

Key Words: Intracoronaral Bleaching; Fracture Resistance

Comparison of 3 Methods of Peripheral Neurectomies

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SUMMARY

The following experimental study was designed to compare, by histological findings of the electron microscope, the changes of the neural axon and sheaths after surgical neurectomy, intraneural alcohol injection and direct cryo-destruction. 18 adult rats were divided into 3 groups of 6 animals each, and subjected to neurectomy of the sciatic nerve (group A), intraneural injection of alcohol 70% (group B), and direct cryo-destruction by application of liquid nitrogen for 10 seconds on the sciatic nerve (group C). Conventional and electron microscopic examination after 1 and 2 months were carried out in all groups.

Irregular regeneration of axons without sheath coverage were observed in group A, but in groups B and C regeneration of axons was guided by the remaining myelin sheaths. The regeneration process was more complete in group C (cryo-destruction group) than in group B, and this may be attributed to the retention of the nerve structure. This finding supports the clinical observation that in patients suffering from trigeminal neuralgia and submitted to functional neurectomies, especially cryo-therapy, the recovery of normal sensation is expected earlier.

Key Words: Trigeminal Neuralgia; Cryosurgery; Myelin

Evaluation the Prescribing of Antibiotics Due to Oro dental Problems in Children

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SUMMARY

The aim of this study was to evaluate whether dentists prescribe antibiotics in indicated cases and which types of antibiotics they prefer in a group of children aged between 2 and 13 (mean age 6.65). 100 children (50 female and 50 male) participated in the study. Children were visiting Ege University, Faculty of Dentistry, Department of Paediatric Dentistry with their parents because of several dental problems. A questionnaire was devised to examine general dental practitioner's prescribing patterns and to determine the primary diagnosis of the child illness when applied to dentist.

In 4 of the 100 cases where the antibiotics were used, antibiotic therapy was found unnecessary and dental practitioners prescribed antibiotics to children who have dentin caries with pain or chronic apical abscess without any symptoms. The most frequently prescribed antibiotic groups were amoxicillin, amoxicillin + sulbactam or clavulonic acid and cephalosporins, respectively. It is concluded that dentists, generally, prescribe antibiotics in children in non-indicated cases and this situation gives a big hazard to human welfare, as well as to the economy. Therefore, dentists should think twice when prescribing antibiotics to their patients, particularly to children.

Key Words: Dental Grievances; Antibiotic Use; Children

Malignant Lymphoma in the Oral Cavity: Report of 11 Cases and Review of the Literature

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SUMMARY

Malignant lymphomas often show up in an extra lymph node fashion, especially in the head and neck. Locations in the oral cavity are much less frequent, particularly when they are the only locations. This, in turn, can lead to a prolonged diagnosis and even to incorrect treatment. In this paper we present 11 cases of malignant lymphomas that were sent to us for study. These cases had initial locations outside of lymph nodes that were not previously diagnosed. Moreover, some of these had only this type of manifestation. We present them, as well as complementary studies, which were used for early diagnosis, along with the corresponding clinical images and a review of other cases from the pertinent literature.

Key Words: Malignant Lymphoma; Oral Cavity

Odontogenic Nasopharyngeal Infections: Report of 2 Cases

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SUMMARY

The nasopharyngeal abscess is isolated at the upper part of the lateral pharyngeal and retropharyngeal space. Although abscesses in this area are common in children and may result from nasal and pharyngeal infections, they are considered as very uncommon diseases in adults. The purpose of this paper is to describe the clinical features and the treatment of 2 very unusual cases of odontogenic nasopharyngeal abscesses. The patients had experienced a long history of mild odontogenic infection and at their admission they demonstrated moderate trismus, displacement of the uvula and unilateral bulging of the soft palate, mild ipsilateral faucial swelling and nasal obstruction. All cases were evaluated by CT scan.

Key Words: Infection, odontogenic, nasopharyngeal; Deep Neck Abscess

Achalasia and Dental Caries: A Case Report

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SUMMARY

A person who has a low caries activity can have a high caries activity in life span because of systemic disorder. In the presented case, a 12 years old boy, who was diagnosed as achalasia (Gastrointestinal Disorder) came to our clinic for the dental treatment. After inspection we reported high caries activity and a lot of tooth tissue loss, which did not correspond to patient's age. Because he was vomiting short after his meals, without digesting the food and cleaning his mouth, the sticky food would remain a long time over the teeth, causing a good environment for caries development. After endodontic treatment we restored the teeth by composite resin. As the restorations did not satisfy us from the aesthetic and functional point, we decided to restore teeth by prosthetic treatment.

Key Words: Dental Caries; Achalasia; Preventive Measures