IAPD
International Association of Paediatric Dentistry

IAPD
Regional Meeting
Istanbul, Turkey

1977
Turkish Society of Paediatric Dentistry

International Association of Paediatric Dentistry Regional Meeting

&

25th Congress of Turkish Society of Paediatric Dentistry

October 12-14, 2018
SwissÔtel The Bosphorus Istanbul, TURKEY

"You Smile We Smile"



ABSTRACT BOOK

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TURKISH SOCIETY OF PAEDIATRIC DENTISTRY PRESIDENT'S WELCOME



Dear Colleagues and Friends,

It is a great pleasure and honor for us to invite you to the Joint Meeting of International Association of Paediatric Dentistry (IAPD) Regional Meeting and 25th Congress of Turkish Society of Paediatric Dentistry which will be held in Istanbul, Turkey between October 12 and 14, 2018.

The main theme of the Congress is entitled as "You Smile We Smile". The congress scientific programme will cover a wide variety of subjects in the field of Pediatric Dentistry including many recent advances and comprehensive overviews and distinguished speakers will share their valuable knowledge and experiences.

The prominent international and national invited speakers in the Scientific Programme of this meeting and the Social Programme, will attract the attention of a large number of our colleagues and make this meeting very memorable. Colleagues and friends from all around the world are all welcomed.

The congress will be held in the Swissotel Bosphorus which is located in the center of Istanbul.

As the host of the congress, the beautiful city of Istanbul is one of the truly romantic cities of the world, with its land spanning both Asia and Europe and divided by the scenic waters of the Bosphorus. Istanbul has a very rich social and cultural heritage for being the capital of Roman, Byzantine and Ottoman empires and what's more Istanbul offers visitors all the sophisticated delights of a big modern city; it is all there.

We will be much pleased to offer you the traditional Turkish hospitality and we look forward to welcoming you.

It will definitely be an unforgettable experience and we are inviting you to be a part of this meeting.

Let your smile shine in İstanbul…

Prof. Dr. Figen SEYMEN
President of Turkish Society of Paediatric Dentistry

COMMITTEES

ORGANIZING COMMITTEE

Figen Seymen, Chair, President of Turkish Society of Pediatric Dentistry
Senem Selvi Kuvvetli, Secretary General
Elif Bahar Tuna İnce, Treasurer
Serap Akyüz
Atilla Stephan Ataç
Ali Rıza Alpöz
Cem Doğan
Salih Doğan

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Serap Akyüz, Chairperson
Betül Kargül
Günseli Güven Polat
Elif Bahar Tuna İnce
Şule Bayrak
Tamer Tüzüner

INTERNATIONAL SCIENTIFIC COMMITTEE

Anna Maria Vierrou, Greece
Gideon Holan, Israel
Karin Weerheijm, Holland
Marcio Vivan de Cardoso, Belgium
Zikra AlKhayal, Saudi Arabia

Thursday, October 11, 2018

	Pre-Congress
08:30 - 17:00	**Precongress Course I** **Statistical Data Analysis with IBM SPSS** Naci Murat, Turkey
09:30 - 12:30	**Precongress Course II** **Create your own composite masterpieces** Serhat Köken, Turkey

Friday, October 12, 2018

07:00 - 16:30	Registration
09:00 - 09:30	Opening Ceremony
09:30 - 10:30 Fuji Ballroom I	**Keynote Lecture** Chairpersons: Figen Seymen (Turkey), Gideon Holan (Israel) **Behavior guidance of the paediatric patient** Anna Maria Vierrou, Greece
10:30 - 11:00	Coffee Break
11:00 - 12:00 Fuji Ballroom I	**Keynote Lecture** Chairpersons: Anna Maria Vierrou(Greece), Oya Aktören (Turkey) **MIH and HSPM: clinical implications** Karin Weerheijm, Holland
12:00 - 13:00	Lunch
13:00 - 14:00 Fuji Ballroom I	**Keynote Lecture** Chairpersons: Karin Weerheijm (Holland), Ali Rıza Alpöz (Turkey) **Early childhood caries** Anna Maria Vierrou, Greece
14:00 - 15:00 Fuji Ballroom I	**Invited Lecture** Chairpersons: Rodica Luca (Romania), Zeynep Aytepe (Turkey) **To save or to extract primary teeth in severe ECC? Overcoming the challenges.** Ahmed Fawzy, Egypt
15:00 - 16:00 Fuji Ballroom I	**Oral Presentation Session 1: Dental Trauma & Endodontics** Chairperson: Elif Sungurtekin Ekçi (Turkey) **OP 001 Dental trauma knowledge of emergency medical doctors: a survey study** Özge Gögce, Seçil Çalışkan, Ebru Delikan, Sena Kızılaslan **OP 002 The level of knowledge about traumatic dental injury in Turkish school teachers** Hüsniye Gümüş, Ebru Şenyiğit, Eda Büyüknalbant **OP 003 Knowledge level of teachers about dental trauma in children** Burcu Ece Koru, Didem Oner Ozdas **OP 004 Effects of root canal irrigants on the color stability, solubility and surface characteristics of calciumsilicate based biomaterials** Selen Kucukkaya Eren, Sevinc Askerbeyli Örs, Duygu Karasan, Hacer Aksel, Şenay Canay **OP 005 Evaluation of root canal treatment success in children** Ülkü Şermet Elbay, Seda Aydemir, Gül Uçar, Mesut Elbay **OP 006 Influence of different activation systems on apical extrusion of irrigant in open apex** Hacer Aksel, Selen Küçükkaya Eren, Sevinc Askerbeyli Örs, Şükrü Öztürk, Ahmet Serper

Friday, October 12, 2018

15:00 - 16:00 **Bern Hall**	**Oral Presentation Session 2: Dental Trauma & Endodontics** Chairperson: Buğra Özen (Turkey) **OP 007 Traumatic dental injuries of primary dentition in a university hospital** Yeliz Guven **OP 008 Assessment of dentists' knowledge about emergency management of dental avulsions injuries** Gülsüm Duruk, Zehra Beyza Erel **OP 009 Effect of three different rotary instrumentation systems on the amount of apically extruded bacteria; an in vitro study** Irem Bag, Safa Kurnaz, Aysel Gülbandılar **OP 010 Comparison of apically extruded debris, transportation, and centring ratio associated with different nickel–titanium systems** Ahmet Keles, Emel Uzunoglu Özyürek, Serdar Uysal, Mehmet Ozgur Uyanik, Emre Nagas **OP 011 Regenerative endodontic treatment for necrotic immature permanent teeth: report of 8 cases** Zeynep Aslı Güçlü, Mehmet Yakup Sarı **OP 012 Successful revascularization treatments, two case reports with 19 months' follow-up** Özgür Doğan, Edanur Gökçe Meydan, Ismail Haktan Çelik
16:00 - 16:30	Coffee Break and **Poster Presentation 1: PP 001→PP 024** Chairperson: Figen Eren Giray (Turkey)
16:30 - 18:00 **Fuji Ballroom I**	**Oral Presentation Session 3: Dental Materials, Cariology & Preventive Dentistry** Chairperson: Arzu Pınar Erdem (Turkey) **OP 013 Fiberglass crowns - the new standard in dental crowns** Andy Mancini, Bourane Ambriss **OP 014 Comparison of microleakage and root canal dentin adaptation after single visit apexification treatment with retrograde filling materials in single-rooted young permanent teeth** Müge Daloğlu, K. Görkem Ulu Güzel **OP 015 Evaluation the effects of blood contamination and haemostatic agents on bond strength to the dentin of the primary teeth** Yıldırım Erdoğan, Hüseyin Karayılmaz, Mehmet Ünal, Özge Güngör, Zahit Çiftçi **OP 016 In vitro examination of nanohardness and cytotoxicity of different glass ionomer restorative materials in dentistry** Alem Coşgun, Behiye Bolgül, Nizami Duran **OP 017 Effect of different surface treatments and cements on shear bond strength of zirconia ceramic to primary tooth dentine** Nuray Tuloglu, Canan Gıcır Akay, Sule Bayrak, Sena Kızılarslan **OP 018 Socio-behavioural factors on severe early childhood caries in Istanbul** Gülcan Ünsal, Yeliz Güven, Oya Aktören **OP 019 Effect of Er,Cr:YSGG laser on the prevention of primary and permanent teeth enamel demineralization: an in vitro study** Nur Burcu Ulusoy, Aylin Akbay Oba, Zafer Cavit Cehreli **OP 021 Factors associated with caries experience in children in the primary and mixed dentition** Elif Ece Kalaoğlu, Belgin Yazıcı, Ali Menteş

Friday, October 12, 2018

16:30 - 18:00 **Bern Hall**	**Oral Presentation Session 4: Dental Materials, Cariology & Preventive Dentistry** Chairperson: Şule Çıldır (Turkey) **OP 022 Effects of different pediatric drugs and toothbrushing on color change of restorative materials used in pediatric dentistry** Sinem Yıldırım, Yeşim Şeşen Uslu **OP 023 Antibacterial properties of multi-walled carbon nanotube reinforced glass ionomer cements** Idil Akmeriç, Nursen Topçuoğlu, Elif Sungurtekin Ekçi **OP 024 Color stability of resin infiltration system after immersion tea or cola** Firdevs Kahvecioğlu, Nevin Çobanoğlu, Hayriye Esra Ülker **OP 025 Comparative evaluation of four endodontic biomaterials and calcium hydroxide regarding their effect on fracture resistance of simulated immature teeth** Aslı Sogukpinar, Volkan Arikan **OP 026 Antibacterial effects of novel artificial saliva formulations containing lysozyme or lactoferrin on streptococcus mutans: An in vitro study** Kubra Tonguc Altin, Nursen Topcuoglu, Gülengül Duman, Melis Unsal, Ayse Celik, Senem Selvi Kuvvetli, Guven Kulekci **OP 027 Remineralizing efficacy of the self-assembling peptide P11-4 on artificial caries lesions: A quantitative assessment using µCT** Nilüfer Üstün, Oya Aktören **OP 028 Influence of casein phosphopeptide amorphous calcium phosphate and amelogenin on enamel remineralization** Gül Keskin, Çiğdem Güler, Sibel Yıldırım **OP 029 Effectiveness of two different toothbrushes used by children for plaque removal on partially erupted permanent first molar teeth** Betul Memis Ozgul, Didem Sakaryali, G. Burcu Senirkentli, R. Ebru Tirali, S. Burcak Cehreli
18:30 - 20:00	Welcome Reception



Saturday, October 13, 2018

09:00 - 10:00 Fuji Ballroom I	**Keynote Lecture** Chairpersons: Gamze Aren (Turkey), Arina Vinereanu (Romania) **Psychosocial and clinical impacts following traumatic loss of primary incisors** Gideon Holan, Israel
10:00 - 11:00 Fuji Ballroom I	**Keynote Lecture** Chairpersons: Betül Kargül (Turkey), Günseli Güven Polat (Turkey) **Pulpal aspects of TDI in primary incisors** Gideon Holan, Israel
11:00 - 11:30	Coffee Break
11:30 - 12:30 Fuji Ballroom I	**Invited Lecture** Chairpersons: Elif Sepet (Turkey), Ahmet Fawzy (Egypt) **Traumatic dental injuries in children with special health care needs: an overview** Ola Al-Batayneh, Jordan
12:30 - 13:30	Lunch
13:30 - 14:30 Fuji Ballroom I	**Invited Lecture** Chairpersons: Senem Selvi Kuvvetli (Turkey), Riad Bacho (Lebanon) **Restorative alternatives in modern dentistry** Marcio Vivan Cardoso, Brazil
14:30 - 15:30 Fuji Ballroom I	**Invited Lecture** Chairpersons: Ola Al-Batayneh (Jordan), Tuğba Bezgin (Turkey) **Create your own composite masterpieces** Serhat Köken, Turkey
15:30 - 16:30 Fuji Ballroom I	**Oral Presentation Session 5: Epidemiology, Growth & Development** Chairperson: Nuray Tüloğlu (Turkey) **OP 030 Cone beam computed tomography (CBCT) in Pediatric Dentistry** Riad Bacho, Ibrahim Nasseh **OP 031 Creation of a new schema for dental development of Turkish children aged 11 years** Derya Tabakcilar, Elif Sungurtekin Ekci, Didem Ozdemir Ozenen **OP 032 Clinical association between malocclusions and bad oral habits in monozygotic and dizygotic twin pairs** Mine Koruyucu, Sinem Birant, Figen Seymen **OP 033 Dental caries status and associated risk factors among preschool children in Edirne, Turkey** Şirin Güner Onur, Ilknur Taşdemir, Sinem Batur, Betül Kargül, Nejdet Süt **OP 034 A comparison of dental maturation in twins** Yelda Kasımoğlu, Sinem Birant, Mine Koruyucu, Koray Gençay,Figen Seymen **OP 035 Radiographic examination of factors affecting spontaneous space closure after first permanent molar extraction: A pilot study** Pinar Demir, Osman Saraç

Saturday, October 13, 2018

15:30 - 16:30 **Bern Hall**	**Oral Presentation Session 6: Syndromes & Genetics, Oral Medicine & Pathology** Chairperson: Didem Özdemir Özenen (Turkey) **OP 036 Assessment of dental arch parameters in Turkish twins** Sinem Birant, Mine Koruyucu, Yelda Kasimoglu, Nural Bekiroglu, Figen Seymen **OP 037 Clinical assessment between bad oral habits and dental caries-periodontal parameters between monozygotic and dizygotic twins** Ceren Ilisulu, Sinem Birant, Mine Koruyucu, Elif Bahar Tuna Ince, Figen Seymen **OP 038 Quantitative determination of Helicobacter pylori genes in the oral cavity of children by real-time polymerase chain reaction and comparison of oral findings** Damla Aksit Bicak, Serap Akyuz **OP 039 Odontogenic Tumors in Children: Report of Two Cases** Aslı Evren Delilbaşı, Beyza Ballı Akgöl **OP 040 Treatment of odontojenic cysts with marsupialization method in children - case reports series** Husniye Gumus, Salih Dogan, Gulce Cosar **OP 041 Different Marsupialization Preferences: Case Series** Tuğba Yiğit, Umut Yiğit
16:30 - 17:00	Coffee Break and **Poster Presentation 2: PP 025→PP 051** Chairperson: Banu İlhan Öter (Turkey)
17:00 - 18:30 **Fuji Ballroom I**	**Oral Presentation Session 7: Dental Materials, Cariology & Preventive Dentistry** Chairperson: Didem Öner Özdaş (Turkey) **OP 042 Evaluation of fluoride release of a space maintainer with slow fluoride release in artificial saliva** Ayşe Derya Bayat, Salih Doğan **OP 043 Comparative evaluation of zirconium pediatric crowns and stainless steel crowns applied to primary teeth using finite element stress analysis** Betül Güney Çildan, Onur Gezgin **OP 044 Clinical evaluation of a novel resin modified glass ionomer cement containing bioactive glass** Fatma Demiray, Emre Korkut **OP 045 Effect of surface coating used with various glass ionomer restorative materials on secondary caries formation in-vitro** Didem Ozdemir Ozenen, Avsar Ozturk **OP 046 TheraCal LC®, a calcium silicate-based biomaterial, decreased dental pulp stem cell proliferation in vitro** Buğra Özen, Elif Bahar Tuna Ince, Yusufhan Yazır, Elif Sözen, Hakan Darıcı, Hakkı Sunay, Mine Ergüven **OP 047 Surface properties of multi-walled carbon nanotube reinforced glass ionomer cements** Elif Sungurtekin Ekci, Idil Akmeric **OP 048 Evaluation of oral findings and laboratory tests in renal transplanted children and adolescent patients** Banu Oter **OP 049 Awareness and opinions of family physicians about ECC and preventive practices** Ceylan Çağıl Ertuğrul **OP 050 Relationship between immunological and microbiological structure of saliva according to the caries status in children** Sibel Acar Ezberci, Elif Azarsız

Saturday, October 13, 2018

17:00 - 18:30 **Bern Hall**	**Oral Presentation Session 8: Dental Materials, Cariology & Preventive Dentistry** Chairperson: Ülkü Şermet Elbay (Turkey) **OP 051 Hardness and fluorescence changes of an early caries lesion by a herbal toothpast** Dilek Tağtekin, Esma Türkmen, Funda Yanıkoğlu, Gülçin Bilgin Göçmen **OP 053 Efficacy of different remineralizing varnishes on color stability achieved by whitening toothpastes** Zülal Çoban, Melis Bahar Akyildiz, Şeyma Erdoğan, Işıl Sönmez **OP 054 Clinical performance of three different restorative materials in Class II cavities of primary teeth: a retrospective evaluation** Neslihan Özveren, Meltem Tekbaş Atay **OP 055 Effects of materials and surface treatments on the success of conservative approach in permanent teeth** Zulfikar Zahit Ciftci, Yıldırım Erdoğan, Özge Güngör, Mehmet Ünal, Hüseyin Karayılmaz **OP 056 Effect of universal adhesive systems on microhardness of tricalcium silicate-based endodontic cements** Keziban Olcay, Mehmet Burak Güneşer, Asiye Nur Dinçer, Hatice Miray Uyan **OP 057 Evaluation of the relationship between oral health and nutrition problems in children aged 2-5 years** Aybike Şahlanan, Elif N. Özmert, Hande Ünlü, Melek Dilek Turgut, Meryem Uzamış Tekçiçek **OP 058 Shear bond strength of a novel lining material to two different types of restorative materials** Elif Yaman Dosdogru, Gökçen Deniz Bayrak, Senem Selvi Kuvvetli
20:00 - 24:00	Gala Dinner

Sunday, October 14, 2018

09:00 - 10:00 Fuji Ballroom I	**Invited Lecture** Chairpersons: Işıl Sönmez (Turkey), Şule Bayrak (Turkey) **Metabolic bone diseases in children, diagnosis related to oral and dental manifestations** Serap Turan, Turkey - Elif Bahar Tuna Ince, Turkey
10:00 - 11:00 Fuji Ballroom I	**Invited Lecture** Chairpersons: Aslı Topaloğlu Ak (Turkey), Tamer Tüzüner (Turkey) **Childhood Obesity and Diabetes Type I, characteristics of oral health** Damla Gökşen, Turkey - Başak Durmuş, Turkey
11:00 - 11:30	Coffee Break
11:30 - 12:30 Fuji Ballroom I	**Invited Lecture** Chairpersons: Cem Doğan (Turkey), Senem Selvi Kuvvetli (Turkey) **The Challenging Bleeding Disorder: Dental Management** Zikra Al-Khayal, Saudi Arabia
12:30 - 13:30	Lunch
13:30 - 14:30 Fuji Ballroom I	**Invited Lecture** Chairpersons: Elif Bahar Tuna İnce (Turkey), Salih Doğan (Turkey) **The role of Ca/P remineralizing agents in pediatric preventive dentistry** Tatyana Kupets, Russia
14:30 - 15:30 Fuji Ballroom I	**Oral Presentation Session 9: Behavior Management & Other** Chairperson: Başak Durmuş (Turkey) **OP 059 The effects of maternal dental anxiety on child's dental anxiety and dental caries experience: A pilot study** Ipek Arslan **OP 060 The evaluation of a group of children's dental neglect and its relationship with the dental anxiety: a pilot study** Sema Aydınoğlu **OP 061 Evaluation of the effectiveness of audio-visual distraction method in dental anxiety status of 6-9 years old children during primary tooth extraction** Yasemin Sarı, Tamer Tüzüner, Özgül Baygın, Ahmet Ayar **OP 062 A comparison of a needle-free injection system for local anesthesia versus traditional injection method in the pediatric patient** Figen Eren Giray, Sertaç Peker, Betül Kargül **OP 063 Training, opinions, and practices of a group of Turkish paediatric dentists with regard to sedation in dentistry** Ayler Yıldız, Tülin Ileri Keçeli, Hamdi Cem Güngör, Bahar Güçiz Doğan **OP 064 Assessment of knowledge and awareness of parents about bruxism in children** Ebru Delikan, Ayşe Özcan Küçük
14:30 - 15:30 Bern Hall	**Oral Presentation Session 10: Dental Anomalies & Other** Chairperson: Mesut Elbay (Turkey) **OP 065 Prevalence and distribution of non-syndromic dental anomalies: a radiographical study** Pınar Kıymet Karataban, Didem Öner Özdaş, Berk Şengüler **OP 066 Ectopic eruption of first permanent molars: a retrospective study** Canan Özdemir, Sena Kızılaslan, Şule Bayrak, Nuray Tüloğlu, Seçil Çalışkan **OP 067 Predictable approach for impacted maxillary incisors** Dilek Özge Yılmaz, Derya Tabakçılar, Simin Kocaaydın, Abdulkadir Burak Çankaya, Koray Gençay **OP 068 Prevalence, characteristics and complications of mesiodens in a children population from the thrace region of turkey** Ezgi Baltacı, Neslihan Ozveren, Meltem Tekbaş Atay **OP 069 Ectopic eruption of the first permanent molars: prevalence and characteristics** Beyza Ballı Akgöl **OP 070 An in vitro evaluation of the effects of frequently prescribed pediatric drugs on the microhardness of permanent tooth enamel** Nagehan Yılmaz, Ozgul Baygın, Tugba Nigar Cakıroglu, Tamer Tüzüner, Orhan Deger

Sunday, October 14, 2018

15:30 - 16:00	Coffee Break and **Poster Presentation 3: PP 052→PP 074** Chairperson: Beyza Ballı Akgöl (Turkey)
16:00 - 17:00 **Fuji Ballroom I**	**Oral Presentation Session 11: Special Needs Patients & Other** Chairperson: Şirin Güner (Turkey) **OP 071 Special oral health management in babies and children with disabilities** Esra Tunali, Cafer Ataş, Yakup Çağ, Ahmet Lütfullah Orhan, Gülfem Kılıç, Seçil Dağlıoğlu, Mustafa Aydın Belge, Buğra Özen, Mustafa Tunalı **OP 072 Assessment of oral hygiene status and dental caries experience among visually impaired and hearing-impaired children in Malatya** Burçin Acar, Gülsüm Duruk **OP 073 Impact of dental rehabilitation under general anesthesia on oral health-related quality-of-life and dental anxiety in children** Gülsüm Duruk, Raziye Kuru **OP 074 Assessment of validity of demirjian and willems methods for dental age estimation a group of children in the eastern black sea region** Didem Küçükaslan, Çiğdem Güler **OP 075 Examination of the teeth decay and dental age in monozygotic and dizygotic twin pairs** Emine Oruç, Gülsüm Duruk **OP 076 Evaluation of knowledge and attitudes of dentists about child abuse in Turkey: a pilot study** Arzu Pinar Erdem, Kadriye Peker, Elif Pilatin, Mine Koruyucu, Elif Sepet
16:00 - 17:00 **Bern Hall**	**Oral Presentation Session 12: Special Needs Patients & Other** Chairperson: Gülsüm Duruk (Turkey) **OP 077 Evaluation of temporomandibular disorders in children with cardiovascular disease** Ceren Uğurluel, Ülkü Şermet Elbay, Abdülkadir Babaoğlu **OP 078 Investigation of pediatric patients' dental emergency visit reasons** Arzu Pınar Erdem, Nihal Ünal, Dilara Yürekten, Yeliz Güven **OP 079 A prospective observational study on facial cellulitis of odontogenic origin in children** Cihangül Bayhan, Beste Özgür, Kübra Aykaç, Yasemin Özsürekci, Atilla Stephan Ataç, Meryem Tekçiçek, Ateş Kara **OP 080 Assessment of the mobile microbiome in children with congenital heart disease** Sermin Dicle Aksakal, Nursen Topcuoglu, Kulekci Guven, Oya Aktoren **OP 081 Number and cost distribution of dental services provided to children at Inonu university Malatya, Turkey** Gülsüm Duruk **OP 082 Oral dental health findings of children and adolescents with type 1 diabetes mellitus: six mounths follow of results** Burcu Yağmur, Gamze Çelmeli, Zülfikar Zahit Çiftçi, Mesut Parlak, Hüseyin Karayılmaz, Sema Akçurin
17:00 - 17:30	Closing Ceremony

INVITED SPEAKERS' ABSTRACTS



Anna Maria Vierrou

Anna-Maria Vierrou obtained her DMD from the Dental School of Athens University and the Certificate in Paediatric Dentistry from the University of Connecticut Health Center, USA. She holds a PhD from the University of Athens. She also holds the National Board Dental Examination of the American Dental Association Part I and II and the American Boards of Pediatric Dentistry Part I.

Anna Maria has been a member of the Board of the IAPD since 2011 serving as Representative of the Nations (2011-2015), President Elect (2015-2017), Chair of Membership Committee(2011-2013), Chair of the IT Committee (2013-2015), Chair of the Awards Committee (2015-2017), member of the Congress Site Selection and Coordination Committee (2011- today). She is currently President of the IAPD.

Dr Vierrou has been President of the Hellenic Society of Paediatric Dentistry (HSPD) for the period 2012-2015, having been in the Board for more than 15 years. She signed the inauguration act of the European Academy of Paediatric Dentistry (EAPD) in 1990, in Boston, USA and in she has been appointed as Councilor for Greece in 2000-2004, and member of several committees of the Academy.

Dr Vierrou has been appointed as clinical instructor in the Department of Paediatric Dentistry of the University of Athens for ten years. She is the author of several scientific articles published in Greek and international journals and has participated as a speaker moderator and chair in several national and international congresses.

She runs a private practice limited to Paediatric Dentistry in Athens.

Early Childhood Caries

Early childhood caries (ECC) is a severe disease of the primary dentition presenting a unique and intense pattern of decay, which can lead to severe pain, infection and loss of teeth, leading to psychologic implications for the child and his/her family. ECC can also affect the growth and development of the child.

The Paediatric Dentist can treat the disease with comprehensive management that includes preventive and therapeutic approaches, behaviour management, caries risk assessment and proper follow up. Dental restorative procedures can be performed in the dental office or in a hospital setting (operating room) depending on the severity of the case, the age and cooperation of the child. Preventive measures aim to stop the progression of the disease with daily oral hygiene, dietary instructions, topical fluoride and sealant applications. Caries risk assessment will dictate the frequency of follow ups.

In this presentation, the major disciplines of this disease and its treatment will be addressed. In addition, the latest approaches for clinically dealing with this disease will be discussed.

Behavior guidance of the paediatric patient

In order to provide quality dental treatment for children and adolescents, adequate levels of cooperative behavior are needed. Paediatric dentists have been leaders in the medical field in communicating with their young patients. Appropriate guiding of the child's behavior is the result of the paediatric dentist's knowledge and skill in using the

applied communicative behavior guidance techniques, so as to develop a relationship of trust and eventually allay the anxiety of the child.

The dentist should continuously evaluate the patient's response and integrate different approaches, according to the level of communication and cooperation that is being achieved.

In this presentation, the basic communicative management techniques will be discussed and the preconditions that are necessary from the part of the clinician for their successful use, as well as the factors influencing the effectiveness of these techniques . In addition alternative methods based on clinical experiences will be proposed.



Ahmad Fawzy

Dr. Ahmed Fawzy earned his Bachelor of Dental Science degree from Alexandria University, Egypt in 2000. He then completed his residency program in Pediatric dentistry at the faculty of Dentistry, Cairo University 2005 from where he got his Master degree (MSc.) in pediatric dentistry. Later, he earned the Doctorate degree (Ph.D.) in Pediatric Dentistry from SCU, Egypt. He was appointed as a lecturer of Pediatric Dentistry, faculty of Dentistry, BSU, Egypt. Currently, he is working privately as a consultant pediatric dentist and the head of dental department, MAGRABI Hospital, Riyadh, Saudi Arabia.

Dr. Fawzy is a Board member and the elected Secretary General of the Egyptian Society of Pediatric Dentistry and Children with Special Needs (ESPSN).

To save or to extract primary teeth in severe ECC? Overcoming the Challenges

Early childhood caries (ECC) is a common dental problem in preschool children in many countries, and characterized by rapidly progressive decay, and in advanced untreated cases, a severe coronal destruction of the upper primary incisors and molars. To treat such cases, most of the general dentists prefer to extract the involved teeth with a severe destruction of crowns and/or apical pathosis. However, many parents nowadays are demanding for esthetic alternatives for their children and to save these teeth. To save or to extract badly decayed primary anterior teeth is a debatable issue, researches on this topic is surprisingly minimal and restorative management is based mostly on techniques adopted from current literature and the clinical experiences of experts which remain the main source of learning. Restoring those teeth to its previous function and esthetics presents a challenge to the pedodontists. The infected pulp can be treated with various materials which show promising results in treating the pathological conditions. The use of posts as an intra-canal support is advisable in cases with severe coronal destruction. Premade pediatric zirconia crowns were emerged as an excellent esthetic alternative in the last few years and it perceived interests among pedodontists all over the world. The clinical procedures and tips to overcome the challenges in restoring such teeth will be presented in this lecture with clinical cases showing both successes and failures in an interactive way with the audience.



Başak Durmuş

Dr. Basak Durmus, was born in Kayseri in 1980, graduated from the Marmara University, Dentistry Faculty in 2003. She completed her Ph.D in 2010 at the same university in Pediatric Dentistry Department with the thesis entitled' Clinical, Radiological and Histological Evaluation of diode laser, ferric sulphate and formocresol pulpotomies at primary teeth'. She worked as a research assistant between the years 2010-1016, and got the degree Associate professor in 2016. Present interests are mainly focused on cariology, preventive dentistry, pediatric endodontics and special care dentistry. She has many international and national publications and scientific reports and awards from International Association for Dental Traumatology (IADT) ve International Association for Disability and Oral Health (IADH).

Oral health in Childhood Obesity: Assesment of clinical, biochemical and microbiological profile

Obesity is strongly correlated with metabolic syndrome, which is characterized by insulin resistance, glucose intolerance, dyslipidemia, and hypertension. Chronic low-grade inflammation develops in the obese state as a result of a complex interaction between adipocytes and immune cells that infiltrate adipose tissue. The secreted cytokines and adipocytokines are also implicated in risk of oral disease such as dental caries, gingivitis and periodontitis. In this presentation effects of certain clinical parameters and microbiological and inflammatory markers as potential indicators for dental caries and periodontal disease in obese pediatric population will be reviewed.



Damla Gökşen

Prof. Gökşen graduated from Ege University Faculty of Medicine in 1992. She was a fellow of Pediatrics between 1993 and 1998 and finished her Pediatric Endocrinology Fellowship in 2003 in Ege University. She worked as an observer at Yale University for 3 months on insulin pump therapy in 2004. Prof. Gökşen became Ass Professor in 2005 and professor of Pediatrics in 2012.

Prof. Gökşen has published 50 articles in international journals, and 6 book chapters. Her scientific interests are metabolic bone diseases, type 1 diabetes and technologic innovations in diabetes. She is a member of European Society for Pediatric Endocrinology; International Society of Pediatric and Adolescent Diabetes and Turkish Society of Pediatric Endocrinology. She organized international ISPAD congress in 2012 and served as Program Organizing member of ISPAD meeting and National Diabetes meetings. She is the founder of National Diabetes Technology Symposium and Association in Turkey. She is the associate editor of Journal of Clinical Research in Pediatric Endocrinology.

Childhood Obesity and Diabetes Type I, characteristics of oral health

Oral health status must be considered in the care of children with obesity and diabetes mellitus (DM). The health of these patients' mouths may have significant effects on their overall health and evolution of their disease. Periodontal disease (PD) and dental caries, are the two of the most common chronic diseases affecting obesity and DM patients. Obesity plays a role in the development of PD. Obesity is associated with gingivitis and its progression to PD. Patients with type 1 diabetes mellitus (T1DM) present an increased prevalence of gingivitis and PD. In diabetics PD develops at a younger age than in the healthy population, and worsens with the duration of the disease. The progression to PD has been correlated with the metabolic control of the disease as it is more prevalent and more severe in patients with poor metabolic control. PD negatively affects glycemic control and other diabetes related complications and there is a general consensus that treatment of PD can positively influence these negative effects. Dental carries are a multifactorial oral disease that is frequently detected in obese and diabetic patients. Insufficient tooth brushing and intake of sugary foods may result in greater detrimental oral effects. Maintaining oral health will prevent oral chronic diseases and ameliorate the consequences of chronic inflammatory processes. Thus, the care of obese and diabetic patients requires a multidisciplinary team with medical and dental health professionals.



Elif Bahar Tuna İnce

Prof. E. Bahar Tuna Ince graduated from Istanbul University Faculty of Dentistry in 1999 and then started her doctoral education at Department of Pedodontics in the same university. In 2006, she completed her Ph.D. and got Med. Dent title. She has been studied as a visiting researcher at the Indiana University School of Dentistry Dental Materials Division, Indiana, USA. She worked as a "postdoctoral researcher" at Nihon University, Tokyo, School of Dentistry, Department of Pediatric Dentistry in Tokyo, Japan, and at the National Institute of Infectious Diseases Department of Oral Bacteriology during 2008-2010. She received the title of "Professor" in 2018 and is currently working as a faculty member in the same department. Prof. E. Bahar Tuna Ince has more than 100 articles published in national and international journals, 3 book chapters, and more than 100 presentations in national and international congress. She continues to serve as a referee in national and international journals. Scientific interests include dental trauma and replantation, craniofacial syndromes and genetic, dental anxiety and dental biomaterials. She is the member of International Association of Dental Research, European Academy of Pediatric Dentistry, International Association of Dental Traumatology and Turkish Society of Pediatric Dentistry. He is a committee member at the European Academy of Pediatric Dentistry and a treasurer at the Turkish Society of Pediatric Dentistry.

Dental manifestations and treatments for children with metabolic bone disease

Metabolic bone disease in children includes many hereditary and acquired conditions of diverse etiology that lead to disturbed metabolism of the bone tissue. Some of these processes primarily affect bone and may result in bone pain and loss of height and they predispose patients to fractures. In this presentation oral, dental and radiographic findings of osteoporosis, rickets, osteomalacia (nutritional and hereditary vitamin D-dependent and hypophosphatemic), osteogenesis imperfecta, renal osteodystrophy, sclerosing bony disorders and other genetic bone diseases such as hypophosphatasia, fibrous dysplasia, skeletal dysplasia, juvenile Paget disease will be presented and the role of pediatric dentist of treatment methods will be discussed.



Gideon Holan

Gideon Holan was born in Israel. He studied dentistry at the Faculty of Dental Medicine of the Hebrew University and Hadassah in Jerusalem, Israel, where he also completed his postgraduate training in Pediatric Dentistry in 1983. Was the Chairman of the Israel Society of Pediatric Dentistry, a Member and Chair Professional Committee of Pediatric Dentistry – a sub-committee of the Israel Dental Scientific Council, Director of the postgraduate program at the Department of Pediatric Dentistry, Member of the Editorial Board of 'Pediatric Dentistry' the Journal of the American Academy of Pediatric Dentistry, Chairman of the Israel Board Exam Committee of Pediatric Dentistry and Full time faculty member at the Hebrew University - Hadassah School of Dental Medicine in Jerusalem, Israel till he retired in November 2016. Gideon Holan is now an Emeritus Clinical Associate Professor in Pediatric Dentistry. He is a volunteering instructor at the Department of Pediatric Dentistry, Hadassah School of Dental Medicine. He is a member of several professional dental organizations and articles reviewer of several journals. His main field of interest is Traumatic injuries to the primary dentition. Gideon Holan had published numerous articles related to traumatic injuries to the primary dentition and is a co-author of four chapters related to traumatic injuries to the primary dentition including Andreasen's Textbook and Color Atlas of Traumatic Injuries to the Teeth. He was invited to lecture in dozens congresses and seminars.

Psychosocial and clinical impacts following traumatic loss of primary incisors

Traumatic dental injuries (TDI) can result in the premature loss of primary anterior teeth due to an immediate avulsion, extraction sometime after the injury because of poor prognosis or late complications, or early exfoliation. There are a number of potential considerations or sequalae as a result of this premature loss that have been cited in the dental literature which include esthetics, quality of life, eating, speech development, arch integrity (space loss), development and eruption of the permanent successors, and development of oral habits. The presentation will provide a comprehensive review on the possible consequences of premature loss of maxillary primary incisors following TDI.

Pulpal aspects of TDI in primary incisors

Trauma to the teeth may have an immediate effect on the hard tissues (enamel and/or dentin) or the supporting tissues (the periodontal ligament). The pulp can be affected at the time of injury (luxation injuries, complicated crown fracture and root fracture) or it can appear as a late complication (pulp inflammation, internal resorption, pulp infection, pulp necrosis with and without infection, arrest of dentin deposition, pulp canal obliteration, tube-like mineralization and calcific metamorphosis). The condition of the pulp may be expressed clinically by coronal discoloration (yellow, dark or pink) and changes in the surrounding soft tissues (swelling, sinus track). Any treatment provided should be aimed to avoid or minimize the risk of damage to permanent successor and if possible preserve the injured primary incisor. Immediate damage to the pulp (pulp exposure) requires an immediate treatment (partial or cervical pulpotomy) that is expected to keep the remaining pulp vital and react by buildup of a dentin bridge. Some late complications have no harmful effect and can be left for follow-up. In cases of infection of the pulp, the pulp must be removed. This can be done by extraction or root canal treatment. The presentation will discuss the various conditions of the pulp and the relevant treatment for each condition.



Karin Weerheijm

Dr. Weerheijm is a paediatric dentist registered by the Dutch Dental Association of Children Dentistry (NVvK) and a full member of the European Academy of Paediatric Dentistry (EAPD).

She graduated in 1984 at the Free University (Amsterdam) and worked at the paediatric department of this university (later Academisch Centrum Tandheelkunde Amsterdam, ACTA) till June 2003. Beside student (undergraduate and postdoc) teaching she was involved in research projects concerning diagnosis of occlusal caries en hidden caries. In 1993 she defended her PhD thesis about hidden caries. The other main research area's she worked in were early childhood caries and Molar Incisor Hypomineralisation (MIH). At the moment she is member of the Paediatric REsearch Project (PREP) and involved in research concerning RET, vitamin D and MIH. National and international lectures on these subjects are given.

Since her graduation she worked till January 1994 at the Special Dental Care Centre (SBT) at the University and after 1994 in her own secondary dental care clinic in Amsterdam.

Dr. Weerheijm is or was member/chair of various national and international Dental committees regarding Paediatric Dentistry, director of the Dutch Dental Journal (NTvT), assistant editor of European Archives of Paediatric Dentistry and author of more than 150 dental manuscripts in Journals and books.

MIH and HSPM: clinical implications

The lecture focuses on the early diagnosis of MIH and HSPM. The clinical picture of both will be discussed. In which cases are we dealing with HSPM and or MIH and in which cases the diagnosis of MIH or HSPM is not the correct one. Can we indicate risk indicators for MIH? Then put all our knowledge together and discuss an example of a short – and a long-term treatment strategy for HSPM and MIH.



Marcio Vivan Cardoso

Dr. Marcio Vivan Cardoso graduated as a dentist at Sao Paulo University, Brazil, in 1997. At the same institution, he obtained his Master (MSc) and Doctorate (PhD) degrees in 2003 and 2007 respectively, both in the area of Restorative Dentistry. Besides pursuing experience as a dentist in both public and private sectors, he has been intensively involved in the academic formation of undergraduation students at Sao Paulo University and continuing education of dental surgeons as a lecturer and professor at different institutions, always focusing the areas of dental materials, minimal intervention dentistry and aesthetic dentistry. After his PhD, Dr. Vivan Cardoso was appointed as Pos-Doctorate Researcher at the Catholic University of Leuven, Belgium, where he conducted research in the area of biomaterials. He has produced a considerable number of scientific articles published in different international peer-reviewed journals. He is also the author of book chapters in the area of Dental Materials and collaborates as a reviewer for international peer-reviewed journals. Dr. Vivan Cardoso is nowadays part of the academic staff of the Department of Oral Health of the Catholic University of Leuven, Belgium, as a Clinical Resident/Instructor.

Restorative alternatives in modern dentistry

Promoting better quality of life is the new paradigm in healthcare and it can not be otherwise in dentistry. Caries management has evolved from drilling and filling to a more holistic approach that includes the preservation of the tooth structure. This can be achieved through the proper use of modern restorative techniques and materials. Each clinical situation, however, has to be carefully evaluated before the most appropriate treatment option is defined. While composites still represent the standard choice for aesthetic problems, the treatment of caries and the promotion of health care demands alternative restorative materials. In many clinical circumstances, modern bioactive and biomimetic restoratives will certainly be the material of choice thanks to their ability to intimately interact with dental hard tissues promoting heath care in its most holistic sense. On the other side, more resistent materials may be the most suitable option whenever the tooth needs to be protected against crack propagation and fractures. But in this sense, what would be the limit between direct and indirect restorations? To get the most of each restorative treatment, it is crucial that the dentist can differentiate among the various kinds of modern materials, their indications, and how to use them correctly. These aspects will be presented in this lecture, as well as the latest developments in restorative dentistry.



Ola Al-Batayneh

Dr Ola Al-Batayneh, BDs, MDSc, JDB, FRACDS (PAED), is an Associate Professor in Pediatric Dentistry at the Faculty of Dentistry, Jordan University of Science and Technology (JUST). After obtaining a Master's degree in pediatric dentistry at the University of Queensland, Australia, she completed a Specialty Fellowship in pediatric dentistry from the Royal Australasian College of Dental Surgeons, Sydney, Australia. She was previously Assistant Dean and Head of Department of Preventive Dentistry, Faculty of Dentistry, at JUST, between 2012-2015 and was Head of the Pediatric Dentistry Division both at JUST (2016-17) and King Abdullah University Hospital (KAUH) (2013-till now). Her research interests and publications cover several topics related to pediatric dentistry, such as children with special needs, dental anomalies, remineralization of enamel, early childhood caries, molar incisor hypomineralisation (MIH), lasers and QLF. She has been a speaker at many national and international conferences on these topics, and has authored/co-authored several peer-reviewed publications and book chapters in these areas as well. She is also an active member of numerous national and international dental and scientific committees and organizations.

Traumatic dental injuries in children with special health care needs: an overview
The prevalence of traumatic dental injuries (TDIs) in children with special health care needs (CSHCN) occurs more frequently than in children without disabilities which can have a direct and devastating impact on health and quality of life. This could be related underlying physical and medical conditions, in addition to the well-known risk factors such as overjet, lack of labial sealing, previous trauma, bottle-feeding and age.

Other than the well-known barriers to seeking treatment of TDI including being complex and expensive, it requires patient collaboration, which is often difficult due to severe motor and/or cognitive problems, necessitating the need to modify the conventional treatment plan. Behavioral barriers dictate a need for special techniques which the pediatric dentist is well-trained on.. . There are other barriers to treatment that include financial issues, poor dental awareness by parents, and unwillingness by dentists to accommodate such patients in their clinics.

The aim of this presentation is to shed some light on TDI in CSHCN and give an overview of its prevalence, risk factors, and treatment seeking behavior and barriers in light of the literature present and outline the gaps in the literature that need to be investigated in the future. In addition to present some examples on clinical treatment of different TDI in CSHCN focusing on restoration of function and esthetics, using different behavioral management approaches.



Serap Turan

Prof. Turan graduated from Hacettepe University Faculty of Medicine in 1995. She completed Pediatrics Residency in 2000 and Pediatric Endocrinology Fellowship in 2004 in Marmara University. Dr Turan worked as a research fellow at Massachusetts General Hospital, Harvard University in 2007 with Fullbright and TUBITAK postdoctoral fellowship grants for 1 year and then worked as visiting scientist at Endocrine Unit Massachusetts General Hospital, Harvard University in 2010 with European Society for Paediatric Endocrinology (ESPE) Sabbatical leave Grant. Prof Turan became Ass Professor in 2009 and professor of Pediatric Endocrinology in 2015.

Prof. Turan has published more than 100 articles in international journals, and 10 book chapters. She has made more than 200 presentations in national and international meetings. Her scientific interests are metabolic bone diseases, imprinting disorders, growth and thyroid diseases. She is a member of European Society for Pediatric Endocrinology and Turkish Society of Pediatric Endocrinology. She has served as Program Organizing member of ESPE meeting and National Pediatric Endocrinology and Diabetes meetings. She is the associate editor of Journal of Clinical Research in Pediatric Endocrinology and has served as a scientific referee for more than 20 journals.

Metabolic bone diseases in children, diagnosis related to oral and dental manifestations

Metabolic bone diseases are a heterogeneous group of disorders effecting skeletal system and/or mineral or calcitrophic hormone metabolism which could be hereditary or acquired. Metabolic bone diseases include rickets, rickets like situations, metabolic and genetic diseases of the skeletal system and osteochondrodysplasias. However, all diseases share common features like, bone deformities, joint contractures, short stature, fractures and respiratory problems. Most of the genes expressed in bone are also expressed in teeth. Teeth are situated within bone sockets in oral cavity, for that reason, many metabolic bone diseases have teeth manifestation and need special dentistry care. Especially; osteoporosis, rickets, osteogenesis imperfecta, sclerosing bone dysplasias and other genetic bone diseases such as hypophosphatasia, fibrous dysplasia may have special teeth phenotype.



Serhat Köken

Dr. Serhat Köken graduated from Marmara School of Dentistry (Istanbul) in 1998. Since 2001, he has practised general dentistry at his private clinic in Istanbul. Over the years, Dr. Serhat Köken has presented at national and international meetings on both the technical and artistic aspects of anterior direct resin restorations as well as hands-on courses on composite resin artistry and dental photography. Dr. Serhat Köken is a board member of the Turkish Academy of Esthetic Dentistry (EDAD) and a Ph.D. student in Dental Biomaterials at Siena University.

Create Your Own Composite Masterpieces

The rapid innovation of composite material in the last decade and the availability of various types of composites has given today's clinician an extremely convenient and cost effective tool for their practice. Direct composites provide the clinician with the ability to provide excellent aesthetic results with minimal tooth destruction in a very efficient manner. In this lecture, you will be shown how to achieve excellent aesthetic standards in your everyday dentistry using direct chairside composites. The course will cover clinical aspects of the anterior composite from choosing the correct shades to preparation tips, layering composites, and tricks on finishing and polishing. Handling composites correctly can provide excellent aesthetic outcomes, which will be shown using case examples in this lecture.



Tatyana Kupets

Tatyana Kupets graduated from Moscow State Pedagogical University in 1989 with a diploma in biology, chemistry and pedagogy, followed by specialisation in physiology of humans and animals. After graduation, she worked at the Research Institute of Normal Physiology at the Russian Academy of Medical Sciences researching the role of insulin in the functioning of the central nervous system (behaviour and cognitive functions).

Since 1995 she was employed by Colgate-Palmolive for the educational programme "Bright smile for lifetime", until its termination in 1998.

Following few years she was involved in executing cooperation projects with dentists for dental and oral health programmes (including Wrigley, DenMat, J&J, Neva Cosmetics). From 2004 until now she has been active in the research and development of R.O.C.S.® oral care products and is co-holder of several patents. Tatiana is also a member of the team which organizes clinical trials to assess medicinal properties of R.O.C.S.® product lines, elaborating individual and medical usage schemes, analysing medical effects of ingredients.

She is a member of the National Academy of Aesthetic Dentistry and a member of the Professional Society of Dental Hygienists in Russia and Russian Periodontal Assosiation.

Calcium/Phosphorus Based Remineralizing Therapy in Dental Practice

The pathogenesis of caries involves a succession of demineralization and remineralization activities. At its most basic level, dental caries is the result of a process whereby the mineral constituents of the tooth are demineralized by organic acids produced by dental plaque bacteria.

Since it has been established that the caries process is a continuum, it is therefore possible to intervene at any stage with a therapeutic product or an intervention methodology. Including remineralizing treatments into routine dental care programs can strongly support public caries control programs.

This presentation aims to show medical benefits of using R.O.C.S. remineralizing systems to manage the most common diseases of hard dental tissue, such as caries, fluorosis and non-caries lesions.

The clinical cases and laboratory results will be presented to illustrate the mechanisms of R.O.C.S. REM Systems



Zikra Alkhayal

Zikra Alkhayal, BDS, MS, FABPD is currently working as a Consultant Pediatric Dentist, Department of Dentistry and a Joint Scientist at the Stem and Re-engineering Program at King Faisal Specialist Hospital and Research Centre, Riyadh, Saudi Arabia. More than 26 years in the field of Pediatric Dentistry, she is now a Middle East Representative, Member of Committee World Federation of Hemophilia Dental, Head of Examination Committee of Saudi Board of Pediatric Dentistry and Member of Central Assessment Committee of the Saudi Health Commission. Recently, she became a member of the scientific council of Saudi Board of Pediatric Dentistry.

Dr Alkhayal took her undergraduate training at the London Hospital Medical College in England with a Bachelor of Dental Surgery in 1989. She practiced at King's College Dental Hospital as a resident House Officer in 1990. She then received a Specialty Certificate and a Master of Science in Pediatric Dentistry from the University of Illinois at Chicago, USA in 1993. She is a Diplomate of American Board of Pediatric Dentistry since 1996 and has an active General Dental Council Licensure in England. She spent two years as Fellow in Pediatric Dentistry and then as Assistant Professor at the University of Illinois Chicago College of Dentistry, USA. She also received a Postgraduate Certificate in Dental Sedation and Pain Management in August 2008 from University of College London, United Kingdom.

Alongside clinical activities, Dr Alkhayal is actively involved at departmental and hospital levels, highly involved in research activities, postgraduate training and learning.

The Challenging Bleeding Disorder: Dental Management

The aim is to overview the oral health aspects and management in hemophilia patients with specific considerations of the challenges when managing pediatric population. Literature review, internationally accepted guidelines, unpublished national data and Clinical experience were used. Coagulation factor abnormalities are the most common of inherited bleeding disorders with Von Willebrand disease, Hemophilia A and Hemophilia B account for 95–97% of all coagulation deficiencies. The two main oral diseases affecting patients with hemophilia are the same as for the rest of population: dental caries and gingivitis/periodontitis. Only a few studies concerning oral health aspects in hemophilia patients were carried out. Some controversy exists concerning caries prevalence in both primary and permanent dentitions in children with hemophilia. The dental management of the patients with bleeding disorders has improved with the adjunct use of local measures. However, Hemophiliac patients with inhibitors remain a concern. Due to that fact treatment of such patients becomes a challenge to most of the dentists, the population with inherited bleeding disorders remain on the symptomatic model of care which carry more obstacles for this specific population. More published studies in oral health status and management of hemophilia patient is needed as they constitute a small proportion of the whole population. The multidisciplinary approach to such patients remains the solution in the dental management with emphasis on local measures and the goal to establish a dental preventive home from early age is what will improve the quality of life by minimizing oral disease.

ORAL PRESENTATIONS

OP 001
Dental trauma knowledge of emergency medical doctors: a survey study

Özge Gögce[1], Seçil Çalışkan[1], Ebru Delikan[2], Sena Kızılaslan[1]
[1]*Eskişehir Osmangazi University, Department of Pediatric Dentistry, Eskişehir, Turkey*
[2]*Mersin University, Department of Pediatric Dentistry, Mersin, Turkey*

Objective: Dento-alveolar injuries are a complex condition affecting teeth and surrounding tissues frequently in children or adolescents and can create physical, aesthetic, and psychological problems both in children and their families. In such injuries, parents take their children to the emergency departments of the hospital before the dentists. Purpose of this survey study is to demonstrate the level of traumatic dental injury knowledge of trauma emergency medicine specialists (EMS) in Turkey.

Materials-Methods: In this study; a survey form was used to question the level of knowledge and treatment approaches for traumatic dental injuries of EMS or ongoing researchers in this field. The questionnaire form was delivered to participants using the internet environment and the obtained data was evaluated. Chi square and correlation tests were used for statistical analysis.

Results: According to the results of our study; despite the fact that EMS often encountered dental trauma, they informed that this topic has not been included in their education and that they avoided from intervention in this kind of traumas. This is also due to the fact that EMS had difficulty in distinguishing primary and permanent teeth

Conclusion: EMS have insufficient knowledge about the immediate treatment of tooth avulsion. Emergency medicine specialists should be trained on emergency interventions in traumatic dental injuries during their training which would be very useful in making the right emergency intervention in such cases.

Keywords: dental trauma, emergency medical doctors, knowledge

OP 002
The level of knowledge about traumatic dental injury in turkish school teachers

Hüsniye Gümüş, Ebru Şenyiğit, Eda Büyüknalbant
Erciyes University, Faculty of Dentistry, Department of Pediatric Dentistry, Kayseri, Türkiye

Objective: Traumatic injuries are frequently encountered in schools. In dental injuries first aid is very important for the prognosis of the teeth. This study aims to assess the knowledge of elementary and middle school teachers regarding traumatic dental injuries.

Materials-Methods: The questionnaire consists of 3 parts; demographic data, attitude and knowledge regarding dental injuries. The questionnaire was given to 251 elementary and middle school teachers in 10 randomly selected schools in Kayseri, Turkey. The results of all three parts had been analyzed by frequency distribution. The questionnaire results had been analyzed statistically by using the chi-square test and the level of significance was set to $p <= 0.05$.

Results: Out of the 251 teachers, 77.3% reported no knowledge of dental trauma and 74.5% had seen no cases of dental trauma. 53.4% of the teachers had first aid training and only 6% of these teachers were trained in dental trauma. 70% of teachers had more than ten years of work experience. There was no association between knowledge about the procedure of avulsion of the permanent tooth and teachers' first aid training ($p=0.442$), work experience ($p=0.439$) and dental trauma experiences ($p=0.175$). There was an association between the knowledge of the procedure of permanent tooth fracture and work experience ($p<0.0001$).

Conclusion: The level of the teacher's knowledge about dental trauma was found to be inadequate. Education programs about traumatic dental injuries are necessary to improve the awareness of management of traumatic dental injuries.

Keywords: dental trauma, questionnaire, teacher

OP 003
Knowledge level of teachers about dental trauma in children

Burcu Ece Koru, Didem Oner Ozdas
Istanbul Aydin University, Dentistry Faculty, Pediatric Dentistry Department, İstanbul, Turkiye

Objective: Most of dental traumas occur during school hours and sport activities. Teachers at school provide the first aid to traumatized child. Purpose of study was to determine the knowledge level of teachers about dental trauma.

Materials-Methods: A total of 162 teachers(123 female, 41 male) from six different schools divided by three groups as pre-school, primary-school and branch-teachers were assessed in present study. To evaluate knowledge level of teachers about dental trauma a questionnaire was prepared. Questionnaire was consist of two cases and open-ended questions. Answers were recorded by face to face interview method. SPSS statistics-22 programme and chi-square tests were used for statistical analysis.

Results: In present study teachers' answers were evaluated according to gender, branches, spending time in profession and having children. 18.3% of participants had taken courses related with oral-dental-health. Primary-school teachers and teachers who work more than 15 years in profession statistically significantly had taken more courses than others($p<0.05$). 23.2%(n=38) of teachers had reported that they knew how to behave in dental trauma cases. Half of the participants believed not to need to find broken part of crown in tooth-fracture cases and 80.5% of teachers believed not to need to replace the tooth in avulsion cases. Gender, working-time in profession, having child or branch did not make statistical differences between groups.

Conclusion: Present study has shown that teachers do not have enough knowledge about dental trauma. Therefore first aid courses in trauma and dental trauma cases, should be organized for all teachers in the country.

Keywords: dental trauma, teacher, children, school, knowledge

OP 004
Effects of root canal irrigants on the color stability, solubility and surface characteristics of calcium-silicate based biomaterials

Selen Kucukkaya Eren[1], Sevinc Askerbeyli Örs[1], Duygu Karasan[2], Hacer Aksel[1], Şenay Canay[2]
[1]*Hacettepe University, Faculty of Dentistry, Department of Endodontics, Ankara, Turkey*
[2]*Hacettepe University, Faculty of Dentistry, Department of Prosthodontics, Ankara, Turkey*

Objective: Calcium silicate-based cements (CSCs) come into contact with root canal irrigants especially when used for root repair procedures. The purpose of this study was to investigate the color stability, solubility and surface characteristics of 3 CSCs after immersion in different irrigation solutions.

Materials-Methods: ProRoot white MTA, Biodentine and Endosequence Root Repair Material (ERRM) were mixed according to the manufacturers' instructions, placed in cylindrical molds and stored at 100% humidity and 37°C for complete setting. Each specimen was immersed in distilled water, 5% sodium hypochlorite (NaOCl), 2% chlorhexidine (CHX) or 0.1% octenidine dihydrochloride (OCT) for 24 h. Color changes were measured with a spectrophotometer. Solubility was determined using an analytical balance with 10^{-5} g accuracy. The surface characteristics were analyzed using scanning electron microscopy and energy-dispersive spectroscopy. Data were analyzed by using one-way analysis of variance, Tukey test and paired t-test.

Results: MTA exhibited significant discoloration in contact with NaOCl ($p<0.05$). White precipitation occurred on the surfaces of Biodentine and ERRM in contact with the solutions and none of these samples presented dark brown discoloration. All materials showed significant solubility after immersion in the solutions ($p<0.05$), irrespective of the solution type ($p>0.05$). The surface topography and elemental composition of the samples changed by crystal formation and precipitation depending on the solution type.

Conclusion: All materials were associated with precipitation of crystals after being in contact with the solutions. Biodentine and ERRM are suitable alternatives to ProRoot MTA as they do not exhibit discoloration.

Keywords: calcium-silicate based cements, discoloration, root canal irrigants, solubility, surface properties

OP 005
Evaluation of root canal treatment success in children

Ülkü Şermet Elbay[1], Seda Aydemir[2], Gül Uçar[1], Mesut Elbay[1]
[1]*Kocaeli University, Faculty of Dentistry, Department of Pediatric Dentistry, Kocaeli, Turkey*
[2]*Kocaeli University, Faculty of Dentistry, Department of Endodontics, Kocaeli, Turkey*

Objective: The aim of this retrospective study is to evaluate the quality of root canal fillings of permanent teeth of patients who applied for routine dental examination to Pediatric Dentistry Clinic of the Kocaeli University.

Materials-Methods: The digital panoramic and periapical radiographs which were taken for routine dental examination were analized by two observer retrospectively. The quality of root canal fillings of the teeth were evaluated for the homogeneity (good/poor) and length of the root canal fillings (back/flooded/appropriate). Also, periapical status and coronal restorations of root canal treated teeth were assesed. The data was obtained and analyzed by chi-square test.

Results: The radiographies of 72 patients with 81 root canal treated permanent teeth were examined. 33-of these children were male and 39 were female.Children were at 9-12 years of age. 8.6% of the radiographically evaluated teeth had no coronal restorations, 49.3% were adequate and 41.9% failed. 55.5% of the teeth were on the back,11.1% were flooded and 33.3% were appropriate according to the root canal filling levels. In terms of root canal homogeneity, 50.6% were good and 49.4% were poor.Considering the presence of periapical lesion,70.3%-of the teeth had lesion and 29.6%-of them had no lesion.

Conclusion: As a result,it was seen that most of the root canal treated permanent teeth in children did not carry all the criteria to be succesful.The reasons for being unsuccesful at root canal therapy in children must be investigated and necessary measures must be taken.

Keywords: children, root canal filling, success, permanent teeth, radiography

OP 006
Influence of different activation systems on apical extrusion of irrigant in open apex model

Hacer Aksel[1], Selen Küçükkaya Eren[1], Sevinc Askerbeyli Örs[1], Şükrü Öztürk[2], Ahmet Serper[1]
[1] Hacettepe University, Faculty of Dentistry, Department of Endodontics, Ankara, Turkey
[2]Hacettepe University, Bioengineering Division, Institute for Graduate Studies in Science and Engineering, Ankara, Turkey; Gebze Technical University, Department of Bioengineering, Izmit, Turkey

Objective: This study investigated the amount of extruded sodium hypochlorite (NaOCl) by different irrigant activation systems in a simulated open apex model.

Materials-Methods: The roots of 120 single-rooted maxillary incisors were prepared to simulate open apex model and divided into 4 experimental groups and negative and positive control groups (n=20). The root canals were irrigated with 5 mL of NaOCl for 2 min using syringe irrigation (SI), Vibringe, ultrasonically activated irrigation (UAI) or XP Endo Finisher file (XP Endo). In the negative control group, EndoVac negative-pressure irrigation system was used while in the positive control group, the irrigant was delivered at 2 mm beyond the apical foramen. Extruded NaOCl was collected in glass vials containing distilled water. The test samples were weighed before and after the irrigation procedure to calculate the amount of extruded irrigant. Data were analysed using Kruskal-Wallis and Mann Whitney-U tests.

Results: No extrusion occurred in the EndoVac group while all positive-pressure irrigation techniques resulted in the extrusion of the irrigation solution. The SI and Vibringe groups resulted in similar amount of NaOCl extrusion ($p>0.05$) while presented higher extrusion than the UAI and XP Endo groups ($p<0.05$). No significant difference was observed between the UAI and XP Endo groups ($p>0.05$).

Conclusion: Irrigation with EndoVac was not associated with irrigant extrusion. Activation of the irrigation solution using UAI and XP Endo Finisher file resulted in the lowest irrigant extrusion among the positive-pressure irrigation techniques in immature open apex.

Keywords: activation, extrusion, irrigation

OP 007
Traumatic dental injuries of primary dentition in a university hospital

Yeliz Guven
Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey

Objective: The aim of this study was to evaluate the traumatic injuries in primary dentition in the clinics of Department of Pedodontics, Istanbul University.

Materials-Methods: A total of 54 children (23 girls and 31 boys) with 111 injured primary teeth were included in the study. The children were evaluated in terms of gender, age, number of injured teeth, type of trauma, the interval between the traumatic event and time of seeking, and treatment procedures. Statistical analysis was performed using SPSS v.21 (IBM Corp, USA). In addition to descriptive statistics, Chi-squared test was used to assess any association of trauma with different categorical variables.

Results: The mean age of the participated children was 3.2±1.63 ranging from 1- to 7-year-old. The most common dental trauma was lateral luxation (27.93%) followed by subluxation (18.02%) and intrusion (16.22%). The most affected teeth were number 61 (35.14%) and 51 (30.63%). The most frequent place of occurrence was noted as home (68.52%). Child's own-height fall and crash were found to be the most common causes of trauma. No statistically significant difference was found between gender and the locations of injury or the etiology ($p>0.05$). Parents mostly sought dental care 6-24 hours after traumatic injury (51.85%). Thirty-four children had more than one traumatized tooth (62.96%).

Conclusion: The study concluded that the primary dentition was mostly affected by luxation injuries in the maxillary central incisor region. Late referral time to a dentist demonstrates the need to run educational programs to increase parents' awareness.

Keywords: primary dentition, dental trauma, incidence

OP 008
Assessment of dentists'knowledge about emergency management of dental avulsions injuries

Gülsüm Duruk, Zehra Beyza Erel
Inonu University, Faculty of Dentistry, Department of Pediatric Dentistry, Malatya, Turkey

Objective: The first intervention and clinical experience is important in the treatment of dental avulsions. The aims of this study was to evaluate dentists', pediatric dentists' and other specialists' knowledge of the emergency treatment of traumatic injuries to avulsion.

Materials-Methods: A total of 305 questionnaires were evaluated. The questionnaire consisted of three parts: the first part enquired about personal information and the number of dental trauma cases seen in one year. The second part evaluated dentists' knowledge of emergency management in cases of dental avulsion. The third part requested a self-assessment of the practitioner's dental trauma education. The questionnaires were answered by 153 dental practitioners, 78 pediatric dentists and 74 other specialists. The survey data obtained was analyzed using the chi-square test.

Results: The study revealed that pediatric dentists who have seen more trauma cases during their education are more knowledgeable about the emergency management of dental avulsion ($p<0.01$). Pediatric dentists are followed by other specialists and practitioner dentists, respectively ($p<0.05$). The knowledge level of endodontists and oral and maxillofacial surgeons was higher than other specialists but not significantly ($p>0.05$). Dentists with lower service years in profession are more knowledgeable than dentists with higher service years in profession ($p<0.05$).

Conclusion: This survey showed although the knowledge of dentists about the emergency management of dental avulsion is in acceptable levels, it is significantly inadequate, Further trainings should be provided to address this and there should be further studies in which more dentists participated.

Keywords: dental trauma, dentist, knowledge, pediatric dentist, tooth avulsion

OP 009
Effect of three different rotary instrumentation systems on the amount of apically extruded bacteria; an in vitro study

Irem Bag[1], Safa Kurnaz[2], Aysel Gülbandılar[3]
[1]*Kütahya University of Health Science, Department of Pediatric Dentistry, Kütahya, Turkey*
[2]*Kütahya University of Health Science, Department of Endodontics, Kütahya, Turkey*
[3] *Dumlupınar University, Altintas Vocational School, Altintas-Kütahya, Turkey*

Objective: The aim of the study was to evaluate the number of extruded bacteria from tooth apex after root canal instrumentation using the three rotary instrument.

Materials-Methods: Fifty five freshly extracted human mandibular premolar teeth were prepared for endodontic access cavities and extirpated. Each tooth was inserted into glass vial with rubber stopper. This system was sterilized in autoclave. Glass vials were filled with 0.9% NaCl solution. Enterococcus Faecalis suspension (10 µL) was used to contaminate the root canals in air flow cabinet. A size 10 K-file was used to carry the bacteria through the root canals and the tooth were incubated at 37°C for 24 hours. Root canal preparation was implemented with ProTaper Universal (PTU), ProTaper Next (PTN) and Protaper Gold (PTG) files (15 teeth for each group) according to manufacturer's instructions. Irrigation was performed with 0.9% NaCl solution. No instrumentation was performed in control group (10 teeth). After root canal preparation, 0.01 mL of 0.9% NaCl solution was taken from each vials and colonies of bacteria were counted using classical bacterial counting technique. Data were analysed statistically using Kruskal–Wallis one-way analysis of variance and Mann–Whitney U-tests.

Results: Mean number of colony-forming units in PTU and PTG groups were observed to be significantly higher than in PTN groups ($P < 0.05$). The difference between PTU and PTG group was not statistically significant ($P > 0.05$).

Conclusion: PTU and PTG systems resulted in significantly more bacterial extrusion when compared with PTN.

Keywords: apical extrusion, bacteria, rotary instrumentation, root canal preparation

OP 010
Comparison of apically extruded debris, transportation, and centring ratio associated with different nickel-titanium systems

Ahmet Keles[1], Emel Uzunoglu Özyürek[1], Serdar Uysal[2], Mehmet Ozgur Uyanik[1], Emre Nagas[1]
[1]*Hacettepe University, Faculty of Dentistry, Department of Endodontics, Ankara, Turkey*
[2]*Hacettepe University, Faculty of Dentistry, Department of Dentomaxillofacial Radiology, Ankara, Turkey*

Objective: The aim of this study to evaluate and compare the effect of different file systems on the amount of extruded debris, root canal transportation and centering ratio.

Materials-Methods: 30 extracted mandibular molars with two separate mesial canals and apical foramina were selected. The root canals (n=10) were randomly assigned into six experimental groups according to the instrumentation system as follows: ProTaper Next (PTN), WaveOne (WO), Waveone Gold (WOG), One Shape (OS), Reciproc (R) and Reciproc Blue (RB). Debris extruded during instrumentation was collected into pre-weighed Eppendorf tubes, which were stored in an incubator at 70°C for 5 days to evaporate the irrigant. After incubation period tubes were weighed again. The difference between pre-and post-weights was calculated. Cone Beam Computed Tomography assessment was done pre-and post-instrumentation for evaluating the canal transportation and centering ratio parameters. Data were statistically analyzed, and the significance level was set at $p < 0.05$.

Results: R and PTN files were associated with significantly less apically extruded debris and less transportation in the middle and coronal third than the WO, WOG and OS files ($p < 0.05$)

Conclusion: All instrumentation systems produced apical extrusion and caused transportation especially in middle and coronal thirds.

Keywords: apical extrusion, centring ratio, cone-beam computed tomography, reciprocating files, transportation

OP 011
Regenerative endodontic treatment for necrotic immature permanent teeth: report of 8 cases

Zeynep Aslı Güçlü[1], Mehmet Yakup Sarı[2]
[1]*Erciyes University, Faculty of Dentistry, Department of Pediatric Dentistry, Kayseri, Turkey*
[2]*Erciyes University, Faculty of Dentistry, Department of Periodontology, Kayseri, Turkey*

Objective: An immature tooth with pulpal necrosis needs endodontic treatment options consist of apexification, apical barriers, or more recently regenerative endodontic tretament. The disadvantages of apexificaion or apical barrier is thickening of the root wall, increased susceptibility to cervical fracture and multiple appointments over a period of time. Improved understanding of pulpal treatment and improved dental materials and technologies make vital pulp therapy a viable alternative to root canal treatment. Nowadays PRF is one of the accepted biological material with immense regenerative potential for clinical dentistry. The aim of this clinical study was to show the success of PRF treatment and follow up in young patients.

Materials-Methods: 8 children with 8 immature anterior permanent teeth, ages between 8 and 10, was appilied to our clinic with endodontic treatment need. 4 teeth with apical periodontitis in four patient, totally 8 teeth were treated via the regenerative endodontic tretament protocol using irrigants, CAOH paste, coronal seal of mineral trioxide aggregate, glass ionomer restorative and composite restoration. Patients were followed 6 months.

Results: One tooth had secondary trauma and needed conventional endodontic treatment after PRF session. Other all teeth was asymptomatic during follow up. Clinical examination showed no signs of acut periapical enfection, and showed continued root development.

Conclusion: For long term teeth that treated with regenerative endodontic treatment, a positive response to vitality testing could be expected to display. This technically challenging treatment seems to have ability to have change conventional root canal treatment with young patients.

Keywords: regenerative, endodontics, platelet rich fibrin, immature

OP 012
Successful revascularization treatments, two case reports with 19 months' follow-up

Özgür Doğan, Edanur Gökçe Meydan, Ismail Haktan Çelik
University of Health Sciences, Faculty of Dentistry, Deparment of Paediatric Dentistry, Afyonkarahisar, Türkiye

Objective: Current regenerative endodontic procedures are suggested as ideal treatment alternatives for immature permanent teeth with necrotic pulp.Revascularization is a new treatment method for immature necrotic permanent teeth.The pulp revascularization allows the stimulation of the apical development and the root maturation of immature teeth.

Case 1: An 8,5-year-old girl was referred for evaluation and possible treatment of his permanent mandibular central incisors.The dental history revealed that left and right lower central incisor teeth had suffered decays.After revascularization procedure using a size #15 H-file, apical tissues were lacerated and bleeding was induced. A blood clot was allowed to form at the level below the cementoenamel junction and MTA was placed over the blood clot. The teeth was restored with composit.

Case 2: A 10 years-old boy was referred to our clinic for right upper second premolar tooth that had an deep carious lesion with semptomatic acute apical periodontitis. After revascularization procedure using a size #25 K-file, apical tissues were lacerated and bleeding was induced.A blood clot was allowed to form at the level below the cementoenamel junction and MTA was placed over the blood clot.The teeth were restored with composit.

Conclusion: Regenerative endodontic procedures have high success rates, However, questions remain regarding the terminology, patient selection and informed consent as well as procedural details, especially on the choice of irrigants, intracanal medicaments and materials for cavity sealing. These case presentations were followed-up for 19 months. We achieved successful results like closing apical foramina, thicker dentinal wall and no symptom related infection.

Keywords: revascularization, regenerative endodontic treatment, MTA, dental trauma

OP 013
Fiberglass crowns - the new standard in dental crowns

Andy Mancini[1], Bourane Ambriss[2]
[1]*Figaro Crowns, Pediatric Dentist, Minnesota, United States*
[2]*Lebanese University, Pediatric Dentist, Beirut, Lebanon*

Surveying with pediatric dentists across the globe, we experience the same frustrations with all existing pre-formed dental crowns on the market due to their limitations and pitfalls.

Fiberglass reinforced resin crowns are becoming the new standard for dental restorations.

Figaro Crowns are the makers of the fiberglass crown. From an easily used product to a true cosmetic perception that mimics the anatomy of a real tooth, these crowns exceed stainless steel, strip, and especially zirconia crowns. They have a unique flex-fit technology that hugs the tooth, avoiding the open margin (passive-fit) as well as being autoclavable and adjustable.

Taking advantages of their radiographic features, Figaro Crowns enable patients with cancer to receive an MRI without issue, and also allow the dentist to better monitor recurrent caries on adjacent teeth with no overlap x-rays. The radiolucent crown minimizes the radiation exposure to the child. Furthermore, with a technique similar to stainless steel crowns, the time required for the restorative procedure is reduced. So learn how to save a week of work without changing anything in your office. Just your crowns!

In this conference, a demonstration of the unique versatile characteristics of the Figaro Crowns and several clinical cases will be discussed.

Keywords: fiberglass crown, all white, metal free, BPA free, MRI friendly

OP 014
Comparison of microleakage and root canal dentin adaptation after single visit apexification treatment with retrograde filling materials in single-rooted young permanent teeth

Müge Daloğlu, K. Görkem Ulu Güzel
Adnan Menderes Univesity, Faculty of Dentistry, Department of Paediatric Dentistry, Aydın, Turkey

Objective: This study aimed to evaluate the coronal and apical microleakage and dentin adaptation of three different types of mineral trioxide aggregate (MTA) and Biodentine using scanning electron microscope (SEM) in in vitro single visit apexification procedures.

Materials-Methods: A total of 200 single-rooted permanent teeth extracted for orthodontic reasons were selected. A single visit apexification treatment was performed with the use of Angelus MTA, Ortho MTA, Retro MTA, and Biodentine in 20 samples for each group. For the microleakage test, samples were incubated for 72h at 32°C in 2% methylene blue and then micrometrically measured under the stereomicroscope. Sixteen specimens were prepared for the evaluation of dentin adaptation. SEM examinations were performed by obtaining micrometric measurements of the material and dentin spaces in the images of the apical and coronal regions. The obtained data were statistically analyzed.

Results: According to the microleakage evaluation, apical and coronal measurements indicated significantly more leakage than Biodentine, Angelus MTA, and Retro MTA, but no significant difference was found between the MTA groups ($p < 0.05$). The difference in the apical region between the groups with dentin adaptation was not significant; however, in the coronal region, Biodentine was found to have more gap dimension at the significant level than the other groups ($p<0.05$).

Conclusion: This study showed that Ortho MTA and Retro MTA are alternative biomaterials that can be used in single visit apexification treatments of single-rooted permanent teeth. Biodentine was not as successful as the other groups in the management of microleakage and marginal adaptation.

Keywords: apexification, microleakage, marginal adaptation, mineral trioxide aggregate, Biodentine

OP 015
Evaluation the effects of blood contamination and haemostatic agents on bond strength to the dentin of the primary teeth

Yıldırım Erdoğan[1], Hüseyin Karayılmaz[2], Mehmet Ünal[3], Özge Güngör[2], Zahit Çiftçi[2]
[1]*Pamukkale University, Faculty of Dentistry, Department of Pediatric Dentistry, Denizli, Turkey*
[2]*Akdeniz University, Faculty of Dentistry, Department of Pediatric Dentistry, Antalya, Turkey*
[3]*Afyon Kocatepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Afyonkarahisar, Turkey*

Objective: The purpose of this study was to evaluate the effects of blood contamination and haemostatic agents on bond strength to the dentin of the primary teeth by using two different bonding systems.

Materials-Methods: Buccal and lingual surfaces of freshly extracted 40 primary second molar teeth have been used for this study. Teeth were embedded in acrylic resins and flat dentin surfaces were exposed. Eighty specimens firstly divided in to 2 groups (n=40) according to bonding systems (Clearfil SE Bond-group I, All Bond Universal-group II) and then every group divided into 4 subgroups (n=10) according to the contamination and haemostatic agents (Blood-subgroup B, Ankaferd Blood Stopper-subgroup A, ViscoStat-subgroup V, Control-subgroup C) used in our study. A bulk-fill composite resin (Filtek™ Bulk Fill Flowable Restorative) was built up on dentin surfaces using a plastic apparatus and polymerized. The specimens were tested in microshear mode at a crosshead speed of 1 mm/min on a universal test machine. Statistical analysis was performed with ANOVA and Tukey's tests at $p<0.05$.

Results: Significant differences have been detected in microshear bond strengths only between Ankaferd Blood Stopper (IA=13.72±4.47 and IIA=9.12±4.4) and control groups (IC=22.78±10.86 and IIC=16.49±6.55) without regarding to bonding systems. The highest scores were obtained from control groups. Clearfil SE Bond showed better performance than All Bond Universal in all groups.

Conclusion: It was determined that only Ankaferd Blood Stopper contamination groups shows statistically significant decreases on bond strengths to the dentin of the primary teeth when compared with control groups.

Keywords: blood contamination, haemostatic agents, bond strength, primary teeth, dentine

OP 016
In vitro examination of nanohardness and cytotoxicity of different glass ionomer restorative materials in dentistry

Alem Coşgun[1], Behiye Bolgül[1], Nizami Duran[2]
[1]*Hatay Mustafa Kemal University, Faculty of Dentistry, Department of Pedodontics, Hatay, Turkey*
[2]*Hatay Mustafa Kemal University, Faculty of Medical, Department of Microbiology, Hatay, Turkey*

Objective: The purpose of this research is to examine, nanohardness and cytotoxicity of different glass ionomer restorative materials in dentistry in vitro.

Materials-Methods: The glass ionomer restorative materials used in our work are Argion (VOCO, Germany), Zirconomer (Shofu Inc., Japan), EQUIA Forte (GC, Japan), Fuji II LC Capsule (GC, Japan), Fuji IX GP Capsule (GC, Japan). MTT (tetrazolium salt 3- [4,5-dimethylthiazol-2-yl] -2,5-diphenyltetrazolium bromide) test was used to assess cytotoxicity. Nanoindenter device was used to measure nanoharness.

Results: After 24 and 48 hour incubation periods, none of the materials showed toxic effects. After 72 hours of incubation period, Zircomer, Equia Forte, Fuji IX GP Capsule and Fuji II LG Capsule showed significantly lower cell viability compared to the control group ($p<0,05$). However, the difference between these toxic groups was not statistically significant. ($P> 0.05$). As a result of the statistical analysis performed with the values obtained after the nanohardness test, the difference between the groups was found statistically significant ($p <0.05$). In comparison between the groups, the groups with the highest to lowest nanohardness values are Fuji II LC Capsule> EQUIA Forte> Argion> Fuji IX GP Capsule> Zirconomer respectively.

Conclusion: Zircomer, Equia Forte, Fuji IX GP Capsule and Fuji II LC Capsule showed low cytotoxic effect. Argion was not show cytotoxic effect. Fuji II LC Capsule showed the highest hardness value and Zirconomer showed the lowest hardness value.

Keywords: glass ionomer cement, nanohardness, cytotoxicity

OP 017
Effect of different surface treatments and cements on shear bond strength of zirconia ceramic to primary tooth dentine

Nuray Tuloglu[1], Canan Gıcır Akay[2], Sule Bayrak[1], Sena Kızılarslan[1]
[1] *Eskisehir Osmangazi University, Faculty of Dentistry, Department of Pediatric Dentistry, Eskisehir, Turkey*
[2] *Eskisehir Osmangazi University, Faculty of Dentistry, Department of Prosthodontics, Eskisehir, Turkey*

Objective: To investigate the effect of different surface treatments and cements on shear bond strength (SBS) of zirconia ceramic to primary tooth dentine.

Materials-Methods: Flat dentine surfaces were obtained from primary molar teeth and embedded in acrylic resin cylinders with the dentin bonding site face-up in the mold. Prepared zirconia blocks (3mmx1mmx1mm) were randomly distributed into 4 groups according to surface treatment procedures; Control, CoJet, Al2O3 and hot etching groups. Zirconia specimens in each group was further divided into two subgroups according to cement (n=13); resin modified glass ionomer cement (Ketac-Cem Plus) and universal bioactive cement (BioCem). Zirconia specimens were then bonded to the dentine surface by cement prepared according to the manufacturer's instructions. A universal testing machine was used to measure the SBS. Data were analyzed using two-way ANOVA and Tukey's Post Hoc tests.

Results: Among the surface treatment procedures, SBS values with both cement groups were lowest in the control groups, followed by hot etching, Al2O3, and CoJet groups. In the BioCem, SBS values for hot etching group were significantly lower than for CoJet, and Al2O3 groups ($p<0.05$). However, no significant differences were found between the SBS values of Al2O3, CoJet and hot etching groups for Ketac-Cem Plus ($p>0.05$). When compared the cement, SBS values of the BioCem subgroups were significantly higher than those of the Ketac-Cem Plus subgroups ($p<0.05$).

Conclusion: In conclusion, CoJet and Al2O3 surface treatments were found to have positive effects on enhance the SBS of zirconia ceramic to primary dentine.

Keywords: bond strength, primary tooth, resin modified glass ionomer cement, universal bioactive cement, zirconia

OP 018
Socio-behavioural factors on severe early childhood caries in Istanbul

Gülcan Ünsal, Yeliz Güven, Oya Aktören
Istanbul University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey

Objective: Socio-behavioural factors are of vital importance on onset of severe early childhood caries(S-ECC).The aim of this study is to evaluate the influence of the socio-behavioral factors on children with S-ECC living in Istanbul.

Materials-Methods: 40 children with SECC (mean age:52,93±11,5 months) and 40 caries-free (CF) children (mean age:49,43±12,47 months) attended to Paediatric Dentistry Clinics,Istanbul University,were enrolled in the study.The oral health status of children were assessed by caries indices (dmft, dmfs),plaque index (PI) and modified gingival index (MGI);and parents were asked to fullfill a questionnaire regarding information on education and socioeconomic levels, sugar intake, feeding and oral hygiene practices,and dental visits. Ethical approval and informed consent were obtained.The findings were analyzed by Student's t, Mann WhitneyU, chi-square and Fisher's Exact χ^2 tests.

Results: The mean dmft, dmfs, PI, MGI in SECC were determined as 13,85±3,43, 28,55±11,94, 0,79±0,45, 0,42±0,50, respectively.The S-ECC group had significantly higher ($p<0.01$)PI and MGI scores than CF group.The low social and educational status of parents were found significantly associated with S-ECC($p<0.01$).A positive correlation was obtained between the high frequency of daily sugar intake and S-ECC($p<0.01$).The mean onset time for toothbrushing in S-ECC group (32,5±9,53 months) was determined significantly late ($p<0.01$) than CF group (19,6±8,03 months).The frequencies for daily toothbrushing and regular dental visits were found significantly higher($p<0.01$) in CF group than S-ECC group.

Conclusion: The findings of this study have demonstrated that the socio-behavioural factors, low social and parental education levels, high daily sugar intake, late-onset time for toothbrushing, inadequate oral hygiene, irregular dentist visits, are significantly associated with S-ECC.

Keywords: severe early childhood caries, tooth brushing, sugar intake

OP 019
Effect of Er,Cr:YSGG laser on the prevention of primary and permanent teeth enamel demineralization: an in vitro study

Nur Burcu Ulusoy[1], Aylin Akbay Oba[1], Zafer Cavit Cehreli[2]
[1]*Kirikkale University, Faculty of Dentistry, Pediatric Dentistry Department, Kirikkale, Turkey*
[2]*Hacettepe University, Faculty of Dentistry, Pediatric Dentistry Department, Ankara, Turkey*

Objective: The aim of this study was to evaluate the effect of Er,Cr:YSGG laser on the resistance of human primary and permanent enamel against demineralization under different Er,Cr:YSGG power settings, presence and absence of water cooling and co-application of topical flouride in vitro.

Materials-Methods: Enamel specimens from extracted primary and permanent teeth (n=225/each) were prepared. In both primary and permanent teeth, 15 subgroups (n=15/group) were assigned based on: 1-Er,Cr:YSGG laser application in three different power values (0.25/0.50/0.75 W), 2-Application of laser with and without water-cooling, and 3-Prior application APF gel before laser treatment. All prepared specimens were subjected to demineralization-remineralization cycles for 14 days. Morphological and the chemical changes of specimens were assessed by Scanning electron microscopy (SEM) and Energy-dispersive X-ray spectroscopy(EDS). The data were evaluated with one-way ANOVA statistically.

Results: In both primary and permanent teeth, the highest Ca and P content was observed in 0.75 W laser group without water-cooling ($p<0.05$), irrespective of topical APF application ($p>0,05$). In primary and permanent teeth, the Ca and P mass content of APF+0.75 W laser group without water-cooling were lower than the APF group and the 0.75W laser group without water-cooling. Under the SEM, both primary and permanent enamel exhibited cracks, craters and surface roughness, consistent with increasing power output and absence of water cooling.

Conclusion: Er,Cr:YSGG laser application at 0.75 W output without water-cooling increased enamel resistance to demineralization. Compared to topical APF application, Er,Cr:YSGG laser did not improve enamel resistance against demineralization, and its co-application with APF did not result in synergistic effect.

Keywords: dental caries, energy dispersive X-ray spectroscopy, lasers, prevention

OP 021
Factors associated with caries experience in children in the primary and mixed dentition

Elif Ece Kalaoğlu[1], Belgin Yazıcı[2], Ali Menteş[2]
[1] *Biruni University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey*
[2] *Marmara University, Faculty of Dentistry, Pediatric Dentistry Department, Istanbul, TURKEY*

Objective: The purpose of this study was to assess the caries experience and evaluate its association with brushing habits & frequency, fluoride exposure and taste preferences in children.

Materials-Methods: One hundred and fifty seven children (82 boys, 75 girls, and age 5-10) who attended to Pediatric Dentistry Department of Marmara University were included in the study. Informed consent was obtained from parents. Questionnaires were presented to parents to record their child's general health, oral health knowledge, fluoride exposure and taste preferences. The intra oral examination was performed under artificial light. ICDAS II index (International Caries Detection and Assessment System) was used and transformed to DMFT, DMFS, deft, and dfs indeces. The children with ICDAS Code 0,1 and 2 were determined as free from obvious caries. Statistical analyses were done using Independent t test, Mann Whitney U test, Chi-square test, Fisher reality test of the NCSS programme.

Results: Caries was detected in % 88,54 of 157 children. Children who have brushing habit had significantly lower dfs/DMFS (p=0.04). No significant association was found between caries and frequency of brushing/parent help. Children who use fluoride toothpaste had significantly lower dfs (p=0.08) and dfs/DMFS(p=0.012). Many of the children reported liking sweety food (%96.2). Children who reported not liking sweety food had lower dfs (p=0.0028) and dfs/DMFS (p=0.0026). There is no statistically significant difference between caries status and salty, bitter or sour taste preferences.

Conclusion: Children had higher ICDAS scores in primary molars. Sweet taste preference and using fluoride toothpaste affects significantly caries status.

Keywords: caries, brushing, sweet taste

OP 022
Effects of different pediatric drugs and toothbrushing on color change of restorative materials used in pediatric dentistry

Sinem Yıldırım[1], Yeşim Şeşen Uslu[2]
[1]*Istanbul Okan University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey*
[2]*Istanbul Okan University, Faculty of Dentistry,Department of Restorative Dentistry, Istanbul, Turkey*

Aim: The purpose of this study was to evaluate the effects of different pediatric drugs and toothbrushing on the color changes of restorative materials used in pediatric dentistry.

Materials-Methods: Sixty specimens were prepared from each of three restorative materials (compomer [Dyract XP], glass hybrid [Equia Forte], glass carbomer [GCP Glass Fill]). Specimens were divided into six groups for immersion in five different pediatric drugs and distilled water. Each group was subdivided into brushing and non-brushing groups. The specimens in the brushing subgroups were brushed with toothpaste once a day using an electric toothbrush. Color was measured using a spectrophotometer and color changes were calculated between baseline and 7, 14 days. Data was subjected to four-factor mixed-design ANOVA (analysis of variance) using General Linear Model procedure for repeated measurements.

Results: All solutions evaluated yielded color changes (ΔE), and these changes were significantly greater for compomer than for glass hybrid or glass carbomer ($p<0.05$). The highest ΔE was found in Floradix-compomer/non-brushing (5.6 ± 0.27) and the lowest one was found in Distile water-glass hybrid/brushing (0.59 ± 0.08) pairwise. Brushing significantly decreased the color changes of restorative materials ($p<0.05$).

Conclusions: The clinically perceptible color changes for tested compomer/pediatric drug pairwise can be more problematic than glass hybrid and glass carbomer in pediatric dentistry. Brushing significantly influenced the color stability of esthetic restorative materials.

Keywords: compomer, glass carbomer, glass hybrid, color stability, toothbrushing

OP 023
Antibacterial properties of multi-walled carbon nanotube reinforced glass ionomer cements

Idil Akmeriç[1], Nursen Topçuoğlu[2], Elif Sungurtekin Ekçi[1]
[1]*Yeditepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey*
[2]*Istanbul University, Faculty of Dentistry, Department of Oral Microbiology, Istanbul, Turkey*

Objective: The aim of this study was to evaluate the antibacterial properties of a glass ionomer cement (GIC) reinforced with different ratios of multi-walled carbon nanotubes (MWCNT).

Materials & Methods: Experimental groups of the study were formed according to the amount of MWCNT (Nanografi Nanoteknoloji, Ankara) incorporated (G1: 1%wt, G2: 2 %wt, G3: 3 %wt, respectively). Unmodified Ionofil U (Voco, Germany) was assigned as the control group (G0). Direct contact test was used for the assessment. Three sets of each group (n=10) were hand-mixed and placed on 96-well microtiter microplates. Freshly incubated S. mutans suspension was placed directly on cements for 24 hours. Nine wells of bacteria without the tested cements served as the positive control. One well of the tested cements without bacteria served as the negative control. Bacterial growth was evaluated by a temperature-controlled microplate spectrophotometer after 24 hours. Data were analyzed with one-way ANOVA in group comparisons and Tukey multiple comparison test in subgroup comparisons ($p<0,05$).

Results: G2 and G3 revealed significantly increased antibacterial effects compared to G0 ($p<0,05$). No statistically signficant difference were found between OD values of G0 and G1 ($p>0,05$).

Conclusion: GICs reinforced with 2 %wt and 3 %wt MWCNTs demonstrated significantly improved antibacterial properties against *S. mutans*. Further studies are required to benefit from the promising CNT technology in the field of pediatric dentistry.

Keywords: carbon nanotubes, direct contact test, glass ionomer cements

OP 024
Color stability of resin infiltration system after immersion tea or cola

Firdevs Kahvecioğlu[1], Nevin Çobanoğlu[2], Hayriye Esra Ülker[2]
[1]*Selçuk University, Pediatric Dentistry, Konya, Turkey*
[2]*Selçuk University, Restorative Dentistry, Selçuk University, Konya, Turkey*

Objective: The aim of this study was to evaluate the color stability of resin infiltration system after immersion tea or cola.

Materials & Methods: Forty two teeth were used for 3 groups, 14 teeth for each group. The teeth chosen for this study were controlled in the daylight and only those whose enamel surface showed adequate proporties were used. Artificial caries lesions were formed on the buccal surfaces of the teeth. The artificial caries lesions treated with a resin infiltrant (ICON DMG, Hamburg, Germany). Samples (n = 14) were immersed during 7 days in distilled water, tea and cola. CIELAB coordinates were obtained using a spectrophotometer (VITA Easyshade® - Vita Zahnfabrik) before (T0) and after (T1) immersion. The color change in the specimens was recorded as ΔE. Data was analyzed by two-way ANOVA and Tukey's test.

Results: After immersion in tea and cola for 7 days, there was no statistically significant difference between ΔE values of tea and control group ($p > 0.05$). The ΔE values of cola specimens were different from control group ($p < 0.05$).

Conclusion: Within the limitations of the study, the results showed that artificial caries lesions treated with the resin infiltrant showed important color change after immersion cola.

Keywords: resin infiltration, color stability, spectrophotometer

OP 025

Comparative evaluation of four endodontic biomaterials and calcium hydroxide regarding their effect on fracture resistance of simulated immature teeth

Aslı Sogukpinar[1], Volkan Arikan[2]
[1]*Fatma Kemal Timuçin Oral and Dental Health Hospital, Adana Turkey*
[2]*Kirikkale University, Faculty of Dentistry, Department of Pediatric Dentistry, Kırıkkale, Turkey*

Objective: This study aimed to compare the fracture resistances of in vitro-simulated immature teeth in single-session apexification with MTA and newly-developed calcium-silicate-based MTA derivatives.

Materials & Methods: Two hundred and seventy human permanent upper incisors were randomly divided into Study (n=180), Positive Control (Ca(OH)2 -n=45), and Negative Control (NC-intact) (n=45) Groups. Study groups used ProRoot MTA(MTA-PR), MM-MTA, NeoMTA-Plus, and Biodentine(BD) with 45 teeth in each. Subgroups of 2-week, 2-month, and 1-year periods were formed. Fracture resistance (FR) test was performed using Instron device at the period end. Results of biomaterials and follow-up periods were statistically analyzed and compared using Kruskal Wallis and Conover's multiple comparisons tests.

Results: 2-week FR medians were significantly lower in MM-MTA, NEO, MTA-PR and Ca(OH)2 groups ($p<0.001$, $p<0.001$, $p=0.003$ and $p<0.001$ respectively), compared to NC. 2-month FR medians were significantly lower in BD, MM-MTA, NEO, MTA-PR and Ca(OH)2, ($p=0.005$, $p<0.001$, $p<0.001$, $p<0.001$ and $p<0.001$ respectively), compared to NC. 1-year FR medians were significantly lower in BD, MM-MTA, NEO, MTA-PR and Ca(OH)2 groups ($p=0.002$, $p<0.001$, $p<0.001$, $p<0.001$ and $p<0.001$, respectively), compared to NC. For all groups, FR at 1-year was significantly lower compared to 2-week and 2-month marks ($p<0.001$, $p<0.001$).

Conclusion: Since FR was significantly higher at 2-week and at 2-month compared to 1-year period for each material, filling the root canal completely with biomaterials used in our study leads to tooth denaturation and decrease in fracture resistance over time, with effects like Ca(OH)2.

Keywords: ProRoot MTA, MM-MTA, neoMTA, Biodentine, fracture resistance

OP 026
Antibacterial effects of novel artificial saliva formulations containing lysozyme or lactoferrin on streptococcus mutans: an in vitro study

Kubra Tonguc Altin[1], Nursen Topcuoglu[2], Gülengül Duman[3], Melis Unsal[4], Ayse Celik[4], Senem Selvi Kuvvetli[1], Guven Kulekci[2]
[1] *Yeditepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey*
[2] *Istanbul University, Faculty of Dentistry, Department of Oral Microbiology, Istanbul, Turkey*
[3] *Yeditepe University, Faculty of Pharmacy, Department of Pharmaceutical Technology, Atasehir, Istanbul, Turkey*
[4] *Yeditepe University, Faculty of Dentistry, 5th grade Student, Istanbul, Turkey*

Objective: The aim of this study was to determine the antibacterial effect of different artificial saliva formulations containing lysozyme or lactoferrin on Streptococcus mutans (S. mutans) in comparison with human saliva.

Materials & Methods: The antibacterial effect was assessed by determining the Minimum Inhibitory Concentrations (MIC) for the study and control groups on S. mutans. Bacterial adhesion for 4 h on sterile hydroxyapatite discs after application of different artificial saliva formulations were evaluated. The different formulations studied were: (1) artificial saliva (2) artificial saliva containing Lysozyme (3) artificial saliva containing Lactoferrin. The control group was human saliva. Statistical evaluation was carried out with Kruskal–Wallis and Dunn's multiple comparison tests.

Results: It was observed that artificial saliva formulations containing Lysozyme or Lactoferrin had antibacterial effects on the tested bacteria. A statistically significant difference in bacterial adhesion was observed between all tested and control groups. Bacterial adhesion to the discs were observed significantly higher in human saliva than the study groups. The amount of adhered S. mutans were significantly higher in artificial saliva compared to artificial saliva formulations containing Lysozyme or Lactoferrin ($p<0.01$). However, no statistically significant relationship was obtained between artificial saliva containing Lysozyme and artificial saliva containing Lactoferrin formulations ($p>0.05$).

Conclusion: Among the formulations, artificial saliva containing Lysozyme or Lactoferrin exhibited higher inhibitory effect on the tested bacteria. This novel formulations can be beneficial as an antibacterial agent for the prevention of dental caries for pediatric cancer patients with xerostomia.

Keywords: artificial saliva, lysozyme, lactoferrin, *S. mutans*

OP 027
Remineralizing efficacy of the self-assembling peptide p11-4 on artificial caries lesions: a quantitative assessment using µct

Nilüfer Üstün, Oya Aktören
Istanbul University, Faculty of Dentistry, Paediatric Dentistry Department, Istanbul, Turkey

Objective: The objective of this in vitro study was to analyze and compare the biomimetic remineralizing efficacy of the self-assembling peptide (P11-4) with agents containing casein phoshopeptide-amorhous calcium phosphate fluoride (CPP-ACFP) and sodium fluoride (NaF) on demineralized enamel surfaces using micro-computed tomography (µCT).

Materials-Methods: Enamel specimens were prepared from freshly extracted mandibular third molars. Artificial caries lesions were produced on specimens by a demineralization solution (pH:4.3) for 3 days. The samples were randomly allocated to 4 groups(n=8): Group 1; P11-4(Curodont Repair, Credentis AG,Switzerland), Group 2; CPP-ACFP (MI Varnish, GC Corp.Japan), Group 3; NaF (Duraphat Varnish, Colgate-Palmolive,USA), Group 4: artificial saliva (control). The remineralization agents were applied to demineralized surfaces according to manufacturer's instructions; then all samples were stored in artificial saliva for 1 month. Mineral loss (BMD) and lesion depth (LD) alterations in 1 month were quantified by µCT. Data was statistically analysed by ANOVA and Kruskal-Wallis tests.

Results: All remineralizing agents exhibited remineralization effects on artificial lesions. In 1 month period; Group 1 has exhibited significantly higher remineralization ($p<0,05$) than Group 3; no significant difference in remineralization ($p>0.05$) were found between Group 1 and 2. Groups 1, 2 and 3 have exhibited significantly higher remineralization ($p<0,001$) than Group 4.

Conclusion: The data of this study has demonstrated that P11-4 has showed the best remineralization efficacy among three materials tested, followed by CPP-ACFP and NaF. P11-4 is a promising material for biomimetic remineralization of enamel subsurface lesions. (This study was supported by Istanbul Univ/BAP/26202).

Keywords: p11-4, remineralization, self-assembling peptide

OP 028
Influence of casein phosphopeptide amorphous calcium phosphate and amelogenin on enamel remineralization

Gül Keskin[1], Çiğdem Güler[2], Sibel Yıldırım[3]
[1]*Gaziantep University, aculty of Dentistry,Department of Pediatric Dentistry, F Gaziantep, Turkey*
[2]*Ordu University, Faculty of Dentistry, Department of Pediatric Dentistry, Ordu, Turkey*
[3]*Selçuk University, Faculty of Dentistry, Department of Pediatric Dentistry, Konya, Turkey*

Objective: The aim of this in vitro study is to evaulate remineralization activity of casein phosphopeptide amorphous calcium phosphate (CPP-ACP) and enamel matrix derivatives (Emdogain) on human permanent teeth enamel.

Materials-Methods: 5 experimental groups [control (K), fluoride (F), CPP-ACP (C), Emdogain (E) ve C+E], which had 10 enamel samples each group, were formed. The all samples were placed in demineralization solution for four days to produce artificial carious lesions. Flor (F), calcium (Ca), phosphorus (P) content and Ca/P ratios were calculated by energy dispersive X-ray spectroscopy (EDX). Remineralization agents were applied during 7 days according to the experimental groups. After remineralization, the mineral content of the samples was measured using EDX again. Morphological changes occurring on the surface were evaluated with scanning electron microscope (SEM).

Results: Mineral contents of samples were not statistically significant differences between the groups after demineralization ($p>0.05$). After remineralization, F values in F, C and C+E groups, Ca values in F, C, E and C+E groups, P values in only C group and %Ca/P ratios in F, C, E and C+E groups were increased significantly ($p<0.05$). The highest levels of F value in F group, Ca value in C group and %Ca/P ratio in C+E group were measured.

Conclusion: Remineralization agents which applied in the all experimental groups, have a positive impact. To use CPP-ACP with Emdogain together has increased the effectiveness of remineralization of these agents. Therefore, combined use of CPP-ACP and Emdogain may be an alternative treatment for providing remineralization of enamel.

Keywords: CPP-ACP, Emdogain, enamel remineralization

OP 029
Effectiveness of two different toothbrushes used by children for plaque removal on partially erupted permanent first molar teeth

Betul Memis Ozgul[1], Didem Sakaryali[1], G. Burcu Senirkentli[1], R. Ebru Tirali[1], S. Burcak Cehreli[2]
[1] *Baskent University, Faculty of Dentistry, Department of Pediatric Dentistry, Ankara, Turkey*
[2] *European University of Lefke, Faculty of Dentistry, Department of Pediatric Dentistry, Lefke, TRNC*

Objective: The aim of this crossover clinical study was to compare the effectiveness plaque removal in permanent first molar (PFM) teeth that has not fully erupted when conventional and a new silicone teeth & gum brush is used.

Materials-Methods: This crossover clinical study was conducted with 18 lower PFM teeth from 9 kids aged 5-7 with the inclusion criterias as lower PFM teeth below the occlusal plane without gingival coverage. Teeth were photographed twice at each appointment to investigate the baseline and final plaque scorings. During appointments, after the plaque on occlusal surfaces of PFM were disclosed; children were given a normal toothbrush with nylon birstles for the first appointment and a silicone tooth & gum brush for the second appointment with a standard toothpaste. Occlusal plaque index (OPI) was analysed with image analysis software program and Anova was used for comparisons between the groups with $p< 0.05$ considered to be significant for data analysis.

Results: When comparing the effectiveness of decrease in the OPI between baseline and after brushing there were no statistical differences among the groups (p=0,074). Even though there is no statistically meaningful difference, the gum & teeth brush showed more decrease in OPI numerically.

Conclusion: It's known that children aged 3-6 have lack of the developmental skills to brush their own teeth so according to the results silicone tooth & gum brush can be recommended instead of normal tooth brushes.

Keywords: children, oral hygiene, plaque removal, toothbrush

OP 030
Cone beam computed tomography (CBCT) in pediatric dentistry

Riad Bacho[1], Ibrahim Nasseh[2]
[1]*Lebanese University, Faculty of Dental Medicine, Department of Pediatric Dentistry, Beirut, Lebanon*
[2]*Lebanese University, Faculty of Dental Medicine, Department of Oral Medicine and Maxillofacial Radiology, Beirut, Lebanon*

Cone Beam Computed Tomography (CBCT) has become an increasingly important source of three dimensional (3D) volumetric data in clinical pediatric dentistry since its introduction into dentistry in 1998. CBCT has greatly improved diagnosis and treatment planning, especially in complex cases where conventional radiographic techniques are insufficient. The decision to use CBCT should be based on the specific diagnostic information required. As with any other radiographical techniques, routine use of CBCT is not an acceptable clinical practice. CBCT certainly has a place in pediatric dentistry, but its use must be justified on an individual patient case basis. This presentation deals with case reports of patients with various pediatric dental problems to demonstrate the need for accurate diagnosis and treatment planning based on a comprehensive evaluation using CBCT.

Keywords: CBCT, pediatric dentistry, impacted teeth, cysts, dental trauma

OP 031
Creation of a new schema for dental development of turkish children aged 11 years

Derya Tabakcilar, Elif Sungurtekin Ekci, Didem Ozdemir Ozenen
Yeditepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey

Objective: Age estimation; plays an important role in forensic sciences, archeology, pediatric endocrinology and clinical dentistry. It is known that dental development is a reliable way to estimate age. However, each society does not have its own method or atlas. The aim of this study is to make new tooth development stages of eleven years old children and to create Turkish population standards.

Materials-Methods: In this study, 122 (68 girls and 54 boys) eleven years old children with normal development have been compared Moorress's dental development stages through their panoramic radiographies. Yeditepe University, Faculty of Dentistry, Department of Pediatric Dentistry's archive records were used in the study. A new schema was created based on the median values of the data from the radiographs of these children. Median values analysis were performed using the IBM SPSS Statistics 21.

Results: According to our study, the development of teeth such as RM2 and RP2 of children aged eleven in the Turkish population was different from the results of previous studies.

Conclusion: Different methods and atlas have been established to determine tooth age. However, due to the genetic and morphological differences between populations, these values may give different results in each society and therefore they should develop their own standards.

Keywords: age estimation, dental age, dental development

OP 032
Clinical association between malocclusions and bad oral habits in monozygotic and dizygotic twin pairs

Mine Koruyucu, Sinem Birant, Figen Seymen
Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey

Objectives: Twins are a valuable source for observation of dentofacial development. The aim of this study is to evaluate the clinical association between malocclusion and bad oral habits in monozygotic and dizygotic twin pairs.

Methods: The sample consisted of 59 pairs of monozygotic twins (mean age 9.63±3.0, range 5-15) and 143 pairs of dizygotic twins (mean age 9.47±3.2, range 3-15) who referred to the our clinic for their first dental examination. All children were evaluated regarding with bad oral habits; pacifier sucking, bottle feeding, finger sucking, nail biting, mouth breathing and tongue trust. These findings were compared between malocclusions; molar occlusion, canine occlusion, openbite, crossbite, deepbite, overjet and midline shift. Differences between the groups were statistically analyzed using the Fisher exact test and Chi-square Likelihood Ratio tests.

Results: There was a relationship between nail biting and molar occlusion in monozygotic twin pairs ($p<0.05$). There was a significant relationship between mouth breathing and openbite in both monozygotic and dizygotic twin pairs ($p<0.05$). Statistically significant difference was found between mouth breathing and overjet and between openbite and tungue trust in dizygotic twin pairs ($p<0.05$). There was a significant relationship between overjet and tongue trust in both monozygotic and dizygotic twin pairs ($p<0.05$).

Conclusions: There were very less significant differences between twin pairs in the parameters assessed in this study. The similarity in their environmental factors has led to the similarity in their oral habits and malocclusion. The results confirm a possible role of genetic factors in malocclusion and oral habits.

Keywords: bad oral habit, malocclusion, twin

OP 033
Dental caries status and associated risk factors among preschool children in Edirne, Turkey

Şirin Güner Onur[1], Ilknur Taşdemir[1], Sinem Batur[1], Betül Kargül[2], Nejdet Süt[3]
[1]*Trakya University, Faculty of Dentistry, Department of Pediatric Dentistry, Edirne, Turkey*
[2]*Marmara University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey*
[3]*Trakya University, School of Medicine, Department of Biostatistics, Edirne, Turkey*

Objective: Dental caries are a global public health problem and influence the overall health of children. The risk factors for caries include biological, socio-behavioral and environmental factors. This aims of study to understand the prevalence of dental caries of preschool children in Edirne, Turkey and to evaluate the associated risk factors.

Materials-Methods: The sample comprised children aged 3 to 6 years recruited from dental school, department of pediatric dentistry. The World Health Organization (WHO) decayed, missing and filled teeth index (dmft) was used to analyze the dental status of the children. A questionnaire survey was conducted with the children's guardians to ascertain the potential risk factors associated with dental caries in primary teeth.

Results: A total of 481 children (44.5% girls), with a mean age of 4.78± 1.47 years, participated in the study. The prevalence of dental caries was 86.69%, and the mean dmft±SD was 8,08 ± 5,05. The possible risk factors for caries included: drinking sweetened beverages frequently, eating sweets before sleep, breastfeeding and latter introduction of toothbrushing, educational level of parents, regular parental support for children's toothbrushing, and a good perception about children's oral health conditions were shown as potential protective factors for dental caries in primary teeth.

Conclusion: Sociodemographic factors, dietary and oral health habits were associated with dental caries. Effective oral health interventions tailored to improve dietary habits and the dental check up of children in this age group are essential to reduce these concerns.

Keywords: dental caries, preschool children, oral health

OP 034
A comparison of dental maturation in twins

Yelda Kasımoğlu, Sinem Birant, Mine Koruyucu, Koray Gençay, Figen Seymen
Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey

Objective: Chronological age, dental development, height and weight measurements and sexual maturation characteristics are some biological indicators that have been used to identify time of growth. The aim of the present study was to assess the correlation between the chronological age and dental age and also was to determine whether Body Mass Index (BMI) is associated with dental maturation among different types of twins.

Materials-Methods: In this study, panoramic radiographs of 366 children (183 twins), aged between 6 and 16 years (mean age 10,44 ± 2,72 years), divided into group of 75 monozygotic, 108 dizygotic twins were examined by one investigator. Their zygosity was determined by their data, sex and saliva. Dental age was assessed by Willems method. The BMI was determined for each patient.

Results: There was a statistically significant positive correlation between chronological age and dental age in all twins ($p<0,01$). For dental age, there is no statistically significant difference between monozygotic and dizytgotic twins ($p>0,05$). Dental age were independent from BMI variables.

Conclusion: There is a correlation between chronological age and dental age in the monozygotic and dizygotic twin pairs. A greater number of children with low-weight and children with obesity need to be examined to see the effect of the BMI variable on dental maturation among twins.

Keywords: dental maturation, Willems method, twins

OP 035
Radiographic examination of factors affecting spontaneous space closure after first permanent molar extraction: a pilot study

Pinar Demir, Osman Saraç
Inonu University, Department of Pediatric Dentistry, Malatya, Turkey

Objective: The aim of this retrospective study was to determine the effect of first permanent molar (FPM) extraction on developing occlusion, the eruption of second permanent molar (SPM) and spontaneous space closure of FPM by SPM.

Materials-Methods: 124 SPM from 96 patients were clinically assessed. In pre-extraction panoramic radiography; SPM's radiographic development stage, SPM's angulation, second premolar's relationship to primary second molar's furcation, permanent third molar presence/absence were assessed. In post-extraction panoramic radiography; the position of each SPMs were recorded in relation to the second premolar and the SPM's angulation, tipping, eruption direction were evaluated. The data obtained were calculated as percentages, frequencies and standard deviation.

Results: Despite being extracted after the Demirjian tooth development stage E, which was indicated as the ideal time, ideal space closure was observed in 24 teeth of 120 teeth. This ratio was observed as 30% in maxilla and 15% in mandibula. When the FPMs were extracted, in 50% of patients distal angulated SPMs showed ideal space closure contacted with second premolars without any tipping.

Conclusion: In this study, by using existing patient data we aimed to contribute to determination of correct extraction conditions and prediction of occlusion development. While assessing to extract FPMs; especially in mandibula, the SPMs angulation and the presence/absence of the third molar must be considered. Taking advantage of past experiences with retrospective studies will directly influence the prognosis of future patients and help to get positive results.

Keywords: first permanent molars, extraction timing, spontaneous space closure, orthodontic development

OP 036
Assessment of dental arch parameters in Turkish twins

Sinem Birant[1], Mine Koruyucu[1], Yelda Kasimoglu[1], Nural Bekiroglu[2], Figen Seymen[1]
[1] *Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey*
[2] *Marmara University, Medical School, Department of Biostatistics, Istanbul, Turkey*

Objective: Genetic studies of dental arch breadht and length, in human population have provided estimates of the relative contributions of genetic and environmental influences to observed variation.The aim of this study is to investigate the relative contributions of genetic and environmental factors to variations in dental arch breadth and height in monozygotic (MZ) and dizygotic(DZ) twin pairs.

Materials-Methods: The study samples were selected from the twin children between 3-15 years old who referred to Istanbul University Faculty of Dentistry Department of Pediatric Dentistry for their first dental examination. The clinical examination was conducted in a standardized, systematic manner with the child upright in a chair. 59 monozygotic and 143 dizygotic twin pairs were examined. The anterior arch breadth, posterior arch breadth, arch length and arch perimeter were measured for both the maxilla and the mandibula using dental casts with digital caliper. Data entry and analyses were performed using statistical software (SPSS version 20, Chicago, IL). Data were described using frequency counts and percantages. Descriptive and inferential statistics were reported.

Results: A total of 404 dental model of 118 (29.2%) monozygotic and 286 (70.8%) dizygotic twins were evaluated. The arch perimeter of the maxilla and the mandibula, the anterior arch breadth of the mandibula and the length of the mandibula ($p<0.0001$,$p<0.01$) were statistically significantly different between the MZ and DZ twins.

Conclusion: These results indicate that genetic parameters can be effective in dental arch measurements.

Keywords: arch breadth, arch length, variability, heritability

OP 037
Clinical assessment between bad oral habits and dental caries-periodontal parameters between monozygotic and dizygotic twins

Ceren Ilisulu, Sinem Birant, Mine Koruyucu, Elif Bahar Tuna Ince, Figen Seymen
Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey

Objective: The purpose of this study is to investigate clinical association between bad oral habits and dental caries-periodontal parameters between monozygotic and dizygotic twins.

Materials-Methods: The sample consisted of 59 pairs of monozygotic twins (mean age 9.63±3.0, range 5-15) and 143 pairs of dizygotic twins (mean age 9.47±3.2, range 3-15) who referred to the our clinic for their first dental examination. All children were evaluated regarding with bad oral habits; bruxism, abrasion, thumb sucking, pacifier sucking, nail biting, mouth breathing, atypical swallowing. These findings were compared with dental caries and periodontal parameters; dmfs, DMFS, gingival index, plaque index, bleeding on probing. Data entry and analyses were performed using statistical software (SPSS version 20, Chicago, IL). Differences between the groups were statistically analyzed using the Mann Whitney U test.

Results: There was a significant relationship between pacifier sucking and DMFS and between mouth breathing and plaque index in dizygotic twins ($p<0.05$). Statistically significant difference was found between bruxism and DMFS and between nail biting and dmfs, bleeding on probing in monozygotic twins ($p<0.05$). There was a significant relationship between abrasion and plaque index, bleeding on probing in monozygotic twin pairs and between abrasion and DMFS, plaque index in dizygotic twins ($p<0.05$). Statistically significant difference was found between atypical swallowing and, bleeding on probing in monozygotic twin pairs and between atypical swallowing and plaque index in dizygotic twins ($p<0.05$).

Conclusion: These results confirmed that bad oral habits influences on dental caries and periodontal parameters in twins.

Keywords: bad oral habits, dental caries, periodontal parameters, twins

OP 038
Quantitative determination of helicobacter pylori genes in the oral cavity of children by real-time polymerase chain reaction and comparison of oral findings

Damla Aksit Bicak[1], Serap Akyuz[2]
[1]*Near East University, Faculty of Dentistry, Department of Pediatric Dentistry, TRNC*
[2]*Marmara University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey*

Objective: This study was conducted to detect whether the human oral cavity could represent an important reservoir for H.pylori. Some oral parameters were also evaluated.

Materials-Methods: The study composed of 70 children with dyspepsia (study group) and 30 healthy children (control group). Saliva and supragingival dental biofilm samples were collected for 16S rRNA and 23S rRNA genes detection by real-time polymerase chain reaction. Halitosis was evaluated by BANA test. Salivary S.mutans and Lactobacilli sp. counts were also carried out by commercial kits. The Oneway ANOVA test and the Tukey HDS test were used for the comparison of quantitative datas. Chi-square test, Fisher's Exact Chi-square test and Continuity (Yates) correction were used for comparison of qualitative datas.

Results: The detection rate of H.pylori in oral samples and halitosis were found higher in the dyspeptic children rather than the control group ($p<0.01$). In the gastric H.pylori positive group DMFT/S and dmft/s numbers and plaque indices were found higher than the control group($p<0.01$). Only plaque indices of gastric H.pylori negative group were found higher than the control group($p<0.01$). Comparing to those with negative for both genes, in children whose oral samples were positive for both, higher results for halitosis, and DMFS numbers and significantly lower results for dmfs numbers and pH values were found($p<0.01$).

Conclusion: The number of H.pylori can increase in the oral cavity with the accumulation of the dental biofilm as a result of microaerophilic feature and can be sufficient for starting a gastric infection in the stomach through swallowing.

Keywords: Helicobacter pylori, dental plaque, saliva, halitosis, oral diseases

OP 039
Odontogenic tumors in children: report of two cases

Aslı Evren Delilbaşı[1], Beyza Ballı Akgöl[2]
[1]*Pediatric Dentist, Private Practice*
[2]*Istanbul Medipol University, School of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey*

Introduction: Tumors originating from odontogenic tissues in children are rare. However, tissue damage caused by these tumors can adversely affect facial growth and development. Although most of these tumors are benign in nature, their local behavior is frequently aggressive. For accurate diagnosis and referral, the pediatric dentist should be familiar with clinical and radiological features of these lesions. Here two cases of odontogenic tumors in children are reported together with their clinical and radiological examination as well as treatment methods and follow-up.

Case Reports: An 8-year-old boy referred with a complaint of swelling in his right mandibular body region. After clinical and radiological examination, the patient was referred to oral and maxillofacial department for biopsy. The provisional diagnosis was juvenile ossifying fibroma. The patient was operated under general anesthesia. The postoperative course was uneventful until one year postoperatively, but recurrence was observed. The other patient was a 3-year- old boy who referred with a complaint of swelling in his left mandible. After clinical and radiological examination the patient was referred to oral and maxillofacial department for biopsy. The provisional diagnosis was ameloblastic fibroma. The patient was operated under general anesthesia. The postoperative course is uneventful and the patient is being followed-up.

Conclusions: Most of the jaws tumors in children manifest themselves via swelling. This symptom should be considered to rule out other causes of swellings of the jaws such as infection. Careful clinical and radiological examination is important for accurate diagnosis of the lesion and referral of the patient.

Keywords: odontogenic tumor, children, CBCT, excision

OP 040
Treatment of odontojenic CYSTS with marsupialization method in children – case reports series

Husniye Gumus, Salih Dogan, Gulce Cosar
Erciyes University, Faculty of Dentistry, Department of Pediatric Dentistry, Kayseri, Turkey

Objective: The odontogenic cysts are frequently encountered in the practice of dentistry. The odontogenic cysts are generally classified into two types, i.e. developmental cyst and inflammatory cyst. The dentigerous cyst is the most common type of developmental odontogenic cyst and the radicular cyst is the most common inflammatory odontogenic cyst. Regarding the few literatures on the outcomes of dentigerous cysts in children treated with different surgical approaches, two basic surgical procedures marsupialization and enucleation have been described.

Case: In this case study, six children between 6 and 12 years of age who have got odontogenic cysts were followed for a year. The odontontogenic cysts were treated with marsupialization technique. After the operation of the cyst, the marsupialization apparatus was made for the six patients. Patients were followed up at regular intervals by radiographic and clinical examination during the one-year treatment period. Marsupialization apparatus was adapted to cyst area in control sessions. According to the contraction of the size of the cysts, the dimensions of the marsupialization apparatus were reduced. In five of the six patients, permanent tooth development and eruption were observed in the cyst area, while only one patient, the cyst and the permanent tooth germ was surgically removed from the cyst area. Only cyst healing was followed in this patient.

Conclusion: The cyst sizes were observed to decrease with marsupialization treatment in the six children who were followed up. Marsupialization for odontogenic cyst in growing patient has more advantages than enucleation to reduce treatment morbidity.

Keywords: the odontogenic cysts, marsupialization, pediatric dentistry

OP 041
Different marsupialization preferences: case series

Tuğba Yiğit[1], Umut Yiğit[2]
[1]Uşak University, Faculty of Dentistry, Department of Paediatric Dentistry, Uşak, Turkey
[2]Uşak University, Faculty of Dentistry, Department of Periodontology, Uşak, Turkey

Objective: Dentigerous cysts are the most common odontogenic after radicular cysts that they are originating from the epithelium whiches surround the non-erupted teeth, Marsupialization method can be applied as an alternative approach in the treatment of large cysts for a long time.

Case: Two female children; one of them is 8 years old and had a continuously swelling and pain on her face, and the other one is 9 years old, had doubts about her radiographic examination, were consulted to our clinic by a dentist. In the first patient, cyst were localised between the 42 and 85, also included non-erupted 43, 44 numbered teeth in the right mandible and treated a draine for marsupialization. In the second patient, the borders of the dentigerous cysts were observed quite wide that localised in the right maxilla and so examined by dental volumetric tomography. The lesion borders extend to the base of the maxillary sinüs, to the nasal cavity wall, and to the 26 numbered tooth. Cyst also includes 23,24,25 numbered teeth. In this case, treatment with marsupialization method was performed using an appliances. Permenant teeth of the both patiens were erupted succesfully, or improved eruption position ways and also continued root growing after the treatment.

Conclusion: Marsupialization method is a basic and effective treatment alternative for survival of bone and teeth in the dentigerous cysts, decreasind the pathological fractures risks and also protecting the important anatomical values.

Keywords: dentigerous CYSTS, dental volumetric tomography, marsupialization

OP 042
Evaluation of fluoride release of a space maintainer with slow fluoride release in artificial saliva

Ayşe Derya Bayat, Salih Doğan
Erciyes University, Faculty of Dentistry, Department of Pediatric Dentistry, Kayseri, Turkey

Objective: In addition to classical space maintainer functions,our aim is to produce a new space maintainer with high antimicrobial activity capacity of releasing fluoride ions, which also has an effective role in reducing tooth decay.

Materials-Methods: First, the fluoride ion stock solution is prepared using sodium fluoride (NaF).10 ppm,20 ppm,30 ppm fluoride ion was charged to the bentonite material to contain the fluoride ion. 1 ml of a 10 ppm,20 ppm,30 ppm fluoride ion solution prepared by taking 500 mg of benonite material into a 50 milliliter tube was added. Polymethylmethacrylate (PMMA) powder was admixed with bentonite material which contain fluoride ion charged with 10 milligrams of acrylic powder. The material was thermally polymerized. Measurement was performed every day for 45 days, every week from week 7 to week 12.NaCl (0.4 g),KCl (0.4 g),CaCl2H2O (0.795 g),NaH2PO4.2H2O (0.78 g),Na2S.9H2O (0.005 g),urea (1.0 g) and distilled water (1000 ml) were prepared at neutral pH (7.0 to 7.4) in 5 ml of artificial saliva solution at 37°C for 3 months. The fluoride analyzes were performed with an ion-selective electrode with an ion meter.

Results: Slow and controlled fluoride release for 3 months.Anova test was performed to compare the samples.A regression model was established to calculate when the amount of fluoride ions would end.Slow fluoride release was reported to last for about 10-13 years.

Conclusion: Base material of space maintainer was added with bentonite material contain flouride, allowing new space maintainer to perform slow fluoride ion release.

Keywords: space maintanier, fluoride, bentonite, montmorillonite, nanotechnology

OP 043
Comparative evaluation of zirconium pediatric crowns and stainless steel crowns applied to primary teeth using finite element stress analysis

Betül Güney Çildan, Onur Gezgin
Necmettin Erbakan University, Faculty of Dentistry, Department of Pediatric Dentistry, Konya, Türkiye

Objective: The aim of this study is in order to examine stresses transmitted to dental tissues under the occlusal/lateral forces of stainless steel crowns (SSC) and pediatric zirconium crowns (PZC) applied to primary teeth.

Materials-Methods: In ANSYS program the maximum bite force/lateral forces of 245 N was applied on noncarious teeth model and 4 different full coronal restorated models. Materials included in this study; restorative materials are SSC and PZC, cements are glass ionomer cement (GIC) and dual cure resin cement (DCRC). All models have analyzed finite element analyses. Von mises stress values of all models were compared to noncarious teeth model.

Results: It has been determined that stresses occurring in PZC models are significantly lower than in SSC models, in all cases. Additionally the values obtained in PZC models were found to be lower than in noncarious teeth model. When stresses in the pulp tissues were examined, in all analyzes, were obtained similar results to noncarious teeth model in all models. The use of DCRC with both restorative materials showed lower stresses values on dentin and pulp than cemented GIC.

Conclusion: All materials included in this study were found to have sufficient durability against the maximum bite forces and it was determined that stresses measured on the dental tissues in similar with stress values occurring in the healty teeth. Especially, as a result of low stress values measured in PZC applied teeth, it is predicted that clinical use of these crown will not damage dental tissues.

Keywords: finite element stress analysis, luting cement, primary teeth, stainless steel crown, zirconium pediatric crown

OP 044
Clinical evaluation of a novel resin modified glass ionomer cement containing bioactive glass

Fatma Demiray, Emre Korkut
Necmettin Erbakan University, Faculty of Dentistry, Department of Pediatric Dentistry, Konya, Turkey

Objective: The aim of this study was to evaluate one-year clinical performance of a novel glass ionomer restorative material containing bioactive glass and three commercially available glass ionomer restoratives.

Materials-Methods: This randomized clinical study was conducted on 108 patients between 5-10 years of age. A total of 240 teeth were randomly divided into four groups, 60 teeth for each material (n=60); Activa BioActive-Restorative, Fuji II LC, Riva Light Cure, and Fuji IX GP. One clinician placed the restorations in the cavity, and 1 week later the patients were called for baseline examination. Restorations were evaluated by two examiners using the United States Public Health Service (USPHS) criteria at 3rd, 6th and 12th months. The data were analyzed using SPSS software. Fisher's exact and Mann-Whitney U tests were used for the analysis at a confidence level of 95%.

Results: There was no significant difference between the materials for secondary caries and discoloration ($p>0.05$). Activa BioActive-Restorative exhibited statistically significant results in terms of marginal adaptation and retention when compared to other groups ($P < 0.05$). Overall success rate for Activa BioActive-Restorative material was found to be 97% at the end of the 12 months.

Conclusion: The results of this clinical study showed that Activa BioActive-Restorative material has similar clinical performance when compared with other cements and is a viable alternative to conventional resin modified glass ionomers in restoring class I cavities in permanent teeth. However, further evaluations are necessary for the long-term clinical performance of these materials.

Keywords: bioactive glass, glass ionomer cement, in-vivo

OP 045
Effect of surface coating used with various glass ionomer restorative materials on secondary caries formation in-vitro

Didem Ozdemir Ozenen, Avsar Ozturk
Yeditepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey

Objective: Glass ionomers are usually preferred restorative materials in pediatric dentistry since their physical properties tend to be closer to primary teeth. Surface coating application is widely recommended for preventing moisture sensitivity in the early stages following placement. The aim of this present study was to evaluate the effect of surface coating agent application (Equia Forte Coat/GC) on three different types of glass ionomer restorative materials (Ketac Molar Easymix/3M, ChemFil Rock/Dentsply, Equia Forte/GC) on secondary caries in-vitro.

Materials-Methods: Standardized Class V cavities were formed on 48 extracted bovine teeth and restored with one of the tested materials. The coating applied materials were assigned as experimental groups and uncoated materials were assigned as control groups (n=8). All tooth samples were placed in the demineralization solution and images were taken with a stereomicroscope for analysis. The analysis was performed for four different types of lesion areas as A, B, C, and D type lesion values. The statistical analysis was performed and the $p<0.05$ recorded as statistically significant.

Results: The B type lesion values of the coated subgroup of ChemFil Rock material were determined as significantly higher than the other coated subgroups. There was no statistically significant difference between the A, C, and D type lesion values of the groups in the evaluation of secondary caries.

Conclusion: The surface coating applied restorations were determined to have a lower secondary caries incidence although the values were non-significant. Therefore, surface coating application might be recommended on glass ionomer based restorative materials.

Keywords: glass ionomer, restoration, surface coating

OP 046
TheraCal LC®, a calcium silicate-based biomaterial, decreased dental pulp stem cell proliferation in vitro

Buğra Özen[1], Elif Bahar Tuna Ince[2], Yusufhan Yazır[3], Elif Sözen[4], Hakan Darıcı[5], Hakkı Sunay[6], Mine Ergüven[7]
[1]*Altınbaş University, Faculty of Dentistry, Department of Paediatric Dentistry, Istanbul, Turkey*
[2]*Istanbul University, Faculty of Dentistry, Department of Paediatric Dentistry, Istanbul, Turkey*
[3] *Kocaeli University, Medical Faculty, Department of Histology and Embryology, Kocaeli, Turkey*
[4] *Liv Hospital & İstinye University, Regenerative Medicine and Stem Cell Production Center, Istanbul, Turkey*
[5] *İstinye University, Department of Histology and Embryology, Istanbul,Turkey*
[6]*Altınbaş University, Faculty of Dentistry, Department of Endodontics, Istanbul, Turkey*
[7] *Istanbul Aydın University, Faculty of Medicine, Medical Biochemistry Department, Istanbul, Turkey*

Objective: The aim of this study was to evaluate the effects of calcium silicate-based biomaterials on the cell proliferation and viability.

Materials-Methods: Human dental pulp stem cells which were provided from a cell bank as Lonza (PT-5025) were used. They were cultured in 6-well plates containing Dulbecco's Modified Eagle Medium. Groups were determined as three calcium silicate-based materials: ProRoot MTA, Biodentine and Theracal LC and one control group. The effects of biomaterials were evaluated by using cell proliferation and apoptotic indices at the 24th, 48th and 96th hours.

Results: The mild decrease in cell number was observed in the ProRoot group ($p<0.05$) with the increase in apoptosis ($p<0.05$), but Biodentin ($p>0.05$) and Theracal LC ($p<0.05$) led to the mild increase at the 24th h with the decrease in apoptotic index ($p<0.05$).The cell number decreased in all test groups at the 48th h. (PT <0.05, PB>0.05, PP>0.05) in parallel to the increase in apoptotic rate ($p<0.05$). For the 96th, the mild decrease was detected for ProRoot ($p>0.05$) and Biodentin ($p>0.05$) including the increase in apoptosis ($p>0.05$), however highest decrease as 117500±2121 was detected at the Theracal LC ($p<0.05$) with the highest increase in apoptosis as 90.24% ($p<0.05$).

Conclusion: Among all groups, materials with high biocompatibility were determined as ProRoot MTA and Biodentin, however in Theracal LC, as a result of the long term incubation, it had a low biocompatibility.For this reason, unlike the manufacturer's suggestion, direct application of this material to pulp should be done with caution.

Keywords: TheraCal LC, calcium silicate-based biomaterial, dental pulp stem cell

OP 047
Surface properties of multi-walled carbon nanotube reinforced glass ionomer cements

Elif Sungurtekin Ekci, Idil Akmeric
Yeditepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey

Objective: The aim of this study was to evaluate the surface roughness (Ra) of a conventional glass ionomer cement (GIC) reinforced with different ratios of multi-walled carbon nanotubes (MWCNT) as well as to observe surface topography via scanning electron microscopy (SEM).

Materials-Methods: Experimental groups of the study were formed according to the amount of MWCNT (Nanografi Nanoteknoloji, Ankara) incorporated (G1: 1 wt%, G2: 2 wt%, G3: 3 wt%, respectively). Unmodified Ionofil U® (Voco, Germany) was assigned as the control group (G0). Samples of each group (n=10) were fabricated by hand-mixing and in standard disc-shaped silicone molds. After overnight storage of samples in deionized water (pH=7), the Ra values were recorded using a surface profilometer followed by SEM imaging. Statistical evaluations were done using NCSS 2007 and data were analyzed with one-way ANOVA in group comparisons.

Results: No statistically significant differences were found between the Ra values ($p>0.05$). SEM imaging demonstrated a relatively homogeneous surface in G0 whereas protrusions and pits were observed in the MWCNT-reinforced groups.

Conclusion: MWCNT incorporation did not cause any significant deterioration on the surface properties. Further studies are required to benefit from the promising CNT technology in the field of pediatric dentistry.

Keywords: multi-walled carbon nanotubes, glass ionomer cements, surface roughness, SEM

OP 048
Evaluation of oral findings and laboratory tests in renal transplanted children and adolescent patients

Banu Oter
Başkent University, Istanbul Research and Training Hospital, Department of Pediatric Dentistry, Istanbul, Turkey

Objective: The aim of this single centered longitudinal study is to evaluate the relationship between oral findings and laboratory tests in children and adolescents living in Istanbul with kidney transplantations.

Materials-Methods: 25 patients aged between 4 and 21 (mean age: 14,8± 5,07) attended to Baskent University Istanbul Research and Training Hospital Department of Pediatric Dentistry were evaluated in terms of caries, hypoplasia, oral hygiene status and oral lesions related to immunosuppression drugs and side effects. Then the correlation of laboratory tests (including Hemoglobin, Urea, Creatinine, Calcium (Ca), Sodium (Na), Potassium (K) and oral findings were determined in each group using Kruskall-Wallis Test, Bonferoni Dunn and Spearman's Correlation Analysis.

Results: Meantime after transplantation was 1,08 year. They were all treated with combined tacrolimus with glucocorticosteroids. 2 of them were in primary dentition, 6 of them in mixed dentition and 17 of them in permanent dentition. One patient had maxillary brown tumor. 7(28%) patients showed hypoplasia and 10(40%) had oral lesions. There was a significant correlation between pre and post operation Ca blood levels and DMF score ($p<0,1$).

Conclusion: The clinicians may be aware of the level of blood biochemical compounds for oral health improvement during the pre and post transplantation period. A comprehensive and regular dental care is very important in renal transplantated patients.

Keywords: renal transplantation, oral health, children, adolescents

OP 049
Awareness and opinions of family physicians about ECC and preventive practices

Ceylan Çağıl Ertuğrul
Pamukkale University, School of Dentistry, Department of Paediatric Dentistry, Denizli, Turkey

Objective: It was aimed to evaluate awareness and opinions of family physicians (FP) about early childhood caries (ECC), etiological factors and current preventive practices.

Materials-Methods: FP who volunteered to participate in the study were visited in their clinics and questionnaires about ECC etiology, clinical appearance, treatment and precautions, were applied.

Results: A total of 70 FP, 35.7% female and 64.3% male, participated in the research. 37.1% of the FP stated that they recommend the first dental examination for children after 3-years of age. The rate of FP stated that ECC can be seen in 0-6 years-old children was 47.1%. It was determined that 62.9% of the FP were aware that ECC would not only be due to bottle-feeding. 27.1% indicated that the bacteria responsible for the ECC couldn't pass from mother to the baby, while 18.6% answered as "not sure." «Giving pacifier to baby by immersing it in sweetener such as honey/molasses/jam etc." (84.3%) was the most preferred choice among eating habits that can lead to ECC, but only 25.7% pointed to the breast milk which has been in contact with the teeth surfaces for a long time. 81.4% agreed that teeth should be brushed twice-a-day, while 47.1% thought that fluoride-toothpaste should be used. Some FP (21.4%) thought that fluoride applications were not effective to protect from ECC, whereas 37.1% were uncertain about this issue.

Conclusion: In the prevention of ECC, pedodontists should co-operate with family physicians and training programs should be organized that emphasize the importance of protective practices.

Keywords: early-childhood-caries, fluoride, family physicians, infant eating habits

OP 050
Relationship between immunological and microbiological structure of saliva according to the caries status in children

Sibel Acar Ezberci[1], Elif Azarsız[2]
[1]Usak University, School of Dentistry, Department of Pediatric Dentistry, Usak, Turkey
[2]Ege University, Medical School, Department of Pediatric Immunolgy, Izmir, Turkiye

Objective: The aim of this study was to determine the levels of salivary IgA, mutans streptococci and lactobasillus; flow rate, buffering capacity and pH of saliva in children according to the caries status and to invastigate the correlation between these variables.

Materials-Methods: Sixty-three (63) children aged 5 to 14 participated in the study. The children divided into 3 groups; Group I:caries-free, Group II: 1-5 caries, Group III: >5 caries. Dental caries were recorded using WHO criteria, DMFS and dfs scores were recorded. A questionnaire related to medical history, diet, oral hygiene habits and use of fluoride was carried out to all subjects and parents. Saliva samples were collected to measure the stimulated salivary flow rate, buffering capacity, pH values of saliva and secretuar IgA levels. Salivary mutans streptococci (MS) and lactobacilli (LB) were counted. All data were analyzed using t-test, Mann-Whitney U-tests and Spearman correlation tests.

Results: The quantity of S. mutans and lactobacillus were significantly lower in caries-free children(Group I) and a positive correlation was found between the quantity of S.mutans& lactobacilli and the DMFS dfs scores. Although there was a negative correlation between sIgA and salivary pH and positive correlation with gingival idea and plaque index; high level of sIgA in caries-free children was not significant.

Conclusion: Within the limitations of this study we couldn't find significant correlation between sIgA levels, S.mutans& lactobacilli and caries status. Further studies with an enlarged sample size are necessary to clarify these findings.

Keywords: s(IgA), caries, mutans streptococci, lactobacilli

OP 051
Hardness and fluorescence changes of an early caries lesion by a herbal toothpaste

Dilek Tağtekin[1], Esma Türkmen[2], Funda Yanıkoğlu[1], Gülçin Bilgin Göçmen[1]
[1] Marmara University, Faculty of Dentistry, Department of Restorative Dentistry, Istanbul, Turkey
[2]Oral and Dental Health Center, Pendik, Istanbul, Turkey

Objective: To evaluate any remineralization potential of early enamel lesion by the herbal toothpaste (Gumgumix®).

Materials-Methods: The human enamel samples were immersed in the demineralization solution using shaking incubator for 72h, resulted in lesions approximately 140µ depth. In this in vitro pH cycling study the following treatments were applied 3 times daily for 5 minutes lasted 7 days; 1) Control group (no treatment), 2) 1450 ppm NaF toothpaste (Ipana Kasidenti Procter& Gamble, GmbH, Germany) and 3) Ginger-honey toothpaste (Gumgumix®, Beka Ilac, Istanbul Turkey) at intervals. After demineralization and remineralization cycles, all samples were evaluated by surface microhardness and fluorescence method (FluoreCam, Therametrics, Indianapolis, USA). Data was analyzed statistically using One way ANOVA.

Results: The surface microhardness assessments showed that ginger-honey toothpaste group had statistically higher values than others (mean; 1= 233,08 ± 14,49, 2= 249,81 ± 5,90, 3= 260.86 ± 7.64, $p<0.001$). Meanwhile the FluoreCam size (1= 3,19 ± 1,83, 2= 0,66 ± 0,25, 3= 0,32 ± 0,18, $p<0.001$) and intensity (1= -11,68 ± 5,85, 2= -6,38 ± 3,12, 3= -4,40 ± 2,21, $p<0.001$) values were lower than the other groups. Significant differences with Gumgumix were observed by both methods in this study.

Conclusion: Considerable amount of remineralization was observed with ginger-honey containing toothpaste on early enamel caries lesion.

Keywords: early enamel caries, herbal, ginger, honey, remineralization

OP 053
Efficacy of different remineralizing varnishes on color stability achieved by whitening toothpastes

Zülal Çoban, Melis Bahar Akyildiz, Şeyma Erdoğan, Işıl Sönmez
Aydın Adnan Menderes University, School of Dentistry, Department of Pediatric Dentistry, Aydın, Turkey

Objective: The purpose of this in-vitro study was to compare the efficacy of different remineralizing varnishes on color stability of enamel which was achieved by whitening toothpastes usage.

Materials-Methods: 108 enamel specimens (4x4mm), removed from freshly extracted bovine incisors, were randomly divided into 4 groups (n=27): G1-Control group (Distilled water), G2-Conventional toothpaste (Colgate Total), G3-Low abrasive whitening toothpaste (Sensodyne True White) and G4-High abrasive whitening toothpaste (Ipana 3D White Luxe Perfection). All specimens were subjected to 6-months brushing simulator, and each specimen was brushed with a constant load of 200g for 2500 cycles (4.5 cycles/s). Each group was then further divided into three subgroups (n=9):(a)No surface treatment, (b)Fluoride varnish (Enamelast for 5min), (c) Casein Phosphopeptide-Amorphous Calcium phosphate (CPP-ACP) fluoride varnish (MI varnish for 5min). Next, all specimens were submitted to cycles of staining which was composed of 4 hours of immersion in a staining solution followed by a 1-hour air-drying period (22±1C0). After the completion of the staining process, specimens were washed in running water before being stored in artificial saliva for 15 hours (36±1C0). The color shade chances were assessed by Vita Easy shade reflectance spectroscope and the data of CIE color coordinates (L*,a*,b*), color difference (ΔE) were recorded. Data were analyzed statically.

Results: Statistically significant increase was observed in discoloration in all groups after remineralization varnishes were applied ($p<0.001$). There were no significant changes between the tested toothpaste groups ($p>0.05$).

Conclusion: It can be concluded that remineralization agents were not effective in preventing the stain absorption of the enamel whitened by toothpastes.

Keywords: color stability, fluoride varnish, MI varnish, whitening toothpaste

OP 054
Clinical performance of three different restorative materials in class ii cavities of primary teeth: a retrospective evaluation

Neslihan Özveren[1], Meltem Tekbaş Atay[2]
[1] *Trakya University, Faculty of Dentistry, Department of Pediatric Dentistry, Edirne, Turkey*
[2] *Trakya University, Faculty of Dentistry, Department of Restorative Dentistry, Edirne, Turkey*

Objective: This retrospective study evaluated the clinical characteristics of polyacid-modified resin composite (compomer), resin-modified glass ionomer cement (RMGIC) and glass carbomer fill material in class II cavities of primary teeth.

Materials-Methods: Class II restorations performed in a pediatric dentistry clinic between November 2016 and March 2017 were evaluated. The materials were: Compomer (Dentsply Dyract XP) in combination with a self-etch adhesive (Dentsply Prime&Bond NT), RMGIC (GC Fuji II LC capsule) with coating bonding system (Fuji COAT LC) and a glass carbomer (GCP Glass Carbomer fill) with coating bonding system (GCP GLOSS). At the end of 12 months, the data of 26 children aged 5 to 9 could be evaluated. Clinical examination was performed by one experienced examiner using the modified USPHS criteria. Fisher's exact test was used to evaluate the obtained data.

Results: Teeth restored with compomer had no Charlie score for any of the evaluated clinical situations at 12th month. RMGIC restorations had Charlie score in 20.8% of the restorations for all evaluated clinical parameters excluding the retention (8.3%), the marginal adaptation (13.8%) and the secondary caries (8.3%). 5 (23.80%) of the glass carbomer restorations had Charlie score for retention. For the remaining 16 glass carbomer restorations, percentages of Charlie scores for marginal adaptation, anatomic form, marginal discoloration, surface texture and secondary caries were 37.5%, 43.7%, 31.2%, 31.2%, 25% respectively.

Conclusion: Class II restorations with glass carbomer showed lower survival rates after 12 months compared to those with RMGIC and compomer.

Keywords: compomer, resin-modified glass ionomer, glass carbomer, primary teeth, class II

OP 055
Effects of materials and surface treatments on the success of conservative approach in permanent teeth

Zulfikar Zahit Ciftci[1], Yıldırım Erdoğan[2], Özge Güngör[1], Mehmet Ünal[3], Hüseyin Karayılmaz[1]
[1]*Akdeniz University, Faculty of Dentistry, Department of Pediatric Dentistry, Antalya, Turkey*
[2]*Pamukkale University, Faculty of Dentistry, Department of Pediatric Dentistry, Denizli, Turkey*
[3]*Afyon Kocatepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Afyonkarahisar, Turkey*

Objective: This study aimed to evaluate the effects of different surface treatments on the shear bond strength (SBS) of five fissure sealants to enamel in permanent molar teeth.

Materials-Methods: The enamel surface (buccal and lingual) of one hundred and twenty teeth were flattered and randomly divided into three main groups according to surface conditioning procedures. Main groups were; acid-etching (Group A); l Er,Cr:YSGG laser (Group B) and acid-etching combined with Er,Cr:YSGG laser (Group C). Totally 240 prepared surfaces divided into subgroups (n=16) according to the fissure sealant materials (subgroup 1; Glass Carbomer Sealant, subgroup 2; Fuji Triage, subgroup 3; Prevent seal, subgroup 4; BeautiSealant, and subgroup 5; Fissurit FX) using in this study. Fissure sealants were applied according to manufacturer proposal. SBS was determined using a universal testing machine with a crosshead speed of 0.5 mm min^{-1}. The data were statistically evaluated using one-way ANOVA and Tukey's test to multiple comparisons.

Results: Laser application demonstrated the lowest SBS values in all subgroups. Acid-etching exhibited the highest SBS values in subgroup 3 and 4 while laser+acid-etching exhibited the highest values in other subgroups. The lowest SBS values were calculated from subgroup 1 and 2 in all main groups and this differences were found statistically significant ($p<0.001$).

Conclusion: It was found that the SBS values increased with acid and acid+laser pre-treatment procedures. In glass carbomer and glass ionomer-containing materials, all the surface treatment procedures on the enamel gave similar results and the bonding strengths were less than those of the resin-containing materials.

Keywords: acid etching, fissure sealant, laser, permanent teeth, shear bond strength

OP 056
Effect of universal adhesive systems on microhardness of tricalcium silicate-based endodontic cements

Keziban Olcay[1], Mehmet Burak Güneşer[2], Asiye Nur Dinçer[2], Hatice Miray Uyan[1]
[1]*İstanbul Medipol University, Faculty of Dentistry, Department of Endodontics, Istanbul, Turkey*
[2]*Bezmialem Vakıf University, Faculty of Dentistry, Department of Endodontics, İstanbul, Turkey*

Objective: The aim of this study was to examine the changes in surface microhardness of Biodentine (BD) and ProRoot mineral trioxide aggregate (MTA) after universal adhesive application.

Materials-Methods: A total of 210 samples were prepared for MTA and BD main groups according to manufacturer's instructions using Teflon molds with 4 mm diameter 2 mm high. Samples were incubated for 7 days at 37°C in 100% humidity. The samples' surfaces were sanded with 320, 600, 800, 1200, 1500 and 2000 grits of silicon-carbide sandpaper respectively on an abrasive device under water cooling at 150 rpm speed for 30 sec. Each main group was then randomly divided into 7 subgroups (n=15): 1.Clearfil Universal Bond (CUB) (Total-etch (TE)); 2.CUB (Self-etch (SE)); 3.Allbond Universal (AU) TE; 4.AU SE; 5.Single Bond Universal (SBU) TE; 6.SBU SE; 7.Control group. Adhesive systems were applied according to the recommendations of the manufacturers'. No adhesive was applied on the control group. The microhardness test was performed at 100 gr for 15 sec.

Results: Significant differences were found in the MTA and BD main groups compared within themselves ($p<0.05$). As a result of binary comparisons made with the control group in BD (69±0,71) and MTA (72,61±1,38) main groups; the control group was found higher than all other groups ($p<0.05$).

Conclusion: It was found that in the control group, MTA was higher than BD; in comparative comparisons made for SE groups, BD and MTA showed similar microhardness values.

** This study was supported by TUBITAK, project number of 216M283.*

Keywords: microhardness, mineral trioxide aggregate, biodentine, universal adhesives

OP 057
Evaluation of the relationship between oral health and nutrition problems in children aged 2-5 years

Aybike Şahlanan[1], Elif N. Özmert[2], Hande Ünlü[3], Melek Dilek Turgut[1], Meryem Uzamış Tekçiçek[1]
[1]*Hacettepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Ankara, Turkey*
[2]*Hacettepe University, Faculty of Medicine, Department of Pediatrics, Ankara, Turkey*
[3]*Hacettepe University Institute of Public Health, Ankara, Turkey*

Objective: The oral health of children in the deciduous dentition affects the future oral health in the period of mixed and permanent dentitions. There has been lack of information on whether a nutrition problem of appetite loss affects caries development in children. The aim of the study is to determine the effect of appetite loss on oral-dental health of preschool children.

Materials-Methods: 60 children with low appetite and 60 healthy children without nutritional problems aged 2-5 years were included. Firstly, a questionnaire regarding oral hygiene and eating habits of children, socioeconomic status and education level of parents was conducted. Afterwards intraoral examinations including dmft index, ICDAS II index, d0-d4 scale and pufa index were performed. In addition; posterior, anterior and canine occlusions and anterior crowding of the children were evaluated.

Results: The mean age of the children with nutritional problems was 3.75 ± 0.879 and the mean age of children without nutritional problems was 3.8 ± 0.765. The mean dmft of the children with low appetite was 5,55 ± 4,13 while the mean dmft of the other group was 6,39 ± 4,33. There was no significant difference between the groups with respect to dmft index. In ICDAS II index, there was a statistically significant difference between groups regarding the teeth 75, 84, 85. With the pufa index, there were more abscesses in the group without nutritional problems.

Conclusion: Appetite loss in early childhood was not considered as a risk factor for caries development in preschool children.

Keywords: nutrition, appetite, oral health, dental caries

OP 058
Shear bond strength of a novel lining material to two different types of restorative materials

Elif Yaman Dosdogru, Gökçen Deniz Bayrak, Senem Selvi Kuvvetli
Yeditepe University, Faculty of Dentistry, Department of Pediatric Dentistry, İstanbul, Turkey

Objective: The aim of this study was to evaluate the shear bond strength (SBS) of a novel lining material (ActivaBioactive-Base/LinerTM, Pulpdent, Watertown, MA, USA[ABL]) to resin composite (Filtek™ Z250 Universal Restorative, 3M ESPE, USA[RC])/activa enforced resin-modified glass ionomer cements(ActivaBioactive-RestorativeTM, Pulpdent, Watertown, MA, USA[ABR]).

Materials-Methods: A total of 80 acrylic blocks with a hole(8 mm diameter-5mm height) were prepared then filled with four liners: powder-liquid resin-modified glass ionomer cement(Vitrebond, 3M ESPE, USA[V]), resin-modified glass ionomer cement(Ionoseal, 3M ESPE, USA[I]), resin-modified calcium silicate based MTA(TheraCal LCTM, Bisco, Inc. Schamburg,IL, USA[TC]) and ABL(n=20/group). The lining material samples were randomly divided into 2 subgroups: RC subgroup(I-RC, ABL-RC, TC-RC, V-RC) and ABR subgroup(I-ABR, ABL-ABR, TC-ABR, V-ABR). The shear bond strength was tested in a universal testing machine. Following the SBS test, the surfaces of broken samples were evaluated and grouped as adhesive, cohesive in lining material/restorative material and mixed. Statistical analysis was carried out using NCSS2007(Kaysville, Utah, USA) programme. Data were analyzed using two-way ANOVA and Bonferroni test.

Results: The highest(24.19±2.30 MPa) and the lowest(10.27±0.43 MPa) bond strength values were recorded for I-ABR and ABL-ABR, respectively. It was found that I-ABR demonstrated significantly greater SBS than all other. ABL showed significantly lower bond strength to RC compared to ABR. For ABR subgroup, it was shown statistically significant lower SBS in ABL compared to V and TC. TC-ABR demonstrated significantly higher SBS than TC-RC. It was observed that most of the failure type in all groups were cohesive failure in lining material type within TC groups.

Conclusion: It was concluded that a novel lining material showed higher shear bond scores compared to different liners when used with the resin composite.

Keywords: shear bond strength, bioactiva liner, bioactiva restorative, resin composite

OP 059
The effects of maternal dental anxiety on child's dental anxiety and dental caries experience: a pilot study

Ipek Arslan
Recep Tayyip Erdogan University, Department of Pediatric Dentistry, Rize, Turkey

Objective: The aims of this pilot study were to evaluate the level of dental anxiety of children and their mothers also to compare both of them and to determine the relationship between these dental anxiety levels and child's dental caries experience.

Materials-Methods: The study was questionaire and oral examination based cross-sectional survey. A total of 100 mother-child were recruited for this study. The dental anxiety of mothers and children were measured by using the Turkish version of Modified Dental Anxiety Scale (MDAS) and Modified Child Dental Anxiety Scale Faces version (MCDASf), respectively. The World Health Organization (WHO) criteria was utilised for the diagnosis of dental caries experience. DMFT-dft scores were also calculated. The data were analyzed using with Pearson and Spearman tests.

Results: A total of 78 children (78%) was found as being non anxious or mild anxious. Also moderate or severe dental anxiety was identified in 32 children (32%). A positive correlation was found between maternal dental anxiety and child's dental anxiety ($r=0.311$, $p<0.05$). Hovewer, there were no correlations between child's dental anxiety and dft/DMFT scores ($p>0.05$)

Conclusion: The child's dental anxiety might be prevented or alleviated by the interventions which reduce the maternal dental anxiety because of the correlation between maternal dental anxiety and child's dental anxiety.

Keywords: maternal dental anxiety, child's dental anxiety, DMFT-dft, MCDASf, MDAS

OP 060
The evaluation of a group of children's dental neglect and its relationship with the dental anxiety: a pilot study

Sema Aydınoğlu
Recep Tayyip Erdogan University, Department of Pediatric Dentistry, Rize, Turkey

Objective: Dental anxiety in children has been recognized as a major problem for many years and generally leads to the postponement of dental care. The aim of this study to investigate the association between the dental anxiety and neglect in children.

Materials-Methods: A total of 100 children aged between 6 and 12 years, who visited the Department of the Pediatric Dentistry for the first time and whose parents agreed to take part were included in the survey. The questionnaire included seven dental neglect statements was conducted face to face with parents. Then, dental anxiety of children was scored with the facial image scale (FIS) and simplified oral hygiene index (OHI-S) was used to assess the oral health of the children. The data was statistically analyzed by the Chi-square, t-test and Spearman correlation tests.

Results: According to the results of the study, mean ratings of dental neglect, anxiety and oral hygiene were 20.36, 3.19 and 1.22, respectively. Dental neglect was negatively correlated with dental anxiety ($r=-0.221$, $p<0.05$). On the contrary, there was a positive correlation between dental neglect and OHI-S ($r=0.769$, $p<0.001$).

Conclusion: The Dental Neglect Scale appears to be an auxiliary method for objectifying dental neglect. The children with lower dental neglect score tend to be more anxious and pay attention their oral health more than the others.

Keywords: dental anxiety, dental neglect, oral hygiene

OP 061
Evaluation of the effectiveness of audio-visual distraction method in dental anxiety status of 6-9 years old children during primary tooth extraction

Yasemin Sarı[1], Tamer Tüzüner[1], Özgül Baygın[1], Ahmet Ayar[2]
[1] *Karadeniz Technical University, School of Dentistry, Department of Pediatric Dentistry, Trabzon, Turkey*
[2] *Karadeniz Technical University, School of Medicine, Department of Physiology, Trabzon,Turkey*

Objective: This study was performed to determine the effects of audio-visual distraction (AVD) method with video glasses on dental anxiety in children during primary tooth extraction.

Materials-Methods: 57 children aged between 6-9 (requiring extraction treatment for upper primary molars) were divided into two groups; control (only tell-show-do technique/TSD) and study (TSD plus AVD with video glasses). The pulse rate (PR), average beat per minute (BPM), Frankl Behavior Rating Scale (FBRS) and Faces, Legs, Activity, Cry and Consolability Scale (FLACCS) recorded by independent two observers as initial, during (local anaesthesia (LA) and extraction (EXT)) also after the extraction values. The dentist also asked a question about the comfort status of patients and those were recorded. Mann Whitney U, Friedman/Wilcoxon Signed Rank tests with Bonferroni correction were used at a level of $p<0.05$.

Results: Significantly higher PR values were observed in control compared to the study group when applying LA ($p<0.05$) but no differences were found in other comparisons ($p>0.05$). The PR values were significantly increased from initial to during (LA and EXT) measurements in both groups ($p<0.001$). The average BPM measurements had shown decreasing trend during extractions compared to the initial values in study group ($p<0.017$).Time dependent negative behaviours were observed according to the FLACCS and FBS scores with respect to initial-during comparisons ($p<0.001$) in both groups.Patient comforts were found significantly higher in study group ($p<0.01$).

Conclusion: Although such beneficial effects were observed in AVD, it may be speculative whether that could entirely alleviate the dental anxiety of children who recieve primary tooth extraction.

Keywords: dental anxiety, audio-visual distraction, video glasses, behavior management, tell-show-do

OP 062

A comparison of a needle-free injection system for local anesthesia versus traditional injection method in the pediatric patient

Figen Eren Giray, Sertaç Peker, Betül Kargül
Marmara Universitry, School of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey

Objective: The aim of this study was to compare paediatric patients' pain during dental injection using needle free injection (NF) or traditional injection method (™).

Materials-Methods: This randomised controlled clinical study, was performed on 20 children (aged 6 to 12 years) with positive or absolute positive behavior according to Frankl behavior, requiring an operative procedure with dental anaesthesia on their maxillary primary molars bilaterally. Children received both types of injections in two separate appointments, one with the use of NF (Comfort-in™) and one with the TM. On each visit, pain was evaluated using the Wond-Baker Faces Pain Rating Scale (PRS) and the Face, Legs, Activity, Cry, Consolability Scale (FLACC Scale). The data were recorded and statistical analysis was performed using X2 test.

Results: The mean PRS scores for NF and TM were 3,5±2.66 and 1.9± 1.77 respectively and there was no statistically significant difference between two groups (p=0.186). In the FLACC scale, the number of 'relaxed' responses was higher in the TM method (%85) compared with the NF method (%40). The responses that indicate 'severe pain' levels were not in both methods.

Conclusion: Children showed similar levels of pain in both injection methods. The results of this study raise questions about the effect of NF injection system on less cooperative children. Thus, further studies on pediatric patients with various levels of cooperation are recommended.

Keywords: needle-free injection system, local anesthesia, pediatric patient

OP 063
Training, opinions, and practices of a group of Turkish paediatric dentists with regard to sedation in dentistry

Ayler Yıldız[1], Tülin Ileri Keçeli[1], Hamdi Cem Güngör[1], Bahar Güçiz Doğan[2]
[1]*Hacettepe University, Faculty of Dentistry, Department of Paediatric Dentistry, Ankara, Turkey*
[2]*Hacettepe University, Faculty of Medicine, Department of Public Health, Ankara, Turkey*

Objective: The purpose of this study was to determine the training, opinions, and practices of a group of Turkish paediatric dentists with regard to behavior guidance techniques and sedation in dentistry.

Materials-Methods: The data of this descriptive study was gathered by using a 74-item questionnaire via e-mail. Out of 527 paediatric dentists, 245 (47%) were participated. Ethical approval of Hacettepe University Non-Interventional Clinical Research Ethics Board was obtained. The responses were recorded anonymously and data analysed using descriptive analysis and chi-square test with SPSS 23.0 program.

Results: The mean age of the participants was 35.44±6.6 years; 86.9% was female; mean duration of professional life was 6.17±6.2 years. The number of participants received practical training on basic behavior management techniques and general anesthesia (73.9%) was higher than participants received practical training on nitrous oxide/oxygen inhalation sedation (33.1%). Almost 3/4 of participants (72.3%) used pharmacological techniques during treatment. The most common pharmacological technique used was general anesthesia (61.2%). The number of participants who preferred nitrous oxide sedation in the treatment of patients was low (20.3%). Of the participants, 95.0% had an anesthesiologist in the team during moderate sedation, whereas all of them had during deep sedation practices. Factors related with pharmacological technique selection were the availability of necessary equipment, training received and the systemic condition of the patient.

Conclusion: Sedation practice is an important part of paediatric dentistry but it seems it is not a generally preferred method among Turkish paediatric dentists.

Keywords: dental fear, sedation, behavior management techniques, nitrous oxide / oxygen inhalation, pediatric dentists

OP 064
Assessment of knowledge and awareness of parents about bruxism in children

Ebru Delikan[1], Ayşe Özcan Küçük[2]
[1]*Mersin University, Faculty of Dentistry, Department of Pediatric Dentistry, Mersin, Turkey*
[2]*Mersin University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Mersin, Turkey*

Objective: Bruxism is defined as the repetitive jaw muscle activity characterized by the clenching/grinding of teeth and affects both children and adults. The aim of this study was to assess the knowledge and awareness of parents about bruxism in children.

Materials-Methods: Parents of children who have referred to the Department of Pedodontics was included in this study. A previously tested modified questionnaire was carried out on 265 parents. For statistical analysis IBM SPSS Statistics 22 (SPSS IBM, Turkey) program was used. p values < 0.05 were considered statistically significant.

Results: The majority of participants were the children's mothers (60%) and 31- 40 year old individuals (60.8%). The majority of the children were male (54.7%). The mean age of children was 8.15 ± 2.71. The most of parents (91.7%) had no knowledge about bruxism. The response rate of this item in primary school graduates (1%) was significantly lower than the high school (15.7%) and university (13.8%) graduates ($p < 0.05$). According to the parents, sleep and awake bruxism in children was 21.5% and 7.2% and children with stress had a significantly higher rate of sleep bruxism (34.7%) than children without stress (13.9%) (p: 0.001; $p < 0.05$). The majority of parents believed that bruxism was associated with dental problems (33.6%) and emotional factors (32.8%).

Conclusion: The majority of parents were unaware of bruxism. The greater knowledge and awareness of parents about bruxism in children is important for an early diagnose and treatment. Therefore, more information should be given to parents in this regard.

Keywords: bruxism, knowledge, questionnaires

OP 065
Prevalence and distribution of non-syndromic dental anomalies: a radiographical study

Pınar Kıymet Karataban[1], Didem Öner Özdaş[1], Berk Şengüler[2]
[1] *İstanbul Aydin University, Paediatric Dentistry Department, Faculty of Dentistry, İstanbul Türkiye*
[2] *İstanbul Aydin University, Faculty of Dentistry, İstanbul Türkiye*

Objective: The concept of dental anomaly is a broad expression involving abnormalities in number,size and morphology of teeth and may be originated as congenital, developmental, or acquired.Some of the dental anomalies can be diagnosed by intraoral examination while others can be detected radiographically.The aim of this study was to evaluate the frequency of observed dental anomalies in children via OPTGs.

Materials-Methods: OPTGs of 1568 children who attended to Istanbul Aydin University Dentistry Faculty Clinics were retrospectively evaluated in this study.The study group consisted of 827 girls and 741 boys,aged 6-16 years without any systemic disease.Individuals with a history of dental trauma, tooth extraction, oral surgery and orthodontic treatment were excluded from the study.The distribution of dental anomalies was evaluated according to the age, gender and location of the anomaly.

Results: The most prevalent dental anomaly was tooth agenesis with a rate of 4.66%.The distribution of tooth agenesis regarding location,mandibular premolars(2.1%) and maxillary lateral incisors(1.85%) were predominantly affected. Regarding tooth agenesis, girls were affected more than boys.The most prevalent shape anomaly was microdontia(1.98%) and peg-shaped laterals were the most prevalent microdonts(%1,72).Peg-shaped laterals were located 40,7% unilaterally and 59,3% bilaterally.The second most common shape anomaly was identified as the Talon cusp(1.72%).

Conclusion: Congenital dental anomalies show a significant incidence that dental professionals should be alert for the early diagnosis of the disease.Identification of dental anomalies is especially important during the growth and development period by either clinical examination or radiographical evaluation as it's important for long term treatment planning and good prognosis.

Keywords: dental anomaly, tooth agenesis, microdontia, talon cusp, pediatric dentistry

OP 066
Ectopic eruption of first permanent molars: a retrospective study

Canan Özdemir, Sena Kızılaslan, Şule Bayrak, Nuray Tüloğlu, Seçil Çalışkan
Eskişehir Osmangazi University, Department of Pediatric Dentistry, Eskişehir, Turkey

Objective: Ectopic eruption of permanent first molars is seen in mixed dentition and permanent molars are erupted more mesial due to various etiological factors.The aim of this retrospective study was demonstrate occurence and related factors of ectopic eruption of permanent molars.

Materials-Methods: In this retrospective study, panoramic radiograph of 11924 patients who applied to Eskişehir Osmangazi University Department of Pediatric dentistry between March 2016 and March 2018 were examined by 2 researchers. A pre-scan radiographic quiz was used to provide calibrations within and between researchers. In the evaluation method, measurements were made using ratio between the mesiodistal dimension of the permanent first molars / the amount of mesialization permanent first molars the permanent first molars and the resorption grades in the primary molars. Chi-square test and Pearson correlation analysis were used in statistical analyzes of the data.

Results: Of the 11924 children in sample, 110 were found ectopic eruptions, for a prevelance rate of % 0,9. Of these patients, 48 were female and 62 were male. The incidence of ectopic eruption of permanent first molars is higher at maxilla than at mandibula. (maxilla:mandibula 10.1:1.4) At the same time, unilateral ectopic eruption of permanent first molars is seen more than bilateral at the maxilla (unilateral:bilateral 2.5:1.2) The rate between self-correction and impaction was found 3: 2.

Conclusion: Early detection of ectopic eruption reduces the early loss of primary second molars and the severity of malocclusion and also it is make an early diagnosis in order to start treatment at the optimal time.

Keywords: ectopic eruption, permanent molars, self-correction

OP 067
Predictable approach for impacted maxillary incisors

Dilek Özge Yılmaz[1], Derya Tabakçılar[4], Simin Kocaaydın[2], Abdulkadir Burak Çankaya[3], Koray Gençay[2]
[1] *Beykent University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul Türkiye*
[2] *Istanbul University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul Türkiye*
[3] *Istanbul University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Istanbul Türkiye*
[4] *Yeditepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul Türkiye*

Objective: Impacted ectopic teeth (IET) are frequently encountered during the development of the occlusion. If the incisors have not been extracted or erupted at the expected time, it is challenging for the clinician to detect and manage the problem. Abnormal eruption paths may result in impactions. In these situations early intervention provides advantages ensuring the continuity of the occlusion development in IET treatment. The present case reports attempt to highlight the importance of diagnosis and predictable treatment protocols for successful eruption of impacted teeth.

Cases: 9 year-old male and 10 year-old female patient referred to Istanbul University, Faculty of Dentistry, Department of Pedodontics with the complaint of a unerupted maxillary right central incisor. In radiographic examination the first case's tooth was enverted and the second case's impacted lateral incisor was horizontally placed. All cases were treated through a IET protocols. Treatment objectives were included respectively in the first instance orthodontic space opening, secondly position correction and supporting eruption afterwards. Finally, crowns of the impacted teeth were brought into the arches with surgicalorthodontic approach by closed forced eruption.

Conclusion: It is recommended that this protocol should be applied during growth and development with minimally invasive interventions using the potential for healing of the patient in ectopic impacted teeth.

Keywords: impacted teeth, delayed eruption, treatment protocols, ectopic teeth

OP 068

Prevalence, characteristics and complications of mesiodens in a children population from the thrace region of Turkey

Ezgi Baltacı[1], Neslihan Ozveren[1], Meltem Tekbaş Atay[2]
[1]*Trakya University, Faculty of Dentistry, Department of Pediatric Dentistry, Edirne, Turkey*
[2]*Trakya University, Faculty of Dentistry, Department of Restorative Dentistry, Edirne, Turkey*

Objective: Most supernumerary teeth appear in the anterior region of the maxilla and are most often categorized as mesiodens. This study determined the prevalence, characteristics, and complications caused by mesiodens in a nonsyndromic pediatric population from the Thrace region of Turkey.

Materials-Methods: A retrospective study was performed using panoramic radiography of 6311 patients, ranged in age from 6 to 18 years old who visited the Department of Pediatric Dentistry (Edirne,Turkey) between 2015 and 2018. Statistical evaluation of the presence of mesiodens related to gender, relations between characteristic of mesiodens and type of complication and age was performed using t-test, Chi-squared and Fisher's exact test.

Results: Results showed 33(0.52%) patients had mesiodens, mean age 9.5±3.3, 12(0.35%) were girls and 21(0.73%) were boys, more frequently in males ($p<=0.05$) with the ratio being approximately 2:1. Of the 33 children, 28 had single mesiodens and 5 had double mesiodentes bilaterally to midline. Of the 28 single mesiodens, 17(60.71%) were erupted, 11(39.29%) were fully impacted, 6 in horizontal and 5 in vertical position. Of the 5 double mesiodentes, 3 were erupted,2 were fully impacted. Totally, between erupted or impacted mesiodens groups, gender or age were not statistically significant ($p>0.05$).

Conclusion: Complications seen in patients with mesiodens were delayed or interrupted eruption of adjacent tooth, malposition or rotation of adjacent teeth and diastema formation. Early diagnosis is important for appropriate treatment, planning about surgery or the necessity of orthodontic treatment.

Keywords: dental anomalies, mesiodens, prevalence

OP 069
Ectopic eruption of the first permanent molars: prevalence and characteristics

Beyza Ballı Akgöl
Istanbul Medipol University, School of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey

Objective: The aim of this study was to determine the prevalence and characteristics of ectopic eruption of the first permanent molars (FPMs) in a group of Turkish children.

Materials-Methods: Panoramic radiographs of 552 male (50.2%) and 548 female (49.8%) (total 1100) patients aged between 5-11 (mean age;8.96±1.32) who referred to the clinics of the Pediatric Dentistry Department at Istanbul Medipol University have been inspected retrospectively. The prevalence, characteristics (maxilla/mandible, right/left side) of ectopic eruption of FPMs, resorption degree of the primary molars (mild, moderate, severe and very severe), age, gender of the children were evaluated. Statistical analyses were performed using SPSS 22 (IBM SPSS, USA) program and chi-square, Fisher's exact chi-square and Fisher Freeman Halton tests were used.

Results: Ectopic eruption of FPMs were diagnosed at males 1.8% and females 1.5% and this was not statistically significant ($p>0.05$). The ratio of the ectopic eruption of FPMs in maxilla (2.8%) was statistically significantly ($p:0.000$; $p<0.05$) higher than mandible (0.5%). In maxilla, moderate, severe and very severe degree of FPMs were found as 67.7%, 12.9% and 19.4%, respectively. In mandible, only moderate (90%) and severe degree (10%) of ectopic eruption were observed. There was no statistically significant difference for the degree of ectopic eruption between maxilla and mandible or between right or left side ($p>0.05$).

Conclusion: The prevalence of ectopic eruption of FPMs was 1.6% and this showed us early detection and correction of ectopic eruption is very essential.

Keywords: ectopic eruption, first permanent molars, prevalence

OP 070
An in vitro evaluation of the effects of frequently prescribed pediatric drugs on the microhardness of permanent tooth enamel

Nagehan Yılmaz[1], Ozgul Baygın[1], Tugba Nigar Cakıroglu[2], Tamer Tüzüner[1], Orhan Deger[2]
[1]*Karadeniz Technical University, Faculty of Dentistry, Department of Pediatric Dentistry, Trabzon, Turkey*
[2]*Karadeniz Technical University, Faculty of Medicine, Department of Biochemistry, Trabzon, Turkey*

Objective: This study aims to evaluate the effects of frequently prescribed pediatric drugs on permanent dental enamel microhardness over a period of 14 days in vitro.

Materials-Methods: In this study 12 acrylic blocks and 11 pediatric drugs with different active ingredients were used. One acrylic block was identified as the control group and immersed in distilled water. Immersion cycles were applied three times a day for 1 minute. Measurements of the prepared samples were taken at 0 (baseline), 7, and 14 days after the immersion cycles using a Vickers hardness testing machine. The pH, titratable acidity (TA) and buffering capacity of the syrups were assessed.

Results: Measurements of the tooth samples that were immersed in drug solutions except Deltacortril® showed that there was a significant difference between days 0, 7, and 14. Measurements of the tooth samples that were immersed in Deltacortril® drug solution decreased in terms of microhardness values, but no significant difference was found. There were no statistically significant difference between on days 0, 7, and 14 measurements of the control group. According to the values measured at the ends of days 0, 7 and 14, the microhardness values of the tooth samples that were immersed in each of the three antibiotic solutions were decreased, but no significant difference was found.

Conclusion: Commonly used and prescribed pediatric drugs pose a risk for tooth erosion. Pediatricians should be aware of the effects of prescription drugs on erosion and warn parents about compliance with oral hygiene procedures.

Keywords: dental erosion, microhardness, pediatric syrup, permanent dental enamel

OP 071
Special oral health management in babies and children with disabilities

Esra Tunalı[1], Cafer Ataş[2], Yakup Çağ[3], Ahmet Lütfullah Orhan[4], Gülfem Kılıç[5], Seçil Dağlıoğlu[6], Mustafa Aydın Belge[7], Buğra Özen[8], Mustafa Tunalı[9]

[1] *University of Health Sciences, School of Dentistry, Department of Orthodontics, Istanbul, Turkey*
[2] *University of Health Sciences, School of Dentistry, Department of Pediatric Dentistry, İstanbul, Turkey*
[3] *University of Health Sciences, School of Medicine, Department of Pediatrics, Istanbul, Turkey*
[4] *University of Health Sciences, School of Medicine, Department of Cardiology, Istanbul, Turkey*
[5] *Turkish Ministry of Health Hospital, Istanbul, Turkey*
[6] *Turkish Ministry of Health Hospital, Kirklareli, Turkey*
[7] *Erciyes University, Faculty of Dentistry, Pediatric Dentistry, Kayseri, Turkey*
[8] *Altınbas University, School of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey*
[9] *Bezmialem Vakif University, School of Dentistry, Department of Periodontology, Istanbul, Turkey*

Objective: Individuals with special needs may be at an increased risk for oral diseases throughout their lifetime. Education of parents/caregivers of babies and children is critical for ensuring appropriate and regular supervision of daily oral hygiene in these individuals. The aim of our study is to prevent oral health problems in babies and children with disabilities.

Materials-Methods: Under the Turkish Ministry of Health's 'Smile With Me' Project, 1229 0-6 year old babies and children with disabilities were included in this study. Health professionals with special education developed a personal special oral care plan, also caries risk analysis were done. Parents oral hygiene knowledge levels were measured, correct oral hygiene training was provided and the results of the training were checked.

Results: From 1229 babies and children, 75.5% (n = 928) have mild / moderate and 24.5% (n = 301) have severe disabilities. The caries risk was moderate in 44.8% (n = 550) and high in 38.8% (n = 477) of the babies and children. Prior to the training, parents oral hygiene knowledge level was averaged 57.27 ± 16.33; After training, the average rate was 97.99 ± 5.96, and 6 months after the training average rate was 90.50 ± 11.30%.

Conclusion: In our study, it has been shown that special education programs that will be made nationwide will provide sufficient oral hygiene and proper nutrition habits in early childhood. Also, we were found that with parents training programs it could be possible to minimize risk factors for these babies and children.

Keywords: babies and children with disabilities, special oral health management, special education program

OP 072
Assessment of oral hygiene status and dental caries experience among visually impaired and hearing-impaired children in Malatya

Burçin Acar, Gülsüm Duruk
Inonu University, Faculty of Dentistry, Department of Pediatric Dentistry, Malatya, Turkey

Objective: This study aims to assess the levels of oral hygiene status and dental caries experience among visually impaired and hearing-impaired children in Malatya, Turkey.

Materials-Methods: A total of 32 hearing-impaired (10.75±3.42 years) and 29 visually impaired children (12.37±2.19 years) were included in this study. The children's teeth were examined in daylight using a mirror and explorer at their school. Oral Hygiene Index-Simplified (OHI-S), DMFT/dmft (decayed, missing and filled teeth), DMFS/dmfs (decayed, missing, and filled surface), Plaque Index (PI) and Gingival Index (GI) indices were used to determine the oral hygiene status, dental caries experience and occlusal relations. A questionnaire filled out by their parents was designed to record the information on oral hygiene practices, nutritional habits and oral habits. The data were collected and the frequencies were obtained. The Chi-Square test was used for statistical analysis.

Results: Of the visually impaired children ($p<0.01$) in our study, mean OHI(S) score was 1.64±0.85, mean GI score was 1.20±0.63 and mean DMFT/dmft score was 4.28±2.44 ($p>0.05$). Regarding the hearing-impaired children, these scores were 0.53±0.43, 0.38±0.30 and 4.56±3.17 among them.

Conclusion: It is reported that dental caries and periodontal diseases were worse in visually impaired children than hearing-impaired children. Visually impaired children have a higher prevalence of dental caries, poor oral hygiene and also have a high rate of caries activity. Therefore, visually impaired children should be included in preventive dentistry applications.

Keywords: children, dental caries, hearing impaired, oral hygiene, visually impaired

OP 073
Impact of dental rehabilitation under general anesthesia on oral health-related quality-of-life and dental anxiety in children

Gülsüm Duruk, Raziye Kuru
Inonu University, Faculty of Dentistry, Department of Pediatric Dentistry, Malatya, Turkey

Objective: This study aimed to analyze children's and parents'/caregivers' oral health-related quality of life (OHRQoL) and children's dental fears, before and after the dental rehabilitation under general anesthesia (DRGA).

Materials-Methods: 104 parents/caregivers and their 2 to 13 -year-old children (mean 5,86±2,48) who received DRGA in Inonu University, Department of Pediatric Dentistry were surveyed before and after DRGA. After recording their socio-demographic information, parents/caregivers completed a self-administered questionnaire named Early Childhood Oral Health Impact Scale (ECOHIS) which includes 13 items divided into two main parts: 9 items being related to the Child Impact Section (CIS) and 4 items being related to the Family Impact Section (FIS). On the other hand, the children received a dentist-administered questionnaire named Children's Fear Survey Schedule-Dental Subscale (CFSS-DS). The data were statistically analyzed by the SPSS program and the pretreatment and post-treatment scores were compared using the Wilcoxon signed-rank test.

Results: A statistically significant decrease in all CIS, FIS, ECOHIS and CFSS-DS scores was observed after DRGA ($p<0.01$). The effect (mean) values for CIS, FIS, ECOHIS and CFSS-DS were 1.3, 1.6, 1.4 and 0.6, respectively.

Conclusion: Children's and parents'/caregivers' OHRQoL showed better results after DRGA. Anxiety scores in children increased in all situations. This study showed that DRGA in children appears to have a positive effect on OHRQoL of patients and their families.

Keywords: general anesthesia, ECOHIS, CFSS-DS, dental anxiety

OP 074
Assessment of validity of demirjian and willems methods for dental age estimation a group of children in the eastern black sea region

Didem Küçükaslan, Çiğdem Güler
Ordu University, Faculty of Dentistry, Department of Pediatric Dentistry, Ordu, Turkey

Objective: The aim of this study was to evaluate the validity of the Demirjian and Willems methods for dental age estimation in a group of children in Eastren Black Sea Region.

Materials-Methods: Panoramic radiograph of 600 children between 5-14 years of age were evaluated retrospectively in this study. Dental maturity was evaluated according to the stages proposed by Demirjian and Willems. The correlation between the chronological and dental age was analyzed by statistically.

Results: There was no significant difference between dental age determined by Demirjian method and Willems method, between age groups of both girls and boys ($p>0.05$). In addition, a statistically significant difference was found between the Demirjian and Willems methods and the chronological age ($p <0.05$).

Conclusion: For the children in the Eastern Black Sea, both Demirjian's and Willems methods can be used to determine dental age. At the same time, Demirjian's method was found to be higher than chronological age and Willems method for both girls and boys. Therefore the dental age found by the Willems method was found to be more compatible with the chronological age.

Keywords: dental age, demirjian method, Willems method

OP 075
Examination of the teeth decay and dental age in monozygotic and dizygotic twin pairs

Emine Oruç, Gülsüm Duruk
Inonu University, Faculty of Dentistry, Department of Pediatric Dentistry, Malatya, Turkey

Objective: Both genetics and environmental factors have an effect on teeth development and oral health.This study aimed to evaluate the oral status between monozygotic (MZ) and dizygotic (DZ) twin pairs.

Materials-Methods: A total of 22 twin pairs were examined (11MZ: 7 pairs of females,4 pairs of males; 11DZ: 4 pairs of females,5 pairs of males, 2 pairs of different genders), aged 4 to 11 years (mean age 7.50 ±2.08 years), who grew up together.Those with systemic disease were excluded from the study. Patients were investigated for DMFT/dmft index, protective application (flouride, fissure sealant), occlusion types and eruption rates (determined by Demirjian methods).After intraoral examination, DMFT/dmft index, protective applications,ages and occlusion types were recorded. Panoramic X-ray was taken from 12 twin pairs, eruption rates.The data was recorded and Student's t-test was used for statistical analysis.

Results: When each twin pair is compared with one another, the difference between DMFT/dmft, DMFS/dmfs and occlusion types was statistically insignificant (p>0.05).The number of twin pairs one of whom received the preventive application of fluoride and fissure sealant and one of whom did not receive was 8 and 5, respectively.The number of teeth showing a difference in development of each twin pair was examined (MZ:2.80±1.92; DZ:2.43±1.62) and no statistically significant difference was seen between the groups(p>0.05).

Conclusion: There is a similarity between dental caries and tooth development of monozygotic and dizygotic twin pairs living in the same environment and having similar genetic characteristics.Further work is needed in this regard.

Keywords: genetics, monozygotic and dizygotic twins, dental caries, dental age

OP 076
Evaluation of knowledge and attitudes of dentists about child abuse in Turkey: a pilot study

Arzu Pinar Erdem[1], Kadriye Peker[2], Elif Pilatin[3], Mine Koruyucu[1], Elif Sepet[1]
[1]*Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul,Turkey*
[2]*Istanbul University, Faculty of Dentistry, Department of Public Health, Istanbul,Turkey*
[3]*Istanbul University, Faculty of Dentistry, Private dentist, Istanbul, Turkey*

Objective: To evaluate the knowledge and attitudes of dentists about child abuse in Turkey.

Materials-Methods: A questionnaire about child abuse was sent to the volunteer dentists recorded Turkish Dental Association by e-mail.The findings were evaluated by IBM SPSS Statistics 24.

Results: A total of 483 dentists participated in this study;74.3% were female and 25.7% were male.Although the responders demonstrated good knowledge of the indicators of child abuse, the rate of the dentists thinking that they have a legal duty to report child abuse was found low.'Lack of certainty about the diagnosis' was the most common reason for not reporting suspicions of child abuse (81,6%).Only 15,5% of dentists have suspected child abuse and indicators of child abuse were commonly recognized around the face (65,3%).Most of the participants stated that their main source of knowledge about child abuse was their undergraduate studies (37,1%).87.2% of them said that they did not have enough education about the diagnosis and reporting of child abuse and 82% wanted to participate in education about child abuse.Dentists presented positive attitudes about detecting and reporting child abuse. According to the analysis between the answers of knowledge questions and the dentists' experience, negative correlation was found, having a higher level of dental training negatively correlated with knowledge.

Conclusion: It was determined that the rates of right information and positive attitude about child abuse were high but they stated that dentists felt inadequate,especially in diagnosing and reporting and expressed their willingness to participate in the trainings about child abuse.

Keywords: child abuse, knowledge, attitude, dentist

OP 077
Evaluation of temporomandibular disorders in children with cardiovascular disease

Ceren Uğurluel[1], Ülkü Şermet Elbay[2], Abdülkadir Babaoğlu[3]
[1]*Biruni University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey*
[2]*Kocaeli University, Faculty of Dentistry, Department of Pediatric Dentistry, Kocaeli, Turkey*
[3]*Kocaeli University, Faculty of Medicine, Department of Pediatric Cardiology , Kocaeli, Turkey*

Objective: This study aimed to compare the prevalence of Temporomandibular disorders (TMDs) among children with or without cardiovascular disease (CVD).

Materials-Methods: 295 children (148 girls, 147 boys) with CVD between the ages of 6-18 who applied to Cardiology Department of Kocaeli University Faculty of Medicine and 295 similar aged children who were student in Kocaeli without CVD (147 girls, 148 males) were included in the study. The study was carried out in stages including questionnaire, temporomandibular joint examination and oral examination.

Results: While there was no significant difference between the two groups about the presence of symptoms and findings indicating TMDs ($p>0,05$), 'clicking' and 'deviation' indicating the clinical findings of TMD were significantly higher in children with CVD ($p<0,05$). The vast majority of participants reported at least one parafunction (84,1% of CVD group; 88,5% of control group).

Conclusion: Finding the difference in signs and syptoms of TMD between groups clearly demonstrates that additional comparative studies are needed on the TMDs which have multiple aetiological factors.

Keywords: temporormandibular disorders, cardiovascular disease, oral – dental

OP 078
Investigation of pediatric patients' dental emergency visit reasons

Arzu Pınar Erdem, Nihal Ünal, Dilara Yürekten, Yeliz Güven
Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey

Objective: To determine the distribution of the reasons for referral to the emergency pedodontics clinics,the treatments applied and the parental behaviour of children.

Materials-Methods: The study included 350 children aged 0-15 years who were admitted to Istanbul University,Faculty of Dentistry,Department of Pedodontics due to an emergency situiation.Sociodemographic factors,reason of the application,teeth that the patients had complaint,the treatment applied,the duration of the application to the clinic and the behaviour of the parents were interrogated with an application form. Then the patients were examined clinically.Results of the study were evaluated by the IBM SPSS 22.0 package program.

Results: The mean age of the children was 8.40 ± 3.25.It was seen that 68% of the relatives accompanying the patient were mothers.26% of the children who applied to the department,had a systemic disease.It was determined that the reason of the application was mostly pain (34%), trauma (25%), intraoral swelling (21%).72% of the teeth which induced the application were molar teeth.33% endodontic treatment, 13% restorative treatment,12% tooth extraction were applied.35% of the emergency applications had been done in the first 24 hours.It was seen that 28% of the parents were not doing anything in the face of an emergency situation and 27% of them were giving medicine to the children without a doctor's prescription.

Conclusion: The highest rates of emergency applications were seen in case of pain complaint, trauma and intraoral swelling;the most effected teeth groups were molar teeth.The evaluation of the parenteral behaviour against dental emergency situations was shown that the parents need to be more informed about these situations.

Keywords: pediatric patient, emergency visit, pain, dental treatment

OP 079
A prospective observational study on facial cellulitis of odontogenic origin in children

Cihangül Bayhan[1], Beste Özgür[2], Kübra Aykaç[1], Yasemin Özsürekci[1], Atilla Stephan Ataç[2], Meryem Tekçiçek[2], Ateş Kara[1]
[1]Hacettepe University, Faculty of Medicine, Department of Child Health And Diseases, Pediatric Infectious Diseases Unit, Ankara, Turkey
[2]Hacettepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Ankara, Turkey

Objective: The aims of this study were to (1) specify the exact relationship between the timing of the treatment and length of hospital stay(LOS) (2) assess other risk factors of odontogenic-based cellulitis.

Materials-Methods: Between January 2014-December 2015, the facial cellulitis of odontogenic origin(FCOO) admissions of the patients ages younger than 18 years were included to this study. The children admitted for regular pediatrician follow-up also evaluated as control group. Variables included age, sex, admission temperature, complete blood count(CBC) at admission, location of infection, tooth of origin, treatment modalities, timing of the treatment, LOS and vitamin D levels were analyzed.

Results: A total of 52 patients with FCOO and 30 patients as control group meeting the study criteria were enrolled. There was no difference in hemoglobin, calcium, phosphorus, alkaline phosphatase levels between two groups. White blood cell and platelet counts, CRP and sedimentation levels were significantly higher in FCOO group. There was no difference in vitamin D levels, however vitamin D deficiency was detected in 11(29.7%) patients in FCOO group and in 2(6.9%) children in control group (p; 0.05). There was no statistically significant difference regarding LOS between the patients who had tooth extraction within or after 48 hours. In 29(85.3%) patients with CRP level >=1 mg/dl median hospitalization time was 4.0 days, while in 5(14.7%) patients with CRP level less than 1 mg/dl hospitalization time was 3.0 days, the difference was significant(p:0.038).

Conclusion: Timing of the dental treatment did not affect LOS, whereas elevation of CRP may lead to increase the LOS of patients.

Keywords: facial cellulitis, odontogenic, length of hospital stay

OP 080
Assessment of the mobile microbiome in children with congenital heart disease

Sermin Dicle Aksakal[1], Nursen Topcuoglu[2], Kulekci Guven[2], Oya Aktoren[2]
[1]*Istanbul University, Faculty of Dentistry, Department of Paediatric Dentistry, Istanbul*
[2]*Istanbul University, Faculty of Dentistry, Department of Oral Microbiology, Istanbul*

Introduction: "Mobile microbiome" defines oral bacteria in extra-oral infections and inflammations. The role of oral bacteria in many systemic conditions including heart diseases, inflammatory diseases, pregnancy complications, cancer, diabetes and Alzheimer is emphasized in recent researches. In children with congenital heart disease, dental health is of great importance and it is emphasized that the risk of developing bacteremia and during routine oral activities is greater in the presence of poor oral hygiene. The aim of this study was to analyze the presence of mobile microbiome in children with congenital heart disease.

Materials-Method: Venous blood samples of twenty children with CHD(mean age;9,90±1,66) and healthy control group were analyzed to determine the mobile microbiome. qPCR using universal primer pair targeting bacterial 16S rDNA gene is performed.

Results: Low amount of DNA ranging from 1-12 copies was detected in all samples. Considering that the bacterial DNA detected in low quantities may be derived from contamination during the DNA isolation, qPCR studies or in the production of chemicals used, it was considered that the results of the detected samples are false positive and the presence of mobile microbiome in children can't be detected.

Conclusion: Studies on mobile microbiome are mostly conducted on adults, and considering that inflammation associated with periodontitis is the most important factor in the translocation of oral bacteria into blood circulation, the absence of positive bacterial DNA in blood samples may be associated with children being periodontally healthy. There is need for extensive future research on the mobile microbiome in children.

Keywords: mobile microbiome, bacteremia, qPCR

OP 081
Number and cost distribution of dental services provided to children at Inonu University Malatya, Turkey

Gülsüm Duruk
Inonu University, Faculty of Dentistry, Department of Pediatric Dentistry, Malatya, Turkey

Objective: Dental care services consist of a significant part of healthcare expenses in a country's economy and have an important place in the secondary health care. This study aims to investigate the distribution of the number of dental applications and the cost in children.

Materials-Methods: Children aged 0-13 years applying us from 2010 until July 2018 were included here. The number of dental applications and their costs were recorded. Data were analyzed with Chi-square and Pearson's correlation tests.

Results: The total cost of dental applications in children was ₺5,852,306.43 ($2,373,093.04; €1,985,658.10), 75% from Pediatric Dentistry, 9% from Oral&Maxillofacial Surgery and 16% from Diagnosis&Radiology, and the number of 8.5-year dental applications was 319,855. The cost of Class II restorations had the highest percentage(11.7%) in the total cost, while the percentage of oral examinations was the highest(26%) in all the dental applications. When the preventive procedures, including flour, fissure sealant and protective orthodontic applications, were investigated, the percentages of application numbers were 4.18%, 11.22%, and 0.74%, while the percentages of the cost were 7.33%, 5.15%, and 2.96%. The number of fissure sealant's applications was correlated with the total number of dental applications (r=0.903**,p=0.001) that have increased over time(p<0.01). Fluoride applications have fallen in the last 4 years(p<0.01). There has been a decline in permanent tooth extraction(p<0.01).

Conclusion: The number of preventive applications in dental clinics should be increased because preventive dental care in children not only improves oral health outcomes but reduces the health care cost. Additional studies are needed.

Keywords: dental applications, preventive applications, cost, pediatric dentistry

OP 082

Oral dental health findings of children and adolescents with type 1 diabetes mellitus: six mounths follow of results

Burcu Yağmur[1], Gamze Çelmeli[2], Zülfikar Zahit Çiftçi[1], Mesut Parlak[3], Hüseyin Karayılmaz[1], Sema Akçurin[3]
[1]*Akdeniz University, Faculty of Dentistry, Pedodontics, Antalya, Turkey*
[2]*University of Health Sciences Antalya Training and Research Hospital, Pediatric Endocrinology, Antalya, Turkey*
[3]*Akdeniz University, Faculty of Dentistry, Pediatric Endocrinology, Antalya, Turkey*

Aim: The purpose of this study was to comparatively evaluate the oral and dental health status (DMF/df indexes, periodontal index, salivary flow, salivary pH, the amount of oral streptococcus mutans(SM) and lactobacillus) of children and adolescent with type 1 diabetes mellitus(DM) at 1st month and 6rd months.

Material-Methods: Sixty-eight (37 girls and 31 boys) children and adolescent between 7-16-year-old (10,8±2,6) with type 1 DM were included to the study. Dental caries was evaluated with DMF/df indexes. The oral hygiene and gingival status were assessed using the Simplified Oral hygiene index (OHI-S) (Greene-Vermillion) and gingival index (GI) (Löe-Silness). Whole saliva was collected, and secretion rate and buffer capacity were investigated. SM and lactobacilli counts were determined by using the CRT Bacteria (IvoclarVivadent-Liechtenstein) kit. The obtained data at 1st and 6th months were evaluated comparatively.

Results: The DMFT index was calculated as 2.2 for DM patients. Statistically significant reduction was observed in plague accumulation value in DM patients as compared to after 6 months. OHI-S and the saliva buffer capacity were improved statistically significantly. There were no statistically significant differences regarding mean values of the stimulated salivary secretion rate, salivary amounts of SM and LB, calculus/gingival indexes between the 1st and 6th months.

Conclusion: The results of this study emphasized that the oral and dental status of children and adolescents with type 1 DM could be improved by strictly follow-up. Therefore, the follow-up of patients with type 1 DM is important along with the treatment of systemic disease.

Keywords: type 1 diabetes mellitus, oral health, saliva

POSTER PRESENTATIONS

PP 001
Local gingival recession caused by cross-bite: two case reports

Inci Yuksel Kirmizigul, Pinar Demir
Inonu University, Faculty of Dentistry, Department of Pediatric Dentistry, Malatya, Turkey

Objective: Cross-bite is an emergency situation that requires early intervention in pediatric dentistry. In addition to preventing jaw growth in case of delayed treatment, it may adversely affect the health of teeth and periodontal tissues by causing occlusal trauma.

Case: Case1: A 12-year-old boy applied to our clinic with upper left central incisor tooth in cross-bite. The lower left central incisor tooth had gingival recession, calculus accumulation and severe mobility. At the end of the 4-week-long cross-bite treatment using an upper removable appliance with a Z spring, recovery on the gingival recession and decrease in the mobility were observed.

Case2: A 10-year-old boy came to our clinic with the upper right central tooth in cross-bite. Also, the lower right central incisor tooth had gingival recession and calculus accumulation. Cross-bite was treated in 3 weeks with an upper removable appliance with a Z spring. Despite the complete treatment of the cross-bite, there was no improvement in gingival recession.

Conclusion: Occlusal trauma caused by cross-bite can provoke mobility and gingival recession. One of the most important factors affecting gingival recession was reported to be marginal gingival thickness. Although the gingival recession healed in the first case, there was no change in the second case. This difference is thought to be caused by the difference between the gingival biotype of the patients. However, regardless of the condition of the gingiva, in order not to limit the growth of maxilla, the early correction of cross-bites will prevent or alleviate the orthodontic problems that will occur.

Keywords: cross-bite, gingival recession, preventive dentistry, removable orthodontic appliances

PP 002
Clinical and radiological 6-year follow-up of permanent molar teeth amputation: two case reports

Pınar Demir, Uğur Akdağ
Inonu University, Faculty of Dentistry, Department of Pediatric Dentistry, Malatya, Turkey

Introduction: In recent years, for the treatment of irreversible pulpitis in young permanent teeth, amputation therapy is recommended rather than apexification because of its allowing the physiological development of roots.

Case Report(S): Our first case is 14 years old female patient who was referred to our clinic with deep caries and pain which occurs at previous night in the left lower second molar. The second case is an 8-year-old male patient who admitted to our clinic with complaint of spontaneous pain in the left lower first molar. Ferric sulfate amputation was applied to the teeth of both patients who had excessive substance loss and whose root development had not yet been completed.

Both patients were invited to the controls once a year. The clinical evaluating criteria in the controls are: vitality, percussion-palpation sensitivity, pain-mobility-fistula presence and dental color change. Pulp obliteration, internal-external root resorption, apical radiolucency, lamina dura's dilatation-narrowing, ankylosis and root development were evaluated radiologically.

It was found that the both amputated teeth were vital, asymptomatic, and functional in the mouth during the 6th year follow-ups of the patients.

Conclusions: In young permanent teeth that have not completed root development, amputation ensures that root development continues physiologically. At this point, the tooth achieves the ideal crown-root rate and has more durable and thicker dentin walls. The young permanent teeth that have been amputated with the correct diagnosis and treatment procedure, will continue to function vitally and asymptomatically in the mouth for long years.

Keywords: amputation, young permanent teeth, preventive dentistry, physiologic root development

PP 003
Oral health status of schoolchildren in Casablanca Morroco

Afif Malika, Hamza Mouna, El Arabi Samira
University of Hassan II Casablanca, Faculty of Dentistry, Department of Pediatric Dentistry, Casablanca, Morocco

Objective: Dental caries is a multifactorial pathological process. Several risk factors are known, but currently, new factors are increasingly cited in the literature, namely obesity and passive smoking. Nevertheless, no epidemiological data on these two factors are available in Morocco. The objective of this study was to assess the oral health status of children aged 6 to 12 in Casa-Anfa primary schools and to identify the main risk factors involved.

Materials-Methods: A cross-sectional study was carried out on a sample of 1003 children aged 6 to 12 attending private and public primary schools in the prefecture of Casa-Anfa. For each child, the data collected included sociodemographic parameters, description of hygiene practices, and lifestyle habits. Obesity was assessed by calculating the BMI body mass index. The oral examination identified: the dmft / DMFT index, the prevalence of caries and the Oral Hygiene Index (OHI).

Results: The carious prevalence was 57.7% in temporary dentition and 43% in permanent dentition. The carious index was 2.44 (dmft) and 1.3 (DMFT). The prevalence of caries was associated with poor oral hygiene and increased consumption of sweets ($p = 0.0011$); However, the association between caries prevalence and new risk factors (obesity and passive smoking) was not significant. A high carious risk was found in 88.6% of cases.

Conclusion: The oral health status of schoolchildren in Casa-Anfa prefecture is still poor, despite the implementation of the national oral health program. There is a need to further promote prevention and awareness in primary schools.

Keywords: oral health status, children, obesity, passive smooking, dental prevention

PP 004
Assessment of conveying prevention messages delivered by dental students to the parents of children treated in a pediatric dentistry service

Al Jalil Zineb[1], Hamza Mouna[1], Fouad Zineb[2], El Arabi Samira[1]
[1] *University of Hassan II Casablanca, Faculty of Dentistry, Department of Pediatric Dentistry, Casablanca, Morocco*
[2]*Private Practice*

Objective: A good oral health is essential from our youngest age; that's why it's important to sensitize parents about education in the oral and food hygiene of their children to pass on them the good reflexes and the behavior. The purpose of this work was to estimate the impact of prevention messages passed on by the students to the consulting parents in a pediatric dentistry service.

Materials-Methods: We led a study in our pediatric dentistry service in Casablanca (Morocco) among parents of the children consulting. Data were collected using a survey targeting this purpose.

Results: 239 parents took part in the study. Main results have shown that, oral hygiene of the children was poor: 38.9 % of the children had an irregular dental brushing. Conveying prevention messages around oral prevention to the parents represented only by 70.7 % of the students. Students paid little attention to parental awareness around their children's oral health.

Conclusion: Training efforts from students are crucial to grasp better educational methods, providing advice and preventive messages to sensitize parents.

Keywords: oral health education, dental prevention, parents, pediatric dentistry

PP 005
Oral hygiene protocol for children with cancer: implementation and evaluation of acceptability with children and their parents

Sana Bensouda[1], Bouchra Badre[1], Kawtar Ammor[1], Jamila Houdzi[2], Samira El Arabi[1]
[1] *University of Hassan II Casablanca, Faculty of Dentistry, Department of Pediatric Dentistry, Casablanca, Morocco*
[2] *Faculty of Medicine of Marrakech, Morocco*

Objective: this is an epidemiologic study aimed at establishing an easy and applicable oral protocoland then evaluating its feasability and acceptability by children with cancer and theirs parents

Materials-Methods: the oral hygiene protocol evaluated consist of dental brushing, oral rinses (saline or bicarbonate) and a fluoride mouthwash. implementationof this protocol required sensitization through a motivational macro-model and brochures and a distribution of oral hygiene kits. Whereas the assesment of acceptability was made, after one month of application of the protocol, using a questionnaire.

Results: the results of this study stated that the oral hygiene protocolevaluated was easy to understand and to apply. 84% of the children assessed applied the protocol and 80% of the children saw their oral condition improved through this study. 36% of children needed parental help for the protocol

Conclusion: the choice of this protocol was made based on several criteria, starting with the latest recommendations from american academy of pediatric dentistry, socioeconomic level of patients, ease of application view that protocol is intended to children. the acceptability rate of the protocol was interesting, however a number of difficulties was encountered, mainly the difficulty of applying certain protocol gestures (brushing). parental support and the involvement of the child in the therapeutic strategy are key elements in the succes of the protocol.

Keywords: children with cancer, oral care protocol, acceptability, children, parents

PP 006
Enamel remineralization effect of CPP-ACP containing agents using optical coherence tomography (OCT)

Betul Sen Yavuz, Betul Kargul
Marmara University, Dental School, Department of Pediatric Dentistry, Istanbul, Turkey

Objective: Clinical evidence has shown that the artificial caries lesion can be reversed completely or at least in part by remineralizing agents. The aim of study is to assessment the remineralization capacity of different remineralization agent by using High-Definition Optical Coherence Tomography(HD-OCT) analysis. OCT is able to provide sectional images of hard tissue structure, in high-resolution, being non-invasive, non-ionizing, and in real-time.

Materials-Methods: 30enamel blocks were divided into groups as GC Tooth Mousse (10%CPP-ACP), GC MI Paste Plus (900ppm Fluoride+10%CPP-ACP), and remineralization solution as control. The enamel samples were immersed in a demineralization solution maintained for 72hours and remineralization agents were applied with pH-cycling for 6days. OCT analyze was performed at the baseline, after demineralization and after pH-cycling. OCT measurments was performed by HD-OCT(1310nm wavelength) in Anterior Segment 5 Line Raster mode. The obtained data were analyzed statistically using ANOVA, Kruskal Wallis and Wilcoxen Signed Rank test. The results were evaluated at $p<0,05$ significance level.

Results: HD-OCT do show changes in lesion depth. The decrease in lesion depth was 311,8±344,3 320,1±244,4 and 203,8±111,0 for 10%CPP-ACP, 10%CPP-ACP+900ppm F and control for respectively. No statistically significant differences were observed between the groups($p>0.05$). HD-OCT represented the increase in mineral content within a larger repaired surface zone. Mineral volume changes arising from remineralization can be measured on the basis of the optical reflectivity of the lesion. Demineralization showed a significant increase in perpendicular-axis integrated reflectivity after remineralization.

Conclusion: This study determines that HD-OCT can image the effects of CPP-ACP containing agents' remineralization of early caries lesion in vitro.

Keywords: CPP-ACP, fluoride, optical coherence tomography (OCT), remineralization, demineralization

PP 007
Turkish parents knowledge and attitude on dental fluoride use: pilot study

Hacer Aksoy, Aslı Topaloğlu Ak
Istanbul Aydin University, School of Dentistry, Department of Pedodontics, Istanbul, Turkey

Objective: To determine Turkish Families' knowledge and attitudes about fluoride toothpaste and topical fluoride applications

Materials-Methods: 186 children with ages ranging from 6 to 14 year old refferred to our clinic for routine control and dental treatments during the time interval indicated (01.12.2017 - 31.03.2018) Oral examinations were performed according to the criteria of WHO (1997) and dmft and DMFT values were recorded. 186 volunteered parents answered 15 item questionnaire about their knowledge and attitudes regarding dental fluoride use. The obtained data were analyzed statistically by Chi-Square test.

Results: Of all the children examined, the dmft and DMFT scores were 4.71 and 1.56 respectively. 45% of parents reported that they had no knowledge about the dental fluoride benefits, while 23% were hesitant. 16% of them believed that fluoridated toothpaste use was harmful whereas the other 16% believed that fluoridated toothpaste was beneficial in preventing tooth decay. Education level of the parents influenced the use of fluoridated significantly ($p = 0.04$). Use of fluoridated toothpaste decreased significantly leading to tendency towards herbal toothpastes.

Conclusion: A negative / refusing prejudice about fluoride toothpaste and topical fluoride applications was reported with the increase of education level. Dentists must play the role of information source about the dental fluoride use to raise the knowledge in the community. Further studies are required.

Keywords: Turkish parents, dental fluoride, knowledge and attitude

PP 008
Gemination of a maxillary permanent central incisor treated by autotransplantation of a supernumerary incisor: a case report

Hazal Özcan[1], Yelda Kasımoğlu[1], Abdulkadir Burak Çankaya[2], Koray Gençay[1], Figen Seymen[1]
[1]*Istanbul University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey*
[2]*Istanbul University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Istanbul, Turkey*

Objective: Autotransplantation defined as the repositioning of autogenous teeth in another tooth extraction site or a surgically prepared sockets to replace teeth that are congenitally missing or have poor prognosis. The aim of this report is to present a case report of an interdisciplinary management involving the autotransplantation of a supernumerary tooth as a replacement of a geminated maxillary permanent central incisor.

Case: A thirteen-year-old boy was referred to pediatric dentistry clinic for the management of crowding associated with a 'large tooth' present in the upper jaw. In clinical examination the maxillary left permanent central incisor appeared enlarged mesiodistally and a supernumerary incisor with completed root was present between maxillary right permanent central and lateral incisors. Radiographic examination was showed that a maxillary left permanent incisor with root canal and pulp chamber morphology consistent with gemination. Autotransplantation treatment was decided and the geminated maxillary left central incisor was extracted under local anesthesia, and the supernumerary incisor was placed immediately into the extraction site and stabilized with sutures. The next day the teeth were splinted with braces passively. One week later root canal treatment was performed to supernumerary tooth. Orthodontic treatment was iniated after three months and the autotransplanted tooth was esthetically restored during the finishing phase of the orthodontic treatment. Three years evaluation after the posttransplantation demonstrated normal periodontal tissue status.

Conclusion: In the presence of a well-shaped supplementary tooth, autotransplantation may be considered as a viable treatment option for replacement of large, geminated, misaligned teeth which impair both esthetics and function.

Keywords: autotransplantation, gemination, supernumerary tooth

PP 009
Parental responce towards dental radiography indication for children

Dan Emil Georgescu, Rodica Luca, Elisa Madalina Georgescu, Mirel Toma
"Carol Davila" University of Medicine and Pharmacy, Faculty of Dental Medicine, Pediatric Dentistry Department, Bucharest, Romania

Objective: Assessing parents' response to detect dental anomalies in their children's teeth using X-ray exam.

Materials-Methods: 400 questionnaires have been distributed to parents of gymnasium school children, in two schools in Bucharest, regarding dental X-ray exam. Variables: parents' education and children's gender. Statistical analysis was performed (Chi-Square Test, p<=0.05).

Results: 133 questionnaries were filled in (response rate: 33.25%). Parents' education: 71.6% secondary education (66.4% mothers and 76.9% fathers); 19.45% higher education (22.7% mothers and 16.2% fathers). 64.1% out of the total amount of respondent parents knew that their children's anomalies could be detected only by X-rays (NS according to parents' education and children's gender) and 95.5% agreed to professional check up and X-ray based on the dentist's recommendation (NS according to parents' education and children's gender). 51.5% did not agree for their children to take X-rays for general purposes. Reasons: Increased levels of X-ray radiation (24.8%), financial problems (19%), time management (4.8%), unnecessary tests (2.9%). There was SS differences according to the children's gender and mothers' education (p=0.03, respectively p=0.04). Mothers with higher education considered that an X-ray exam is highly radioactive for their children, while mothers with secondary education did not have the necessary budget to pay for the X-ray exam.

Conclusion: Majority of the questioned parents agreed for their children to take an X-ray exam to investigate potential dental anomalies. There was a SS difference between the percentages of parents agreeing and parents not accepting the X-ray exam, based on their education level and children's gender.

Keywords: X-ray, parents, dental anomalies

PP 010
Oral treatment management of patient with molar incisor hypomineralization

Duygu Erzek[1], Seçil Çalışkan[1], Ebru Delikan[2], Seçkin Aksu[2]
[1]*Eskişehir Osmangazi University, Department of Pediatric Dentistry, Eskişehir, Turkey*
[2]*Mersin University, Department of Pediatric Dentistry, Mersin, Turkey*

Introduction: Molar incisor hypomineralization (MIH) is a developmental disorder, clinically characterized by enamel defects, accompanied by permanent molar and incisor teeth. The purpose of this case is to regulate function and aesthetics through direct restorations in a MIH patient.

Case: A 9 year old patient who admitted to our clinic with a complaint of sensivity and non-aesthetic appearance on the upper incisors was diagnosed with MIH. In clinical examination deep dentin caries and hypomineralizations was detected in molar and incisor teeth. Radiographically, there was no pathology at root and periapical tissues. A supernumerary tooth was detected on the upper left region. Also, there were enamel formation defects on the maxillary canine teeth crowns. Composite restorations were performed with silicone key technique in incisors and direct techniques in permanent molars. Primary teeth with physiologic resorption were extracted. Glass ionomer and compomer restorations was performed on other carious primary teeth. The supernumerary tooth was decided to follow as it was asymptomatic. During follow up period, the patient reported no tooth sensitivity and there was no recurrence of caries. The patient and parents were stated satisfaction with the treatment.

Conclusion: The number of patient who apply to dentists with a complaint of MIH is quite excessive. Early diagnosis and proper treatment planning are very important but not always possible in these patients. Children at risk should be monitored very carefully during the period of eruption. Treatment planning should be carefully considered for the long-term prognosis of these teeth.

Keywords: dental anomalies, molar incısor hypomineralization(MIH), silicone key technique

PP 011
Conservative rehabilitation of a child with amelogenesis imperfecta using resin composites

Yelda Koç, Damla Akşit Bıçak, Serap Çetiner
Near East University, Faculty of Dentistry, Department of Pediatric Dentistry, TRNC

Objective: Amelogenesis imperfecta (AI) is an inherited enamel dysplasia involving both dentitions with no other systemic effects. AI is divided into four main types based on clinical, histological, radiographic and genetic features.

Case: This clinical report presents diagnosis, treatment and dental rehabilitation of a 12-years-old patient with hypoplastic type AI. The patient was complaining about the sensitivity and caries of his teeth with no any other systemic diseases. Dental caries was examined on teeth 16,26, 36,46 and 35. The structural integrity of carious teeth was not completely absent and the exposed dentin was brown and hypersensitive. There was no loss of proximal contact points between the posterior teeth and no decrease in the vertical dimension. Thus, resin composites were used for the conservative rehabilitation of decayed teeth. In addition, the gingival health of patient was improved with periodontal therapy and preventive procedures were applied.

Follow-up: After restorations of carious teeth, the patient's dental sensitivity disappeared completely, and normal eating habits were established. Orthodontic treatment was started prior to anterior restorations. Clinical examination 6 months after treatment revealed no evidence of disorders associated with the restored teeth or their supporting structures.

Conclusion: Adhesive restorative procedure preserves tooth structure and is not very time consuming or costly to the patient especially in the hypoplastic type of AI where remaining tooth structure is hard enough to restore with resins. In this case, the restorations were satisfactory both esthetically and functionally for the patient and aesthetic rehabilitation will be re-evaluated in the next years.

Keywords: amelogenesis imperfecta, dental anomalies, resin composites

PP 012
Solitary median maxillary central incisor: a case report

Şebnem Nezahat Koçan[1], Seçil Çalışkan[1], Mustafa Aydınbelge[2]
[1]*Eskişehir Osmangazi University, Department of Pediatric Dentistry, Eskişehir, Turkey*
[2]*Erciyes University, Department of Pediatric Dentistry, Kayseri, Turkey*

Objective: Solitary Median Maxillary Central Incisor (SMMCI) is a condition that there is one symmetrical central incisor at midline instead of two central incisors each side. It could be seen with or without other syndromes. Aim of this study to present dental treatment we planned for the patient.

Case: A 5 year old girl who admitted to our clinic for routine dental control. During clinical examination, only one primary central incisor was observed on maxillary midline. The radiographic examination revealed that she has also one permanent central incisor. In the medical history of the patient, it was learned that there was not any systemic problem that had been diagnosed but at the same time there was no evaluation before. Than patient was consulted to the genetic department because SMMCI can be precursor of the other syndromes and it was learned that the patient has chonal atresia and heart disorder. Composite restorations were performed for dental treatment management of the patient. In addition, as a result of interdisciplinary consultation, after the maxillary expansions were made during the mixed dentition period, it was decided to apply fixed orthodontic treatment and rehabilitation of the tooth defect with implant treatment the age of 18. At 3 years follow-up, the patient had no complaints in terms of function, and the permanent central incisor was placed in the oral cavity.

Conclusion: Successful dental management of SMMCI patients is possible, following a detailed long-lasting treatment plan requiring multidisciplinary paediatric dental, orthodontic and prosthetic approach.

Keywords: holoprosencephaly, chonal atresia, solitary median maxillary central incisor

PP 013
Assessment of the prevalence of hypodontia in children aged 6-18 years by using panoramic radiography

Sinem Batur[1], Neslihan Ozveren[1], Meltem Tekbaş Atay[2]
[1]*Trakya University ,Faculty of Dentistry, Department of Pediatric, Edirne, Turkey*
[2]*Trakya University, Faculty of Dentistry, Department of Restorative, Edirne, Turkey*

Objective: This study aimed to evaluate the prevalence of hypodontia in children from the Thrace region of Turkey aged between 6 and 18 years.

Materials-Methods: Digital panoramic radiographs of 6311 Turkish healthy children (3413 boys; 2898 girls) performed over a 3-year period (from 2015 to 2018) were carefully examined to identify congenital missing teeth (excluding wisdom teeth). A chi-square test was used to determine the difference in the prevalence of hypodontia between genders and between arches.

Results: Missing teeth was found in 232 (%3.68) patients researched. 138 girls and 94 boys aged between 6-18 years had a mean age of 13.5±3.6 years. The prevalence of hypodontia by gender was %4.04 girls and %3.24 boys (p=0.092). Only 40% of the patients had one missing teeth and 42.7% had two missing teeth. The prevalence of oligodontia determined in 13 patients and was calculated %0.21. The most commonly missing teeth number were 35(88), 45(80), 12(52), 15(50), 22(47), 25(45). The analysis showed 138 cases of agenesis in the maxillary arch and 137 in the mandibular arch. There were no differences in the prevalence of hypodontia between the age and sexes (p>0.05).

Conclusion: The results of our study indicate the importance of detailed clinical and radiographic examination. Early diagnosis and management of these anomalies can avoid potential functional, orthodontic and esthetics problems in a children.

Keywords: dental anomalies, hypodontia, digital panoramic radiography

PP 014
Multiple supernumerary teeth in a 10 years old girl: a case report

Hamideh Daryanavard, Saida Ben Bihi, Mir Asad
Dubai Health Authority, Dental Service Department, Dubai, UAE

This case report aims at presenting an uncommon case of three supernumerary teeth in the maxillary anterior region. Supernumerary teeth mostly occur in the maxillary anterior region and the most common type is mesiodent. Supernumerary teeth can cause delayed eruption of the permanent teeth and Late diagnosis of the case will lead to more complicated treatment modalities to bring the impacted permanent teeth into proper position.

A ten years old girl attended the clinic on Dec,2015) complaining of missing upper front teeth and asking if her teeth will erput. Clinical examination revealed missing maxillary central incisors and present of all other permanent teeth. Earlier in 2014 she attended the clinic and OPG was requested but the patient did not attend for follow up. In 2015, new OPG was obtained and revealed presence of multiple supernumerary teeth blocking the two central incisors. The child was referred to oral surgery for consultation and CBCT was requested to accurately determine the number and position of the teeth. Three supernumerary teeth were removed under general anesthesia and she was seen after three months for follow up. Periapical X-ray was obtained which showed that central incisors has moved down. After failure of eruption of central incisors orthodontic traction was performed and orthodontic treatment was done to bring the central incisors into proper position in the arch. In conclusion early diagnosis and intervention of these cases can reduce the treatment complexity, time and psychological impact on the child.

Keywords: maxillary, central incisors, supernumerary teeth, impacted teeth, CBCT

PP 015
Conservative treatment approach to impacted inverted tooth: a case report

Dilara Dinç[1], Sermin Dicle Aksakal[1], Abdulkadir Burak Çankaya[2], Oya Aktören[1]
[1] *Istanbul University, Faculty of Dentistry, Pediatric Dentistry, Istanbul, Turkey*
[2] *Istanbul University, Faculty of Dentistry, Oral and Maxillofacial Surgery, Istanbul, Turkey*

Objective: Tooth impaction is known as a anomaly of eruption and impacted tooth position can be horizontal, vertical, mesio/distoangular or inverted. This case report presents a conservative treatment approach to impacted inverted tooth.

Case: A healthy 10 year old boy was referred to Istanbul University Faculty of Dentistry, Pediatric Dentistry clinics with a complaint of pain in his left mandibular primary molars. Clinical examination revealed that there was a percussion sensitivity,while radiographic examination showed a translusency regarding first primary molar and inverted first premolar. History of trauma or acute inflammation was not reported. 3D tomography was taken to confirm tooth position. First primary molar was extracted and decided to reposition the first premolar tooth upright surgically. After surgical treatment space retainer was done till tooth eruption. No complications were observed in 2 year follow up and root development is ongoing.

Conclusion: In mixed dentition period of children, early diagnosis and appropriate treatment are required to prevent complications and orthodontic requirements. Conservative treatment approaches can lead to continuation of root development.

Keywords: impacted, inverted, reposition, surgical

PP 016
Dental management of mastocytosis patient

Buşra Kürem, Zeynep Aslı Güçlü
Erciyes University, Faculty of Dentistry, Department of Pediatric Dentistry,Kayseri, Turkey

Objective: Mastocytosis is a heterogeneous group of clinical disorders characterized by an excessive number of normal mast cells in a variety of tissues (skin, bone marrow, liver, spleen and lymph nodes). It is most often seen in the skin like urticaria pigmentosa in pediatric-onset. Children with this disorder are on a strict avoidance protocol of anaphylactic reactions. The aim of this report is to highlight close monitoring, readiness to use resuscitative measures and avoidance of known histamine-releasing drugs in the pediatric dental practice with mastocytosis patients.

Case: 5-year old, pediatric patient with mastocytosis was applied to Erciyes University, Faculty of Dentistry, Department of Pedodontics to check-up. She had history of allergies to aspirin, alcohol, morphine, codeine, scopolamine and amoxicillin. Clinical and radiographic examination showed maxillar and mandibular primary first and second molar teeth and maxillar incicor teeth had severe caries. Dental treatments were complated and profilactic flouride varnish applied under sedation as she was non cooperated under clinical conditions. All caries treated and extraction was provided utilizing nitrous oxide, oxygen analgesia and H1-H2 antihistamines to prevent mast cell degranulation to provide sedation. Sedation was best choise for this patient as she was allergic to all opioids.

Conclusion: Children with systemic diseases, such as mastocytosis, involving such a high potential for life-threatening emergencies such as anaphylactic response during dental treatment. Treatment must done under monitoring where immediate high-level emergency procedures can be instituted. Pediatric dentists must be flexible about dental management and be prepared to alter their treatment modalities based on the risk/benefit.

Keywords: mastocytosis, pediatric dentistry, sedation

PP 017
Sotos syndrome and dental features: a case report

Sinem Direcen, Zeynep Aslı Güçlü
Erciyes University, Faculty of Dentistry, Paediatric Dentistry Department, Kayseri, Turkey

Objective: Sotos syndrome, is a type of cerebral gigantizm that appears in childhood. Its characteristic clinical features are overgrowth in childhood, a prominent forehead, advanced bone age, mild mental retardation and delayed motor and social development. It was recently reported that the syndrome is caused by a mutation in the gene for the nuclear receptor-binding SET domain-containing protein (NSD1). There are few studies regarding oral manifestations associated with Sotos syndrom and hypodontia, as our aim is to present another hypodontia case.

Case: A 12 year-old Turkish boy was referred to the Department of Pediatric Dentistry, Erciyes University for oral rehabilitation. A detailed medical history revealed Sotos syndrome, mild mental retardation and behavioural problems. In clinical examination, he exhibited the characteristic craniofacial features. There was chronic gingivitis consistent with poor oral hygiene. Clinical and radiographic examination showed maxillary and mandibular permanent incisors and second molars had caries; all second premolars, all first and third molars were absent, mandibular labial segment crowding and high palatal vault. A preventive programme was implemented consinsting of the oral hygiene instruction and dietary and fluoride advice. All caries treated in clinical conditions. The replacement of congenitally missing permanent teeth with implants in the long term would be ideal, this will depend on the patient's cooperation and compliance with preventive dental advice. A 3 monthly recall programme was organized.

Conclusion: Paediatric dentists should be aware of the possibility of hypodontia in patients with Sotos Syndrome. Early prevention and a multidisciplinary approach to the care of these patients are essential.

Keywords: sotos syndrome, hypodontia, genetic disorder

PP 018
Oral rehabilitation of a patient with ectodermal dysplasia: a multidisciplinary approach

Sezen İrem Birinci[1], Mahmut Alolo[2], Sezer Işıksaçan[3], Elif Sungurtekin[1]
[1]*Yeditepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey*
[2]*Yeditepe University, Faculty of Dentistry, Department of Prosthetics, Istanbul, Turkey*
[3]*Yeditepe University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Istanbul, Turkey*

Objective: Ectodermal dysplasia (ED) is a group of inherited disorders affecting more than one ectodermal derivative, primarily skin, hair, nails, exocrine glands and teeth. Most seen dental abnormalities associated with ED are oligodontia, conical shaped teeth, taurodontism, enamel hypoplasia and lack of an alveolar ridge. The aim of this case report was to describe the oral rehabilitation of a patient with hypohidrotic ectodermal dysplasia.

Case: A 15-year-old boy presented with chief complaints of failure of development of dentition, difficulty of mastication, dental caries and poor dental esthetics to Yeditepe University, Faculty of Dentistry, Department of Pediatric Dentistry. Extraoral examination revealed several classical features of ED involving saddle nose, prominent forehead, protuberant lips and dry skin. Intraoral examination revealed dry oral mucosa, gingivitis, five teeth, which are grossly decayed in the maxilla, and an edentulous mandible. Panoramic radiograph revealed an underdeveloped alveolar bone and an impacted mesiodens. First, periodontal debridement was done in 2 sessions of initial periodontal therapy, followed by gingivectomy using Er:YAG laser. After endodontic and restorative treatments, tooth extraction and decoronation were done. An overdenture was planned for the maxilla and a complete denture was planned for the mandibular arch.

Conclusion: Oral rehabilitation is often difficult in pediatric patients with ED. In these patients, there is a need for a multidisciplinary approach involving pediatric dentist, orthodontist, prosthodontist, and oral and maxillofacial surgeon to enhance the quality of life.

Keywords: ectodermal dysplasia, decoronation, oral rehabilitation

PP 019
Gorlin-Goltz syndrome: a case report

Aysun Tagar, Sibel Yildirim
Selcuk University, Faculty of Dentistry, Department of Pediatric Dentistry, Konya, Turkey

Objective: Gorlin-Goltz syndrome (GGS) is an uncommon autosomal dominant inherited disorder and characterized by basal cell carcinomas, odontogenic keratocysts (OKCs) and skeletal anomalies.

Case: A patient (9,♀) referred to our clinic with complaint of a toothache. The patient's family told us that Gorlin-Goltz syndrome was diagnosed in the patient before and that there was growth and developmental retardation and hereditary deformity in her heart. Extraoral examination showed syndactyly in the right hand and toe, hypertelorism and wide nasal root. Intraoral examination and radiographic examination revealed that the lack of jerm of teeth number 13, 44, 45; the ectopic position of tooth number 43 and the delays of eruption on the permanent dentition. Following consultation with the pediatrician who followed the patient, under general anesthesia with oral prophylaxis, the patient's teeth numbered 55, 65, 36 were restored with the composite resin and the teeth numbered 74 and 75 were extracted. After the process, the patient was treated with a removable space retainer. The patient's family was informed about the possibility of developing cyst and this case was followed up with regular checks.

Conclusion: The main diagnostic finding in the early period of the syndrome is the presence of multiple keratocysts in the oral cavity, and dentists must have knowledge of the disease. The aim of this case report, clinical and radiological examinations and regular controls by dentists are important for early diagnosis and treatment of Gorlin-Goltz syndrome.

Keywords: Gorlin-Goltz syndrome, odontogenic keratocysts, delays of eruption

PP 020
An unique case- impacted primary molars of non-twin sibling

Özgür Doğan, Ismail Haktan Çelik
University of Health Science of Afyonkarahisar, Faculty of Dentistry, Department of Paediatric Dentistry, Afyon, Turkey

Objective: Primary tooth impaction is quite rare during the development of primary dentition. Various factors contribute to the impaction of a deciduous tooth, including anklyosis, congenitally missing permanent teeth, defects in the periodontal membrane, trauma, injury of the periodontal ligament, precocious eruption of the first permanent molar, defective eruptive force. Otosomal recessive transition can be seen rarely. Tooth eruption is defined as the movement of a tooth from its site of development within the alveolar process to its functional position in the oral cavity. Any disturbance in these phases can lead to eruptive anomalies. The primary teeth reported as unerupted, second primary molars are the teeth most frequently involved

Cases: 6.5 and 8.5 years old boys was referred to our clinic for routine controls. Older boy's panaromic view was seen two impacted decideous molar teeth (55-85) even though there are two premolars (15-45). These teeth was extracted and placed space retainers. Younger boy had an impacted tooth 65. Lack of premolar germ we decided to wait until eruption of 26.

Conclusion: The clinician should consider extraction if the permanent successor has an altered path of eruption, if the ankylosed primary molar is severely infraoccluded with the adjacent teeth tipping to prevent the successor from erupting, or both. The ankylosed molar often exfoliates spontaneously within six months; however, when exfoliation is more delayed, arch-length loss, occlusal disturbance, hooked roots or impaction of permanent successors may occur. Practical Implications. Ankylosed primary molarsinitially should be monitored closely for up to six months.

Keywords: impacted primary molar, deciduous, ankylosed

PP 021
Hallervorden-Spatz disease: a case report

Burcu Nihan Yüksel[1], Tuğba Bezgin[1], Ayşe Tuba Altuğ Demiralp[2], Nurhan Özalp[1]
[1]*Ankara University, Faculty of Dentistry, Department of Pediatric Dentistry, Ankara, Turkey*
[2]*Ankara University, Faculty of Dentistry, Department of Orthodontics, Ankara, Turkey*

Objective: Hallervorden-Spatz disease (HSD) is an autosomal recessive congenital condition and a rare disorder with brain iron accumulation. It is also known as 'Pantothenate kinase-associated neurodegeneration'. It most commonly occurs in late childhood and early adolescence. The symptoms include involuntary muscle contractions, or dystonia, rigid muscles, choreatic contractions, or writhing movements, vision change as well as various psychiatric conditions such as anxiety, behavioral change, depression and sleep disorders. This case report aims to present a multidisciplinary treatment plan for HSD patient with involuntary biting of lips.

Case: A six-year-old Caucasian girl was referred to the pediatric dentistry clinic from Department of Pediatric Neurology with the diagnosis of HSD. The patient has suffered from biting of the lower lip and pain due contractions that occur simultaneously with swallowing reflex during feeding. The patient was treated with as Essix appliance and a custom-made oral screen which helped healing of the ulcerated wound after a month and prevented the biting of the lip despite continued involuntary contractions. The patient was also given other necessary restorative and prophylactic treatments as well as oral hygiene training. The patient is scheduled for follow-up visits.

Conclusion: The use of Essix and oral screen appliances together may be recommended for HSD patients in order to prevent biting of oral soft tissues caused by involuntary contractions.

Keywords: Hallervorden-Spatz disease, involuntary muscle contractions, soft tissue injuries

PP 022
Di-George syndrome: a case report

Burcu Nihan Yüksel, Nurhan Özalp
Ankara University, Faculty of Dentistry, Department of Pedodontics, Ankara, Turkey

Objective: Di-George syndrome (DGS) is a rare disorder and causes cardiac abnormality, cellular immunodeficiency, hypocalcemia and behavioral problems. The most frequent facial characteristics are ear anomalies and alterations in nasal anatomy. The common dental features are open-bite, enamel hypoplasia and hypocalcification, delayed odontogenesis and delayed tooth eruption, cleft of the soft palate and mandibular retrusion. This case report aimed to present clinical findings of two patients with DGS.

Case: A 10-year-old male patient who admitted to the pediatric dentistry clinic with pain in the lower anterior region was diagnosed with DGS at 4 years of age. Low-set ears and hypoplastic alae nasi has been observed. Intraoral examination didn't reveal any anomalies in the soft tissue and no cleft palate-lip findings were found. White opaque lesions were found in the cervical parts of the crowns of all teeth, due to poor oral hygiene and hypoplasia. Deep-bite were determined. No anomalies were detected on radiographic examination. All the necessary treatments were performed under clinical conditions, through patient co-operation. Clinical and radiographic follow-up of the patient at 3-month intervals did not reveal any symptoms or pathology.

Conclusion: Considering the potential cardiac risk and behavioral disorders involved in the dental management of these patients, dental professionals should be attentive to potential clinical indicators of this syndrome and consider a more through screening in such cases. Considering the enamel alterations related to the syndrome, it should be taken into account that early diagnosis is important to allow early management or prevention of dental complications.

Keywords: Di-George syndrome, pediatric dentistry, tooth abnormalities, early diagnosis

PP 023
Apert syndrome: a case report

Elif Buşra Gül, Buşra Parlak, Elif Sepet
Istanbul University, Faculty of Dentistry, Pedodontics Department, Istanbul, Turkey

Objective: Apert syndrome is a rare genetic disorder characterized by the craniosynostosis, fused fingers and toes, exophthalmia, ocular hypertelorism and hypoplastic midface with Class III malocclusion. The aim of this report is to show the craniofacial characteristics and dental management of an 11-year old female patient diagnosed as Apert syndrome.

Case: The patient was referred to Istanbul University, Faculty of Dentistry, Pediatric Dentistry Department for the regular dental treatments. Extraoral examination revealed a brachycephalic skull, a flat forehead, depression of the temporal bones and hypertelorism. Both hand and feet showed symmetric syndactyly with fusion of all fingers and toes. Intraoral examination revealed poor oral hygiene, hypoplastic maxilla, high arched palate with pseudocleft, late teeth eruption, dental crowding, carious teeth and class III malocclusion. Panoramic radiograph showed severe skeletal open bite, taurodont lower primary molars, partially erupted upper permanent premolars. Oral hygiene instruction and diet counseling were provided, followed by four sessions of dental prophylaxis, application of 0.12% chlorhexidine digluconate mouth rinse, 1.23% acidulated phosphate fluoride and fissure sealants. In addition to preventive procedures, restorations of first molars and extractions of primary molars were performed. The patient was kept under regular follow-up and referred to the Orthodontic Department.

Conclusion: Considering the high rate of oral manifestations, patients with Apert syndrome need an aggressive oral prophylactic plan for the management of preventable oral diseases. Due to the complexity of the syndrome a multidisciplinary approach is necessary to provide correct oral management in Apert syndrome.

Keywords: apert syndrome, genetics, treatment, oral hygiene

PP 024
Goldenhar syndrome: a case report

Büşra Parlak, Elif Buşra Gül, Elif Sepet
Istanbul University, Faculty of Dentistry, Pediatric Dentistry Department, Istanbul, Turkey

Objective: Goldenhar syndrome is a rare congenital disorder, also known as oculo-auriculo-vertebral syndrome, characterized with facial asymmetry, microtia and spinal abnormalities. The disease may also affect the heart, lungs, kidneys, and central nervous system. In this case report, we present oral and clinical features of two girls with Goldenhar syndrome.

Case: A 9 year old girl and an 11 year old girl referred to the Istanbul University Department of Pediatric Dentistry, with the complaint of having cavities. 9 year old girl had history of congenital heart disease and vertebral deformaties. On extraoral examination, 11 year old girl had facial asymmetry with deviation of angle of mouth toward the left side was detected. Facial profile was concave due to midface deficiency. On extraoral examination of 9 year old girl it is determined that microtia along with preauricular tags was present on the left side. She had facial asymmetry with deviation of angle of mouth toward the right side. Both of them had protrusion of upper incisors and class III malocclusion. Our patients were counseled and educated on the maintenance of good oral hygiene. They underwent a through oral prophylaxis. Extractions, fillings and root canal treatments were performed.

Conclusion: Providing and maintaining optimum oral health care for syndromic patients is essential from birth till adolescence therefore they can have special dental conditions. Early diagnosis is important and interdisciplinary approach is necessary to mange the disease.

Keywords: goldenhar syndrome, treatment, genetics

PP 025
Treatment of inflammatory external and internal root resorption by using mineral trioxide aggregate (MTA): a case report

Serhat Karaca
Erzincan University, Faculty of Dentistry, Department of Pediatric Dentistry, Erzincan, Turkey

Objective: Inflammatory external and internal root resorption is a common complication after replantation of avulsed teeth. This case report presents to inflammatory external and internal root resorption in a maxillary left central incisor in a 9-year old female patient that was treated by using mineral trioxide aggregate.

Case: The patient's major complaints were mobility and abscesses of avulsed and reimplanted maxillary left central incisor. Radiographic examination showed progressive inflammatory external and internal root resorption of the left central incisor after reimplantation. The left maxillary central incisor was immature and had periapical radiolucencies. The necrotic pulp of the reimplanted tooth was extirped with correct root canal length, irrigated copiously with 2.5% NaOCl, treated with calcium hydroxide for 2 weeks before mineral trioxide aggregate (MTA) obturation. The clinical and radiographic examinations at 1-, 3-, 6-, 12-, 18- and 24-month follow-up showed that treated teeth were functional with normal mobility, the progression of the inflammatory external root resorption ceased, the resorptive lacunae were filled with newly formed bone, and periapical radiolucencies healed.

Conclusion: From the present case it can be concluded that MTA can be considered a very effective option for the cases of inflammatory external and internal root resorption and obturation of immature necrotic teeth with the advantage of reduced treatment time, good sealing ability and high biocompatibility.

Keywords: avulsed teeth, internal root resorption, external root resorption, MTA

PP 026
Treatment of horizontal root fracture: a case report

Ilknur Taşdemir, Şirin Güner Onur
Trakya University, Faculty of Dentistry, Department of Pediatric Dentistry, Edirne, Turkey

Objective: Radicular fractures in permanent teeth are uncommon injuries among dental traumas, being only 0.5-7% of the cases. Fracture occurs often in the middle-third of the root and rarely at the apical-third. The present case describes management of a horizontal root fracture located at apical-third of a upper right-central incisor.

Case: A 10-year-old boy was referred to Trakya University Faculty of Dentistry Department of Pediatric Dentistry after a dentoalveolar trauma to his upper right incisor. Intraoral examination revealed that there was no displacement of the coronal fragment. Following radiographic examination a horizontal root fracture was determined in the apical third of the root. A semi-rigid splinting with an orthodontic wire and composite resin was performed for 4 weeks. Endodontic treatment was carried out due to pulp necrosis. The root canal was irrigated with 2.5% Sodium hypochlorite (NaOCl) and calcium-hydroxide was applied as intracanal dressing. Mineral trioxide aggregate (MTA) was placed in the apical-third. Obturation was performed using warm gutta percha obturation technique. Tooth was evaluated clinically and radiographically after 3, 6 and 12 months.

Conclusion: At one year follow up, the root-fractured tooth in the present patient was asymptomatic without any signs of periapical pathology. Clinical and radiographic follow-up is essential for treatment success of a tooth with horizontal root fracture.

Keywords: horizontal root fracture, dental trauma, MTA

PP 027
Regeneratif endodontic therapy of previously traumatized incisors: 7.5 years follow-up

Gizem Erbas Unverdi, Zafer Cavit Cehreli
Hacettepe University, Faculty of Dentistry, Department of Pedodontics, Ankara, Turkey

Objective: This case report presents the long-term outcome of revascularization on previously traumatized central incisors.

Case: A 8.5-year-old healthy boy was referred to the Pediatric Dentistry Department with the compliant of spontaneous pain of his maxillary right central incisor. Reportedly, he had a fall accident two months earlier and his teeth were restored in another dental clinic. Clinical and radiographic examination revealed immature roots with pulpal exposure on 21 and pain on his previously restored 11 on vertical percussion. Following local anesthesia, endodontic accesses were gained and calcium hydroxide dressing was placed into the root canals after copious sodium hypochlorite (2.5%) irrigation. Four weeks later, the calcium hydroxide paste was removed and regenerative treatment involving induced apical bleeding and MTA coronal seal was performed. The teeth were restored with etch-and-rinse adhesive and composite-resin. After 9 months, the patient had a second trauma resulting lateral luxation of his anterior teeth. A semi-rigid splint was applied between teeth 13 and 23 for two weeks and the patient was scheduled for controls. Radiographic evidence of complete apical closure and thickening of root walls was observed during the 3-year follow-up. 6.5 years later, the patient had another trauma on 21 resulting fracture of the composite restoration. The tooth was restored. At 7.5 years, the patient returned with spontaneous pain on 21 and the root canal was obturated with gutta-percha and sealer.

Conclusion: In traumatized teeth, the revascularization procedure may facilitate continued root development, complete apical closure and thickening of root walls.

Keywords: dental trauma, revascularization, endodontic therapy

PP 028
Multidisciplinary management of unerupted maxillary central incisor with crown dilaceration

Gulce Esenturk[1], Elif Ballikaya[1], Cenk A. Akcan[2], Erhan Dursun[3], Zafer C. Cehreli[1]
[1]Hacettepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Ankara, Turkey
[2]Hacettepe University, Faculty of Dentistry, Department of Orthodontics, Ankara, Turkey
[3]Hacettepe University, Faculty of Dentistry, Department of Periodontology, Ankara, Turkey

Objective: Crown dilaceration may occur as a sequel to primary tooth intrusions, and represents 3% of the total injuries to the devoloping tooth bud. Treatment of dilacerated teeth may require a team approach involving endodontics, orthodontics, surgery and restorative procedures. This case report presents the multidisciplinary management of unerupted dilacerated incisor and esthetic rehabilation of anterior teeth.

Case: An 8 year-old boy admitted to the Pediatric Dentistry Department with complaint of unerupted right maxillary central incisor. Radiographic and clinical examination revealed crown dilaceration of right central incisor and hypoplasia of remaining anterior teeth. Reportedly, the patient had a severe intrusive luxation of his maxillary incisors at the age of two, and the teeth were followed for spontaneous eruption. Following extraction of primary anterior teeth, the unerupted incisor was moved into its proper position through surgical exposure and orthodontic traction by a gold chain. After the alignment of teeth with fixed orthodontic treatment, gingivectomy was applied and the teeth were restored esthetically using acid-etch resin-based composite.

Conclusion: The multidisciplinary treatment approach for crown dilaceration provided a favorable outcome in the absence of esthetic and functional problems.

Keywords: trauma, crown dilaceration, unerupted incisor

PP 029
Extrusive luxation combined with root fracture of an immature permanent central incisor: a case report

Seda Eker, Senem Selvi Kuvvetli
Yeditepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey

Objective: Extrusive tooth luxation is a type of dental injury that includes displacement of the tooth out of the alveolar socket, partial injury of periodontal ligament and occurrence of cracks within alveolar socket. Root fractures are 0,5-7% of all dental injuries in the permanent dentition. Some research suggests that even though lateral or extrusive luxation and root fracture leads to pulp necrosis, vital teeth with open apex might remain vital.

Case: A 7-year-old boy was referred to Yeditepe University Faculty of Dentistry, Department of Pediatric Dentistry 4 hours after a fall accident. There were no significant findings in the medical history. Extraoral examination revealed contusions on the facial skin and edematous upper lip. Intraoral findings included gingival, mucosal and frenulum lacerations, along with extrusive luxation of right maxillary permanent central incisor. Radiographic evaluation revealed an incomplete root fracture localized in the middle and mesial side the root. The treatment comprised of suturing of the lacerated frenulum, repositioning of the extruded incisor and splinting with a semi-rigid splint for 4 weeks. 3 months control examination revealed that the tooth was asymptomatic and positive response to the sensivity test was achieved. Clinical and radiographic follow-up of the patient continues.

Conclusion: Considering the risk of pulp necrosis, the management and follow-up of the luxation injury is important. Treatment of root fractures is difficult and can lead to poor prognosis, even tooth loss. A long term radiological and clinical follow-up is mandatory for screening the development of the root and health of the pulp.

Keywords: extrusion, root fracture, immature incisor tooth

PP 030
Decoronation of replanted and impacted incisor

Onur Şahin, Firdevs Kahvecioğlu
Selcuk University, Faculty of Dentistry, Pediatric Dentistry Department, Konya, Turkey

Objective: Our purpose was to preserve alveolar bone volume both horizontally and vertically in maxillar anterior region and replace aesthetic appearance.

Case: A 13-years-old male patient had a traffical accident 4 years ago. The patient had lost his 11# and 22# (FDI) after traffic accident and only 21# could been replanted by his parent. The tooth had been ankylosed and infrapositioned about 4 mm. After radioraphic examination, it was detected that there was deep cervical resorption. At first, the patient was used a removable orthodontic appliance that contains mesiodistal springs to close spaces between 23-24# and 12-13#. After 1 month decoronation was performed. It was planned to reshape 23# as 22 # by means of adding composite resin. Finally, Nance palatal arch appliance modified with 11# and 21# acrylic resin teeth. After 9 months, the alveolar bone level showed equality with residual root height. Healthy gingival tissue was observed and there was no bone loss or infection symptoms around decoronation area.

Conclusion: Decoronation can be considered as a good treatment option to maintain alveolar ridge height and width for future dental implant practices in children.

Keywords: root resorption, ridge preservation, maxilla

PP 031
The treatment and long-term follow-up of post-traumatic extrusive luxation in the immature permanent teeth

Özgül Baygın, Güneş Koç, Nagehan Yılmaz, Tamer Tüzüner
Karadeniz Technical University, Faculty of Dentistry,Department of Pediatric Dentistry

Introduction: Extrusive luxation of permanent teeth is one of the most serious injuries in dental traumatology. These teeth may undergo necrosis and inflammatory resorption. However, these conditions can be prevented with suitable treatment approaches. The ideal treatment for this type of trauma involves repositioning the tooth in its socket. This case series describes the treatment approach performed following the extrusive luxation of traumatized maxillary left central incisors in three patients.

Case Reports: 7-9 years old female three patients with dental trauma referred to Karadeniz Technical University Faculty of Dentistry, Department of Pediatric Dentistry. Radiographic and clinical examinations were performed. Intra-oral examinations showed that the teeth number of 11 in each patients have extrusive luxation for about 2 mm. The teeth number of 11 were repositioned and stabilized with a semi-flexible splint for 2 weeks. The all patients were followed one years and teeth were asymptomatic.

Conclusions: Early intervention and adequate long-term follow-up are important for progression of prognosis in luxation injuries. In young patients, instead of starting immadiate root canal treatmeant, it is important to observe vitality of traumatized teeth. Since the pulp vitality has much more importance, the maintainance of anterior continued root growth and development and an intact dentition should not be overlooked.

Keywords: dental trauma, extrusive luxation, reposition

PP 032
Managing intruded teeth with surgical technique

Türkan Mahyaddinova, Zeynep Aslı Güçlü
Erciyes University, Faculty of Dentistry, Paediatric Dentistry Department, Kayseri, Turkey

Objective: Intrusive luxation is the displasement of the tooth into the alveolar bone along axis of the tooth, found 0.3-1.9 % of all traumatic injuries and most common between the age 6-12. Treatment strategies can be either active, by repositioning surgical or orthodontic extrusion, or passive,by spontaneous re-eruption based on root development (closed,open apex) and severity of the intrusion.

Case: An 11 year old female patient was referred to the pediatric department of Erciyes University, as she falled at school the same day; had an abrasive injury to the chin, lips appeared swollen and oedematous. İntraorally, an ulcer was present on alveolar mucosa. Upper right lateral incisor and primary canin, clinically no visible, appeared to be intruded. A panoramic radiograph showed intrusion of permanent maxillary left lateral and primary canin teeth. Because of the severity of intrusion and completed root development, immediate surgical repositioning and splint of intruded lateral and extraction of primary canin was planned under general anesthesia. Antibiotics, analgesic and mouthwash prescribed. Two weeks after the first visit, endodontic treatment started. The patient was reviewed at 1,3, 6 month intervals. Eating habits,oral hygiene maintenance was instructed.

Conclusion: There are many advantages of surgical technique for managing intruded teeth; it can be easily repositioned, provides the original anatomic situation and also adequate room for endodontic access. Ankylosis or external root resorption are disadvantages of surgical procedure. Such complications seems to be related to the degree of severity of original injury. Further interpretation of results requires continued long-term follow up.

Keywords: dental trauma, intrusion, surgical treatment

PP 033
Orthodontic and restorative management of a child with fractured teeth

Elis Mutlu, Tuğçe Ceceloğlu, Yelda Kasımoğlu, Koray Gençay
Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey

Objective: Both anterior crossbite and fractured anterior teeth result in visible incisor differences that are associated with higher levels of dissatisfaction with appearance and have potential to negatively impact on oral health-related quality of life of the children. The aim of this report is to describe the management of dental trauma in a child who is also presenting anterior crossbite.

Case: An 8-year-old boy applied to the Department of Pedodontics at the Istanbul University Dentistry Faculty with pain and anterior fractures for both central insicors including enamel and dentin structures. After clinical and radiological examinations, history of trauma was revealed 5 months before. Incisors were slightly tender to percussion. On electric pulp testing upper right central incisor was non-responsive, thus upper left central insicor was keeping its vitality. A decision was then made to perform root end closure using mineral trioxide aggregate to the upper right central insicor. First appointment, calcium hydroxide dressing was performed to the upper right central incisor and only a sealing was conducted for upper left central incisor. At the second appointment apexification was completed. The major obstacle for composite restorations was anterior crossbite. For the correction of anterior crossbite patient treated with a removable appliance. After correction of malocclusion, composite restorations were completed. In clinical and radiographic examinations, no pathological findings were detected at one-year follow-up.

Conclusion: It was seen that the restorations that were made did meet the esthetic expectations of the parents. For favourable restoration of the crown fracture, correction of anterior crossbite may be helpful.

Keywords: anterior crossbite, apexification, composite restorations

PP 035
Attitude and knowledge of female teachers towards management of traumatic dental injuries in Jeddah City

Ola Balkhair, Haneen Al Maghrabi, Rania Baakdha
King Abdulaziz Medical City at Ministry of National Guard, Dental Department, Jeddah, Saudi Arabia

Objective: Dental traumatic injuries are frequently reported in school children with teachers as the primary contact point when the incident occurs. The purpose of this study was to assess the attitude and knowledge of female teachers in Jeddah City with regards to management of dental emergencies and in particular tooth avulsion.

Materials-Methods: Data was collected from 504 female teachers by self-administered questionnaire from randomly selected schools across Jeddah City. The questionnaire focused on general demographic characteristics, attitude, knowledge as well as favored strategies for the management of dental emergencies among female teachers. Descriptive statistics was used to analyze collected data.

Results: The findings revealed 64% of female teachers had a positive attitude while only 37% had sufficient knowledge about dental emergency management at school. There was no significant (P=0.21) association between attitude and knowledge of the participants. In addition, only 26% and 8% of the female teachers were able to identify appropriate storage media and management of an an avulsed tooth, respectively.

Conclusion: This study reveals despite positive attitude there is significant lack of knowledge among female school teachers in management of dental emergencies in particular avulsion. Majority of female teachers were motivated to improve their knowledge and awareness regarding appropriate management of dental emergencies through continuing dental education courses.We recommend training to be included as part of the induction training program for female teachers.

Keywords: attitude, dental emergency, female teachers, knowledge, tooth avulsion

PP 036
Treatment of extrusive luxation by intentional replantation: a case report with 12-month follow-up

Fatma Dilara Tutar, Hamdi Cem Güngör
Hacettepe University, Faculty of Dentistry, Department of Paediatric Dentistry, Ankara, Turkey

Introduction: This case report presents the management of an extrusively luxated maxillary permanent central incisor by intentional replantation.

Case: A 9-year-old girl was brought to the pediatric dentistry clinic one day after a bicycle accident. Her lacerated lip had been sutured by an emergency physician in a hospital. In clinical examination, gingival laceration and extrusive luxation of maxillary permanent right central incisor (#11) was observed. The tooth was extremely mobile and tender to palpation. An apically increased periodontal space of #11 was seen radiographically. Due to late referral, repositioning of teeth was not considered. Instead, an intentional replantation was planned following parental consent. The tooth was extracted under local anesthesia and stored in sterile saline. Following coagulum debridement of the alveolar socket, the tooth was replanted and splinted with 0.9 mm monofilament fishing line. An oral antibiotic, analgesic and chlorhexidine rinse were prescribed after the gingival laceration was sutured. One week later, endodontic access was gained and calcium hydroxide dressing material was placed into the canal. Five weeks later, the splint was removed before the root canal was filled with a combination of apical plug with mineral trioxide aggregate (MTA) and heated gutta percha. Twelve months later, along with optimal gingival healing, physiologic mobility and periodontal healing of #11 was present in the absence of any symptoms.

Conclusion: Intentional replantation offers an alternative treatment approach in extrusive luxation of teeth for which repositioning can not be performed due to late presentation of the case.

Keywords: extrusion, intentional replantation, permanent teeth

PP 037
Treatment and prognosis of lateral luxation

Esra Özgöçmen, Sibel Ezberci
Usak University, School of Dentistry, Department of Pediatric Dentistry, Usak, Turkey

Objective: Lateral luxation injuries are one of traumatic dental injuries in which the tooth becomes displaced in the palatal/lingual or labial direction. Luxation injuries comprise 15 to 61% of dental traumas to permanent teeth with a peak in the age group of 8 to 12 years. Predominant etiologic factors of luxation injuries in permanent dentition are bicycle injuries, falls, fights and sports injuries. Frequently, two or more teeth are luxated simultaneously and a number of luxations show concomitant crown or root fractures. Laterally luxated teeth usually have their crowns displaced lingually and are often associated with fractures of the vestibular part of the socket wall. The aim of this study is to introduce the treatment and follow-up of lateral luxation of permanent maxillary right central incisor.

Case: A 7-year-old girl refered to come our clinic after 1 hour from falling in the school. Clinical and radiological examinations revealed permanent maxillary right central incisor displaced in palatal direction with bleeding on the gingiva. Permanent maxillary right central incisor was mobile and lower lip was lacerated. The dental occlusion was deranged. Permanent maxillary right central incisor was repositioned with 0,5 mm wire. Semi-rigid splint which was extending between primary maxillary left canine to primary maxillary right canine was removed 3 weeks postoperatively.

Conclusion: After 3 weeks, the tooth and periodontal tissues remained healthy clinically, radiologicaly and an acceptable aesthetics outcome was achieved.

Keywords: dental trauma, lateral luxation, splint

PP 038
Rehabilitation of a central incisor tooth with complicated crown fracture

Merve Alkış, Sibel Ezberci
Uşak University, Faculty of Dentistry, Department of Pediatric Dentistry,Uşak, Turkey

Objective: Dentoalveolar trauma usually occurs in childhood. Maxiller incisor teeth are the most affected teeth by trauma. In this case a maxiller central incisor tooth with the complicated crown fracture and its restoration with original fragment(Reattachment) after partial pulp amputation (Cvek amputation) will be presented.

Case: A 8-year-old boy referred to our clinic with the complaint of fractured upper central incisor tooth after 2 hours from bicycle accident. Clinical and radiologycal examination revealed complicated crown fracture in the middle third of the crown. The patient brought the tooth fragment in a cup of milk to our clinic. Cvek amputation was preferred because of the width of the exposed part of pulp was larger than 0,5 mm. Pulp amputation was achieved with round diamond bur. Calcium hydroxide powder mixed with distilled water and placed on the exposed area after controlling of bleeding by saline solution. Glass ionomer cement was placed on it. Permanent restoration was achieved with the original fragment of the tooth at the same session. The fragment reattached with using 37% orthophosphoric aside, bonding system and flowable composite. There were no complications on 1st week, 2nd week, 1st month, 2nd month, 3rd month and 6th month follow up.

Conclusion: Cvek amputation has more advantages comparing with pulpectomy to protect coronal pulp and let the root development continue in immature teeth. Reattacment might be a good alternative for such cases like complicated crown fracture.

Keywords: amputation, reattachment, fracture, aesthetic restoration

PP 039
Recurring dental trauma observed permanent maxillary right central tooth post-treatment prognosis: case report

Salih Doğan, Burcu Duman
Erciyes University, Faculty of Dentistry, Department of Pedodontics, Kayseri, Turkey

Objective: Although recurrent dental trauma are frequently in children,there is little information in the literature about the treatment outcomes of such injuries.The present case report describes the treatment process of three different dental traumatic injuries (avulsion,subluxation,and uncomplicated crown fracture) that the superior right permanent central tooth has been exposed to at different times within 3years.

Case: 10-year-old girl suffered a traumatic injury resulting in falls and applied to our clinic one day later.In the history of the patient;it has been learned that the child's maxillary central tooth are the resultant fallout runners 3years ago and are reimplanted in a special clinic and 8months later the same tooth of the fall is undergoing subluxation dental injuries this time without any clinical intervention. After these traumatic injuries,the root development continued smoothly and the tooth was healthy and functioned in the mouth. Clinical and radiological examination performed in our clinic after the third traumatic injury, uncomplicated crown fracture and subluxation were detected and restored with composite resin.Since mobility of the denture was observed at mild level,it was splinted for 14days by means of a 0.3mm orthodontic wire attached to the dental composite resin.Radiologic examination 2months later, external root resorption was observed,and root canal treatment was decided because of negative response to electric pulp test.In the subsequent control examinations of the patient,it was observed that the resorption was limited and didn't progress.

Conclusion: Complications after uncomplicated crown fractures are very rare.However,pulp necrosis and external resorption were observed after recurrent trauma in our case.

Keywords: dental trauma, avulsion, crown fracture

PP 040
Treatment approach to the upper anterior tooth with horizontal root fracture dueto trauma

Esra Ece Cakmak, Mehmet Unal
Afyonkarahisar Health Sciences University, Faculty of Dentistry, Department of Paediatric Dentistry, Afyonkarahisar, Turkey

Objective: Root fractures due to trauma may lead to pain, loss of function, poor aesthetics, psychological problems in the patient and it is a condition that needs to be treated quickly. Different treatment strategies can be developed depending on the location of the root fracture.

Case: A 10-year-old male patient was referred to Kocatepe University, Faculty of Dentistry, Department of Paediatric Dentistry with trauma history. It was learned that the patient had fallen down one week ago and had a luxation at the anterior tooth. It was determined that the patient was examined at another health institution one day after the trauma but did not continue the treatment. Radiographic examination revealed horizontal root fracture in the middle third of upper left incisor tooth. Flexible splint was applied for four weeks in the treatment of horizontal fracture. Root canal treatment was initiated on the tenth day of trauma due to the pain. The apical portion of the coronal piece was filled up to 3 mm with MTA (Angelus MTA) after removal of the splint. The root canal filling was performed by lateral condensation using root canal sealer (Sealapex) and gutta-percha. Composite resin (3m Espe) was used for permanent restoration.

Conclusion: Clinical and radiological examinations at 6 and 12 months showed that the case had good stabilization. It was seen on the radiographs that the gap between the root fragments was healed with calsified tissue. Furthermore, tooth discoloration was occured as a result of MTA usage at 12 months follow-up.

Keywords: trauma, root fracture, MTA

PP 041
Reattachment of fractured anterior teeth

Kardelen Can, Yelda Kasımoğlu, Gamze Aren
Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey

Objective: Crown fractures are the most frequent traumatic dental injuries. Reattachment of the fractured segments can be attempted in cases which the coronal segment is available and fracture occurs at coronal of alveolar bone level.

Case Reports: Three patients (two boys and a girl) aged between 8-11 years were referred to the Istanbul University Faculty of Dentistry Department of Pedodontics. The patients had coronal fractures in their maxillary incisor teeth and all had the fractured incisal fragments. Two of these teeth were storaged in milk and one was storaged dry. Partial pulptomy with calcium hydroxide was applied to two of the cases and the fractured fragment stored in serum physiologic for 1 week for rehydration then reattachment was done. In incisal fragments internal dentin groove was prepared with high-speed burs. The fractured surfaces were etched with 37% phosphoric acid then rinsed, dried, applied bonding agent without light curing. Composite resin was applied to the fragments and tooth surfaces. Then the fractured segments were accurately placed on the teeth. When the original position had been re-established, excess resin was removed, and the area was light cured for 40 sn. The teeth were finished and polished with finishing instruments and polishing discs. Clinical and radiographic examinations were carried out regularly over a period of 1 year.

Conclusions: Reattachment of the fragment results in exact restoration of crown. Chair time for the completion of the restoration is minimal. It is important to inform the public that a fractured fragment can be reattached.

Keywords: reattachment, tooth fracture, dental trauma

PP 042
Surgical reposition of the mature tooth after intrusion trauma and it's follow up

Esra Şebin[1], Cansu Demiroğlu[1], Şeyma Bayındır[2], Zeynep Aslı Güçlü[1]
[1]*Erciyes University, Faculty of Dentistry, Department of Pediatric Dentistry, Kayseri, Turkey*
[2]*Erciyes University, Faculty of Dentistry, Department of Department of Oral and Maxillofacial Surgery, Kayseri, Turkey*

Objective: Dentoalveolar trauma is very common in children. Intrusive luxation is the apical displacement of the teeth root in the bone due to trauma. Severe pulpal and periodontal breaks may occur due to luxation as it the heaviest type of trauma. Currently the treatment for permanent mature teeth is return to its former position orthodontically or surgically and endodontic treatment as it depends on patient's age, dentition type, level of root development, the severity of the trauma, and timing of treatment after trauma.

Case: In this case report, 9-year-old male child fallen from bicycle and came to our clinic 24 hours after trauma. Extraorally, head neck and soft tissue diagnosis was normal. In intraoral examination maxillary first and second left anterior teeth observed as traumatized. There was uncomplicated crown fracture and intrusion up to cutting edge, more than 7 mm, at maxillary left central tooth. Maxillar lateral tooth was mobile. Radiographic evaluation showed tooth's apex was closed and there was crown fracture. There was not any alveolar bone or root fracture at radiographic examination. Tooth number 21 was placed to its former position surgically and splint was made between canines. Post operative instruction given and the importance of appointments for regular clinical follow-up was told.

Conclusion: Pulp necrosis could develop in mature teeth after intrusive luxation. Root canal treatment is needed as intruded tooth likely become necrotic. The patient need long term follow-up clinically and radiographically to monitor the risk of external resorption,ankylosis, loss of marginal bone and inflammatory resorption.

Keywords: intrusion, trauma, mature, surgical

PP 043
The treatment of the unfavourable drawbacks of two teeth with complicated crown fracture

Selin Şen, Firdevs Tulga Öz
Ankara University, Faculty of Dentistry, Pediatric Dentistry, Ankara, Turkey

Objective: Endodontic treatments could be required according to the exposure area and the time after trauma for the treatment of complicated crown fractures. Coronal discoloration and external root resorption are frequently encountered complications in the prognosis of such cases. In this case report, it is aimed to present the treatment of external root resorption and coronal discoloration of traumatized upper anterior teeth.

Case: 10-year-old patient, who fell down 5 days ago, applied to clinic with the complaint of teeth fracture. Upper central incisors both have been found to have complicated crown fractures and luxation. No pathology was found radiographically. The access cavity was opened and Kalsin was placed into the root canals of both teeth. The final restoration was done with strip crowns and composite. The teeth were splinted. Splint was removed 45 days later because the patient did not comply with the given appointments. External root resorption was observed. Antibiotic paste and Kalsin were placed in root canals. MTA was used as a final root canal filling material. At the end of the follow-up for 15 months, the repair of the cementum wall in external root resorption areas was observed. After 12 months, discoloration was observed and intracoronal bleaching treatment was done.

Conclusion: Treatment of the dental trauma requires comprehensive diagnostic and treatment plan. It is also important to manage the complications by the most appropriate and biocompatible way. Although MTA, as a biocompatible material, is an alternative for treatment of traumatized teeth, discoloration potential should be considered for the anterior region.

Keywords: external root resorption, mta, discoloration, complicated crown fracture

PP 044
Management of complicated crown fracture in an immature central incisor: a case report

Elif Yazan, Yeliz Guven, Elif Bahar Tuna Ince
Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey

Objective: Preservation of pulp vitality is of paramount importance in traumatized teeth with pulp exposure. A pulpotomy procedure is classically performed to promote apexogenesis, which provides a continuous root development and apical closure. The aim of this report was to describe the management of a dental trauma in a child with immature permanent incisor with a complicated crown fracture.

Case: An eight-year-old boy, who had a traumatic injury, referred to our clinic with pain and anterior fracture, one day after the injury. Clinical examination revealed complicated crown fracture in maxillary right central incisor. There were no clinical signs of infection or inflammation. Radiographic examination showed that fractured tooth had immature apex. On electric pulp testing, the tooth gave a positive response. A cervical pulpotomy procedure was chosen for the treatment in order to achieve apexogenesis. After administration of local anesthesia, the crown pulp was extirpated, the pulpal bleeding was controlled and mineral trioxide aggregate (MTA Angelus) paste was applied over the pulpotomy site. Afterwards, a wet cotton pellet was placed over the MTA followed by the application of temporary filling. At the second session, the tooth was restored with a composite resin (Filtek Z550; 3M ESPE) using a silicone build-up guide for achievement of long-term seal. The patient was followed periodically after treatment. After 12 months, the tooth was clinically and radiographically asymptomatic.

Conclusion: The favorable results of the present case suggest that MTA pulpotomy aiming apexogenesis is a good treatment of choice in traumatized permanent teeth with open apices.

Keywords: pulpotomy, trauma, apexogenesis

PP 045
Long-term follow-up of an incisor with secondary trauma after revitalization

Pınar Serdar Eymirli, Zafer Cavit Çehreli
Hacettepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Ankara, Turkey

Objective: This case report presents 7-year clinical and radiographic findings of a traumatized maxillary incisor which underwent revitalization and experienced secondary dental trauma twice after during the follow-up period.

Case: A 12-year-old boy was referred to the Pediatric Dentistry Department after root canal therapy of a traumatized maxillary incisor had been initiated. Periapical radiograph of the tooth showed open apex and thin root walls. Following anesthesia and isolation, the root canal was irrigated with 20ml 2.5% sodium hypochlorite, and the root canal was disinfected with double antibiotic paste (ciprofloxacin, metronidazole) for 3 weeks. In the second appointment, a revitalisation procedure involving removal of the antibiotic paste, induction of apical bleeding and placement of a coronal barrier of MTA was performed. The access cavity was temporarily restored with glass ionomer cement for 2 weeks followed by acid-etch composite resin. The patient was recalled after six months and thereafter, annually for clinical and radiographic examinations. After 20 months, tooth had a new traumatic dental injury involving a crown fracture with subluxation. At 5 years, the tooth underwent internal bleaching to discoloration. After 6.5 years, tooth had a new traumatic dental injury involving a crown fracture with subluxation, after which the crown fracture was restored with composite resin. The tooth has been followed uneventfully for one year.

Conclusion: Although revitalized teeth do not possess a true pulp tissue, they may present similar response to traumatic injuries.

Keywords: revitalization, dental trauma, MTA

PP 046
Apexification of immature teeth with NeoMTA case series

Ceren Aydın, Ceren Ilisulu, Hazal Özcan, Sinem Birant, Mine Koruyucu, Figen Seymen
Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey

Objective: Apexification is a procedure for treating the immature permanent teeth which have lost pulp vitality. The current review supports the use of biomaterials followed by root canal obturation as the treatment of choice. The aim of this case series is the treatment and prognosis of teeth with NeoMTA apexification.

Case: Eight patients aged between 8-10 were referred to our clinic due to complicated crown fracture and chief complaint of anterior teeth. All patients were had percussion sensivity and negative result on electric pulp testing. Apexification was carried out with calcium hydroxide in all patients. After two weeks calcium hydroxide dressing was removed from root canals and NeoMTA was placed into the apical portion of the root canals as an apical barrier. Root canals were obturated with root canal sealer and gutta percha. Restorations were completed with composite resin.

Conclusion: NeoMTA is a material that is produced against the negative features of MTA and the most outstanding feature against the MTA is that it doesn't color teeth. No pathology and discoloration was found on clinical and radiographic examination at 6 months recalls of all cases.

Keywords: NeoMTA, apexification, endodontics

PP 047
Revisiting nonsurgical endodontic treatments in molar teeth with "large" periapical lesions in children: 3 case reports

Irem Yavuz, Sibel Yıldırım
Selcuk University, Faculty of Dentistry, Department of Pediatric Dentistry, Konya, Turkey

Objective: Textbooks define large periapical lesions as lesions larger than 5 millimeters in diameter. With the help of current technologies including rotary instruments and radiographical imaging, practitioners could more confident treatments. In these case reports, nonsurgical endodontic treatments performed on 3 molar teeth with large periapical lesions.

Case: Case 1: An 10-year-old boy was referred to our department for treatment of the mandibular right permanent molar. He had no swelling and no mobility. Clinical examination of soft tissues showed no fistula. Periapical radiographs revealed large radiolucent lesions.

Case 2: The second case was a 11-year-old girl who had mandibular left first permanent molar with large periapical lesions.Clinical examination of soft tissues showed fistula and tooth was mobile. Periapical radiographs showed a large radiolucent lesion with a well-defined margin between the apices.

Case 3: 13 year-old boy complains of pain while chewing. Clinical examination of soft tissues showed no fistula and the tooth had slight mobility. Periapical radiographs of the teeth displayed an radiolucent lesion with well-defined margin around the apices.

Treatment: Routine root canal treatment procedures applied with ample amount of sodium hypochloride irrigation. Calcium hydroxide dressing was placed 3-4 times into the roots. At the final appointments, the teeth was asymptomatic, root canals were dry and lesions were diminished. Then the root canals were filled with gutta-percha.

Conclusion: The success of calcium hydroxide dressing with endodontic treatment in teeth with large periapical lesions in children was shown. Even large periapical lesions in children can respond favorably to nonsurgical endodontic treatment.

Keywords: non-surgical endodontic treatment, periapical lesion, calcium hydroxide

PP 048
Alternative interventions to formocresol as a pulpotomy medicament in primary dentition

Jumana Sabbarini
Private Dental Center; Jordan University, Part time in Pediatric Department of Science and Technology, Jordan

Objective: Despite modern advances in the prevention of dental caries and the increased understanding of the importance of maintaining the natural primary dentition, many teeth are still lost prematurely.

This can lead to malocclusion with aesthetic, phonetic and functional problems that may be transient or permanent. Therefore, maintaining the integrity and health of the oral tissues is the primary objective of pulp treatment. It is desirable to maintain pulp vitality whenever possible. Pulp autolysis, however, can be stabilized, or pulp can be eliminated without significantly compromising the function of the tooth. Pulpotomy has become the dominating pulp therapy for the deciduous dentition. However, a tooth can remain functional without a vital pulp. It is possible to reduce autolysis or eliminate the pulp entirely without significantly compromising the function of the tooth.

Case: Formocresol pulpotomy, the standard against which all new modalities are compared leaves the pulp susceptible to abscess formation, and the root to internal resorption. Other concerns have been raised regarding the toxicity, mutagenicity and potential carcinogenicity of formocresol in humans. In published data available, it is concluded that laser, electrosurgey, Ferric sulphate, MTA, Enamel Matrix Derivative, NaOCl & Indirect pulp treatment appear to be promising alternatives to formocresol pulpotomy for cariously exposed vital pimary molars.

Conclusion: More effective methods of pulp therapy are still needed, innovative products are continually introduced and researchers are always working and striving to create the ideal pulp treatment

Keywords: pulp therapy, formocresol pulpotomy, ferric sulphate pulpotomy, MTA pulpotomy indirect pulp treatment

PP 049
Power of removable orthodontic appliances in paediatric dentistry

Edanur Gökçe Meydan, Özgür Doğan, Ismail Haktan Çelik
University of Health Sciences, Faculty of Dentistry, Department of Paediatric Dentistry, Afyonkarahisar, Türkiye

Objective: Removable appliances are a dependable choice for many patients. This presentation describes four patients. All subjects were treated with removable appliances of various designs.

Case: In case 1, 10 years-old boy was referred to Afyon Sağlık Bilimleri University Dentistry Faculty Pedodontics Department bad teeth alignment. We decided to treat his right upper central incisor tooth with a hawley appliance that included mesio-distal coil. The treatment was ended at 2 months. In case 2, 9 years-old boy was referred to us routine control. We realized that a cross-bite on anterior teeth. Using a hawley appliance with expander screw treated his right upper central incisor tooth cross-bite for 4 months. In case 3, 8 years-old boy had a cross-bite when he come to us for another teeth treatment. We have planned a hawley appliance with expander screw for his right upper central incisor tooth. His tooth was replaced after three months. In case 4, 9 years-old girl come to our clinic with compliant of her anterior teeth crowded. After an orthodontist consultation, a hawley appliance with horizontal expander screw and mesiodistal coils was planned. Her anterior teeth crowded was solved 18 months.

Conclusion: It should be kept in mind that all removable appliances of any kind, are only capable of «tooth tipping» meaning that after repositioning the long axis of the tooth should become ideal in angulation and torque. After this stage no relapse was seen.

Keywords: hawley appliance, removable, croos-bite, orthodontic treatment

PP 050
Assessment of the incidence of periapical lesions associated with primary teeth caries

Mesut Elbay, Ülkü Şermet Elbay, Gül Uçar
Kocaeli University, Faculty of Dentistry, Department of Pediatric Dentistry, Kocaeli, Turkey

Objective: The aim of this study was to determine the incidence of periapical lesions associated with decayed primary teeth in children who applied for routine dental examination to Pediatric Dentistry Clinic of the Kocaeli University.

Materials-Methods: The 2992 digital panoramic radiographs which were taken for routine dental examination were analized by two observer retrospectively.The primary teeth with periapical lesions in children aged 6-12 years were classified according to the tooth number, which jaws they were in and gender. The data was obtained and analyzed by chi-square test.

Results: Radiographic examination showed that 312 of 2992 (10.4 %) children had 542 periapical lesions related to their primary teeth. 173 of these patients were male and 139 of them were female. While 59 of the lesions were in maxilla, 483 were in mandibula. The periapical lesions were seen more in mandibula than maxilla. Most of the periapical lesions were associated with the second primary molar teeth in mandibula.

Conclusion: The results of the study showed that periapical lesions were observed commonly in primary dentition. Because the infection progresses rapidly in primary teeth, the routine dental examination has great importance to early diagnosis and to treat the caries to prevent the formation of periapical lesions.

Keywords: primary teeth, periapical lesions, caries

PP 051
Revascularization of immature permanent maxillary incisors using platelet-rich-fibrin: report of two cases

Figen Eren Giray, Gülşah Balan, Gökçe Çiçek Ildeş, Işıl Özgül Kalyoncu, Ahu Durhan, Başak Durmuş
Marmara University, School of Dentistry, Pediatric Dentistry Department, Istanbul, Turkey

Objective: Revascularization of non-vital immature teeth with a wide and open apex is an alternative treatment modality to re-establish the repair, vitality and regeneration of tissues resulting in further growth of the immature root and thickening of fragile dentin walls. The purpose of these case reports is to add a regenerative endodontic case to the existing literature about using Platelet Rich Fibrin (PRF) as a scaffold material.

Case: This case report presents two cases of replantation of avulsed maxillary central incisors due to dental trauma after an extended dry extra-alveolar period. After the examination, both tooth showed thin dentinal walls with wide open apexes. After 15 days intra canal Ca(OH)2 paste dressing, these cases recieved regenerative endodontic treatment using PRF, obtained from the autologous blood as a scaffold material. The PRF was placed into the root canal till the level of cementoenamel junction and 3mm of NeoMTA TM (Nu Smile, Houston, TX, USA) was placed directly over the PRF clot. Clinical examination at 1, 6 and 12 months revealed no sensitivity to percussion and palpation, and regression of the periapical lesion.

Conclusion: On the basis of successful outcome of the present cases it can be stated that PRF clot may serve as a scaffold for regeneration of necrotic immature teeth.

Keywords: immature permanent incisor, revascularization, platelet rich fibrin

PP 052
Shear bond strength of zirconia ceramic to primary tooth dentine

Sule Bayrak[1], Canan Gıcır Akay[2], Nuray Tuloglu[1]
[1] *Eskisehir Osmangazi University, Faculty of Dentistry, Department of Pediatric Dentistry, Eskisehir, Turkey*
[2] *Eskisehir Osmangazi University, Faculty of Dentistry, Department of Prosthodontics, Eskisehir, Turkey*

Objective: The aim of this study was to evaluate the effect of different surface treatments on shear bond strength (SBS) of zirconia ceramic to primary tooth dentine.

Materials-Methods: Flat dentine surface was obtained from extracted non-carious primary molars and embedded in acrylic resin cylinders. Fifty two zirconia blocks were randomly divided into four groups (n=13), following surface treatment; Group I (Control-no surface treatment), Group II (sandblasting), Group III (tribochemical silica), and Group IV (hot etching). Zirconia blocks were then bonded with self-adhesive resin cement (Rely X Unicem) to the dentine surface in a special alignment apparatus, where a load of 1000 g was applied 10 minutes. The specimens were light-cured from anterior, posterior and top surfaces for total of 60s.SBS were determined at a cross head speed of 0.5 mm/minute. Data were analyzed with one-way ANOVA and the multiple Comparisons Tukey's HSD statistical tests.

Results: Group III (14.54±0.92) produced the highest SBS value followed by Group II (12.85±0.90), Group IV (11.07±0.92) and Group I (5.50±0.74). There were also statistically significant differences between the mean SBS values of all groups ($p<0.05$).

Conclusion: Under the limitations of this in vitro study, it was concluded that tribochemical silica could be supposed to be an alternative surface treatment method of zirconia to improve the SBS values of resin cement to primary tooth dentine. However, further clinical trials are required to confirm the data obtained from this study.

Keywords: shear bond strength, surface treatment, primary dentine, zirconia

PP 053
Zirconia crowns for rehabilitation of primary incisors: an esthetic alternative

Barış Karabulut, Özlem Kuzu
University of Health Sciences, Faculty of Dentistry ,Department of Pedodontics, Istanbul, Turkey

Objective: The purpose of this retrospective study was to explore clinical outcomes for NuSmile zirconia crowns.

Material-Methods: A convenience sample of healthy children treated with NuSmile zirconia crowns was selected. In 7 subjects (3 females, 4 males) 28 primary maxillary incisors requiring full coronal restoration were selected from children aged 3 to 5 years. The crowns were evaluated with a mean post-placement time of 13.6 months. Clinical outcomes were assessed including retention, gingival health, color match, contour, and opposing tooth wear. Parental satisfaction regarding the esthetics of the crowns and parental perception of the impact of treatment on the child's appearance and oral health were evaluated by questionnaire.

Results: The overall survival of the restorations was 90.3% after 12 months. Only 5 crowns matched natural teeth. 8 crowns showed gingival inflamation. Oppsing tooth wear were identified for 7 teeth. Parental satisfaction was found to be high.

Conclusion: NuSmile crowns appeared to be highly retentive and protective restorations for primary incisors with early childhood caries.

Keywords: nusmile crowns, zirconia, pediatric dentistry

PP 054
A novel approach for tooth loss in adolescents: resin bonded CAD/CAM bridge

Simin Kocaaydın, Sabiha Ceren Ilisulu, Figen Seymen, Koray Gençay
Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey

Objective: The upper central incisors are the most common teeth to be affected by trauma and these injuries may result in absence of permanent teeth. The absence of incisor teeth during adolescence may lead to psychological and physiological consequences.

Case: A 14-year-old male and a 15-year-old female patient with no systemic problem referred to Istanbul University Faculty of Dentistry Department of Pedodontics with aesthetical complaints about their incisor teeth. The first patient had a history of dental trauma two years ago, which lead to avulsion of 21. The second patient had a history of severe trauma to the maxillary region a year ago and radiographical examination showed vertical root fracture of 11, which was extracted due to its poor prognosis. Clinical examination of both patients revealed loss of space in the maxillary region and orthodontic expansion was performed. Both patients had low self-esteem and speech disorders and did not want to use removable appliances. In order to achieve ideal aesthetical solution, resin bonded Maryland bridge via CAD/CAM was decided. Due to its extreme flexural strength and high elasticity, artBloc Temp-Merz was preferred and prepared. No preparation was required for the adjacent teeth. Periodical examinations were performed on 1st, 3rd and 6th month after rehabilitation.

Conclusion: Removable appliances are not preferred by adolescents due to their difficulty in using and lack of aesthetical properties. Resin bonded CAD/CAM bridge is a novel treatment option for tooth loss, until the appropriate age for implant placement in order to fulfill the patient's needs.

Keywords: CAD/CAM, dental trauma, maryland bridge

PP 055
Dental rehabilitation of the patient with acute myeloid leukemia: a case report

Gün Burak Tek, Gül Keskin
Gaziantep University, Faculty of Dentistry, Pediatric Dentistry, Gaziantep, Turkey

Objective: Acute myeloid leukemia (AML) is a malignant disease of the bone marrow in which hematopoietic precursors are arrested in an early stage of development. Treatment protocols for AML include high-dose chemotherapy, with or without radiation therapy. Numerous oral complications have been documented as a consequence of chemotherapy and radiotherapy for the treatment of cancer.These may include mucositis, stomatitis, salivary gland dysfunction leading to xerostomia and increased caries rates, altered taste sensations, and neurotoxicity.

Case: 11 year old patient with AML was treated with chemotherapy and radiotherapy during 30 months, about six years ago. Serious radiation caries, radicular hypoplasia, short roots were observed in this patient. The teeth were restored using composite resin and stainless steel crown, and follow-up for 6 months

Conclusion: Early recognition of potential sources of infection is important when dealing with immunocompromised patients. Oral home care and the need for preventing oral complications throughout treatment needs to be stressed.

Keywords: AML, SSCs, radiotherapy, chemotherapy

PP 056
Clinical evaluation of prefabricated zirconium crowns for primary molars in children: 12 months follow-up results

Ipek Şahin[1], Hüseyin Karayılmaz[1], Zülfikar Zahit Çiftçi[1], Zuhal Kırzıoğlu[2]
[1]*Akdeniz University, Faculty of Dentistry, Department of Pediatric Dentistry, Antalya, Turkiye*
[2]*Süleyman Demirel University, Faculty of Dentistry, Department of Pediatric Dentistry, Isparta, Turkiye*

Objective: The purpose of this retrospective study was to evaluate clinical outcomes and parental satisfaction of prefabricated zirconium crowns for primary molars cemented with different luting cements.

Materials-Methods: Prefabricated primary zirconium crowns (PPZC)(Nusmile, Houston, USA) cemented at Akdeniz University Faculty of Dentistry Department of Pedodontics, with different luting cements (Group A: Glass ionomer cement (GIC) "FujiOne", Group B: Resin modified GIC "FujiCem2", Group C: Resin cement (RC) "G-CEM LinkForce", Group D: Bioactive cement, "BioCem"), were investigated clinically for durability, gingival health. Parental satisfaction determined by questionnaire which included colour, appearance, type, size and durability. Sixty primary molar teeth have been restorated with PPZCs in 55 children, aged between 5-11 years-old (8,23±1,25), were evaluated retrospectively. Children were grouped according to cementation materials (n=15). After treatment, 3., 6. and 12. months follow-up data of PPZCs were evaluated. Gingival health scores, parental satisfaction and failure of restorations were evaluated.

Results: Six of the evaluated crowns have been debonded (Group Ax2, Group Bx1, Group Cx2, Group Dx1) and five teeth were endodontically treated due to the pulpitis (Group Cx2, Group Dx3). According to 12 months follow up results, there was no statistically significant differences between success of luting cements used in PPZCs. (p=0,455). Majority of parents reported that PPZCs improved appearance and oral health of their child (%88,3) and their durability were very high (%100).

Conclusion: PPZCs showed a low failure rate. Children and parental satisfaction is very high.

Keywords: pediatric zirconium crowns, luting cements, esthetics

PP 057
Prevalence of the dental fluorosis in Eskisehir, Turkey

Nuray Tuloglu[1], Elmas Egemen[2]
[1] *Eskisehir Osmangazi University, Faculty of Dentistry, Department of Pediatric Dentistry, Eskisehir, Turkey*
[2] *Private Pediatric Dentist, Bursa, Turkey*

Objective: The objective of our study was; to determine the prevalence of the dental fluorosis in Eskisehir, to investigate the relation between the amount of fluoride in drinking water and prevalence of dental fluorosis

Materials-Methods: 4936 children between the ages of 8 to 12 years, who are attending the primary and secondary school within the borders of the Eskisehir, were included in the study. The intra-oral examination of the children was carried out by the same dentist (E.E.). Thylstrup-Fejerskov index was used for the evaluation of dental fluorosis. The fluoride concentrations of the drinking water were determined by the ion chromatography. The statistical evaluation of the obtained data was performed with the Mann Whitney-U and the Spearman's Correlation Test.

Results: The prevalence of dental fluorosis was 1.9% in the children living in Eskisehir. In the study, the most common and highest scores were TFI 1 and TFI 4, respectively. TFI scores between 5 and 9 were not encountered. There was a significant difference between the towns regarding the prevalence of the dental fluorosis ($p<0.001$). The highest prevalence of dental fluorosis was determined in the town called Cifteler (15.2%), where the fluor concentration in the water was above the optimal dose. Furthermore, a significant correlation was also determined between the dental fluorosis and the fluor concentrations of the drinking water ($p<0.05$).

Conclusion: In generally, the prevalence of dental fluorosis in Eskisehir was found to be low, and positive correlation was observed between the dental fluorosis and the fluor concentrations of the drinking water.

Keywords: child, dental fluorosis, drinking water, Eskisehir

PP 058
Prevalence of dental anomalies by using digital panoramic radiographs

Didem Sakaryali, Pınar Onal Poyraz, Betul Memis Ozgul
Baskent University, Faculty of Dentistry, Department of Pediatric Dentistry, Ankara, Turkey

Objective: The prevalence of dental anomalies has been investigated in different communities and ethnic groups via several studies. The aim of this study was to evaluate the prevalence of dental anomalies from digitally stored panoramic radiographs in children.

Materials-Methods: Panoramic radiographs taken from 203 patients aged between 3-12 who had referred to the Baskent University, Faculty of Dentistry, Department of Pedodontics were included in the study. Demographic datas as age, gender were recorded. Dental anomalies were divided into 5 types: (a) number (including hypodontia, oligodontia, hyperdontia, supernumerary teeth, mesiodens); (b) size (including microdontia and macrodontia); (c) structure (including amelogenesis imperfecta, dentinogenesis imperfecta, dentin dysplasia and molar-incisor hypoplasia); (d) position (including transposition, ectopia, displacement, impaction and inversion); (e) shape (including fusion-gemination, dilaceration and taurodontism).

Results: The patients included to the study were 59.1% male and 40.8% female. The prevalence of dental anomalies diagnosed by panoramic radiographs was 27.2%. Ectopia was the most common dental anomaly and followed by hypodontia and dilaceration, respectively.

Conclusion: According to the evaluation of data's, presence of dental anomaly causes other dental anomalies and also malocclusions. So, it can be concluded that it should be immediately treated after the diagnosis.

Keywords: dental anomaly, ectopia, hypodontia, prevalence

PP 059
Odontogenic cysts in children: two case reports

Levent Demiriz[1], Ebru Hazar Bodrumlu[1], Fulya Toraman[1], Tuğçe Berre Karöz[2]
[1]*Bulent Ecevit University, Faculty of Dentistry, Department of Pediatric Dentistry, Zonguldak, Turkey*
[2]*Bulent Ecevit University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Zonguldak, Turkey*

Objective: Odontogenic cyst are most common form of cystic lesions that origin from odontogenic epithelial, and they affect maxillofacial region by locating in soft tissues and inside of jawbones. These cysts may be asymptomatic and they grow slowly. It is an unilocular well-defined and radiolucent in radiography. The choice of treatment depends on some factors such as: size of the lesion, localization, proximity to the anatomical structures, and the systemic condition of the patient. The aim of this presentation was to report two cases of odontogenic cysts that had been treated with marsupialization.

Case: A 9-year-old female patient referred the clinic of Bulent Ecevit University Faculty of Dentistry, Department of Pediatric Dentistry for routine examination. The cyst was diagnosed during radiographic examination and a well-defined periapical radiolucency in the periradicular region of lower left second primary tooth was noticed. Marsupialization was planned followed by extraction of 74 and 75 under local anesthesia. After 8 months of follow-up, complete ossification of the bony defect was observed. In the second case, 7-year-old male referred our clinic for routine control. The cyst was diagnosed during radiographic examination, and a well-defined periapical radiolucency involving tooth bud of 45 was noticed. The cyst was treated successfully by marsupialization. After 4 months of follow-up, spontaneous eruption of the impacted premolar was observed.

Conclusion: The true treatment choice with the early clinical diagnosis of odontogenic cysts may increase the rate of success. Marsupialization can be the first treatment choice for conservative management of odontogenic cysts in pre-adolescents.

Keywords: odontogenic cyst, marsupialization, children

PP 060
Oral papilloma in children: two cases report

Afif Malika[1], El Asmar Mouna[1], Haithami Sofia[2], Benyahya Ihssane[2], El Arabi Samira[1], Bensouda Sanaa[1]
[1] *CCTD Casablanca, Department of Pediatric Dentistry, Morocco*
[2]*CCTD Casablanca, Department of Surgical Odontology, Morocco*

Objective: The aim of this study is to describe, through two clinical cases, the clinical manifestations and particularities of the surgical treatment of oral papilloma in two young boys, followed in the Department of Dental Pediatric Dentistry of Casablanca CCTD in Morocco.

Case: In case I, a 6-year-old Chadian child who was sent by his doctor for multiple lesions at the lower and upper lips. The biological assessment was normal. A biopsy was realized for histological examination which had confirmed the diagnosis of papillome, and the exeresis of the lesions was made electrosurgical unit. The follow-up showed no recurrence. In case II:a 3-year-old child who presented a gingival increase compared to the lower incisor evolving for 6 months without any symptomatology. The surgical exérèse of the lesion followed the histological study confirmed the diagnosis of papillom.

Conclusion: Oral papilloma is a benign epithelial tumor of the oral mucosa infrequent in children, induced by human papillomavirus (HPV). The clinical diagnosis is generally easy but the confirmation requires an anatomopathological analysis. The treatment of choice for these lesions is surgical removal, which can be performed by either conventional surgery or a CO2 laser section, followed by long-term clinical monitoring.

Keywords: oral mucosa, papillome, human papillomavirus, children

PP 061
Peripheral giant cell granuloma resembling an inflammatory dentigerous cyst: a case presentation

Elif Ballikaya[1], Goknur Toplaoglu[2], Zafer Cavit Cehreli[1]
[1]*Hacettepe University, Faculty of Dentistry, Department of Pediatric Dentistry, Ankara, Turkey*
[2]*Hacettepe University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Ankara, Turkey*

Objective: Reactive gingival lesions such as peripheral giant cell granuloma, parulis, hemangioma and pyogenic granuloma resemble tumorous lesions, and are frequently localized on the gingiva or the alveolar mucosa. Reactive gingival lesions are often associated with local irritants including dental plaque, calculus, dental restorations with poor marginal adaptation, trauma and even tooth extraction. However, the exact etiology of these lesions remains unknown. Peripheral giant cell granuloma occurs commonly in adults although a few cases have been reported in children. We will demonstrate a child patient with PGCG resembling presenting as an inflammatory dentigerous cyst.

Case: A 10-year-old boy was referred for evaluation of a gingival lesion residing in in the level of right maxillary premolars. Reportedly, the lesion had evolved one month after a tooth extraction. Intraoral examination revealed a firm, painless lesion, resembling an inflammatory dentigerous cyst based on appearance and red-blue color. The lesion was painless and was considered an inflammatory dentigerous cyst or an eruption cyst originating from the unerupted second premolar. An excisional biopsy was made under local anesthesia. Histopathological study of the lesion revealed peripheral giant cell granuloma. The patient has been followed uneventfully for a period of six months with no clinical signs of recurrence.

Conclusion: In child patients, peripheral giant cell granuloma can rapidly grow and exhibit aggressive behavior by resorbing alveolar bone. Thus, early detection of such reactive oral lesions may prevent extensive surgery and associated tissue loss.

Keywords: oral pathology, reactive gingival lesions, peripheral giant cell granuloma

PP 062
A case of compund odontoma in a young patient

Özlem Kuzu, Musa Erdem
University of Health Sciences ,Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey

Objective: Odontomas are benign tumours of odontogenic origin consisting of enamel, dentine, cementum and pulpal tissue. Odontomas are divided into two subtypes, complex odontoma and compound odontoma, with differences in their macroscopic and microscopic features. Compound odontomas appear as numerous miniature or rudimentary teeth. Complex odontomas appear as amorphous cluster of hard tissue. The aim of this study is to demonstrate a rare localization of the compound odontoma.

Case: A 6-year-girl was referred to our department without any chief complaint. Intraoral examination revealed that both right primary incisors were exfoliated and the right permanent mandibular central incisor was erupted. But the left primary incisors were still present. The oral mucosa was in normal color and shape. Intraoral radiographic examination showed a compound odontoma-liked lesion around the impacted mandibular left lateral incisor. The tooth was in correct vertical position and well-developed but covered with a multiple dense radiopaque calcified mass. Under general anaesthesia a full thickness mucoperiosteal flap was elavated and denticles were carefully and completely removed from the anterior mandibula, preserving the impacted mandibular central and lateral incisor. Histopathologic examination revealed multiple teeth like structures and confirmed the diagnosis of a compound odontoma. Clinical and radiographical follow-up was recommended to evaluate the eruption of mandibular central and lateral incisor.

Conclusion: Since odontomas represent a large proportion of jaw tumors, adequate knowledge of their characteristics is necessary for establishment of proper diagnosis and management.

Keywords: odontoma, compound odontoma, odontogenic tumor, impacted tooth

PP 063
Large gingival recession defects in a 13-year-old male patient: a case report

Sumeyra Acar Ozlu[1], Esma Kurklu Gurleyen[2], Yelda Kasimoglu[1], Elif Bahar Tuna Ince[1]
[1]*Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey*
[2]*Istanbul University, Faculty of Dentistry, Department of Oral Surgery, Istanbul, Turkey*

Objective: Gingival recession is defined as the apical migration of the junctional epithelium with exposure of root surfaces. The etiology of condition is multifactorial but is commonly associated with underlying alveolar morphology, tooth brushing, mechanical trauma and periodontal disease. The purpose of this case was to describe large gingival recession on upper palatal gingiva in an adolescence patient.

Case: A 13-year old male patient, with the chief complaint of ulcer and pain at the left palatal gingiva for a month admitted to our clinic. Intraoral examination revealed a large gingival recession with connective tissue loss in the palatal aspect of the first and second premolars extending to the first molar. Vertical and horizontal bone loss and widening of lamina dura were detected in radiographs. Cone-beam-CT imaging showed localized bone resorption with irregular borders at both the buccal and palatal cortical bone.With a suspicion of malignancy an incisional biopsy was performed. Histological sections showed focal ulceration, subepithelial inflammatory granulation and fibrosis. Blood tests showed high sedimentation rate and CRP. Meanwhile a symmetrical lesion involving the right first and second premolars emerged, a sign which ruled out the possibility of malignancy.Palliative approach was the first choice of treatment. The patient is monitored closely.

Conclusion: The management of gingival recession is based on a thorough assessment of etiological factors and degree of involvement of tissues. The degree of gingival recession should be monitored for signs of further progression. Careful case selection and surgical management are critical if a successful outcome is to be achieved.

Keywords: gingival recession, bone resorption, ulcer, oral pathology

PP 064
Anterior cross bite correction with modified slow expansion appliance

Mubin Tural[1], Hüseyin Şimşek[1], Süleyman Kutalmış Büyük[2]
[1]*Ordu University, Faculty of Dentistry, Department of Pedodontics, Ordu, Turkey*
[2]*Ordu University, Faculty of Dentistry, Department of Ortodontics, Ordu, Turkey*

Case: The purpose of this case report is to remove the mild bimaxillary crowding and cross-bite through bimaxillary expansion and z spring.

An 8-year-old female patient referred to Ordu University Faculty of Dentistry Department of Pedodontics with complaint of cross in anterior region. There was no dental trauma history. Clinical examination revealed that only the upper left lateral dental cross-bite was present in the patient. There was mild crowding both in maxillary and mandibular dental arch. To correct the malocclusion, an expansion appliance was applied to the two jaws. Patient was recommended to turn the screw twice a week. To correct the current cross-bite, z spring was added the maxillary appliance. The patient was called for control at two weeks intervals. During the control sessions, the z spring was reactivated. In a short period of time as 6 weeks, necessary place to correct the crowding was obtained and the cross-bite had been eliminated.

In this case report, there is a presentation of successful treatment of the bimaxillary mild crowding and anterior cross bite using mandibular and maxillary expansion appliance and z spring.

Keywords: bimaksillary slow expansion, anterior cross bite, early treatment

PP 065
Early correction of functional anterior crossbite by removable orthodontic appliances: case series

Ayca Bacaksiz
Antera Dental Clinic, Private Practice, Antalya, Turkey

Objective: Anterior crossbite is a malocclusion occurring in sagittal dimension which may effect one or more maxillary incisors and lead to reverse occlusion. If not treated, it may inhibit the growth of premaxillary arch and cause more complex problems which may result in longer orthodontic treatment requirements.The aim of this case series is to assess the effectiveness and clinical performance of early anterior crossbite correction by using removable orthodontic appliances.

Case: In this case series 4 children aged between 7-8 years (three of them with one central incisor crossbite,one of them with both central incisors crossbite) who had functional anterior crossbites are treated through removable orthodontic appliances with bite planes.

Conclusion: Even in the early terms of mixed dentition, functional anterior crossbite problems can be treated by removable orthodontic appliances by cooperation of the children. In this case series, all 4 children well-cooperated using the appliances without any complaints and the treatment goals are achieved. It should be considered that precise indication is the key to the success of the treatment.

Keywords: anterior crossbite, removable appliances, mixed dentition

PP 066
Orthodontic forced eruption of an impacted maxillary central incisor: a case report

Merve Çayırcı, Gamze Aren
Istanbul University, Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul, Turkey

Introduction: It is often reported that impacted tooth is more frequently seen in the third permanent molars, the maxillary canine and the maxillary central incisors. Hereditary factors include supernumerary teeth, cleft lip and palate, odontoma, abnormal tooth/tissue ratio, cleidocranial dysostosis, generalized delayed eruption and gingival fibromatosis. Similarly, trauma, early extraction or loss of primary teeth (with or without space loss), retained primary teeth, cystic formation, endocrine abnormalities, and bone disease are environmental factors that may influence eruption of incisors. The aim of this case report is to present an orthodontic forced eruption treatment of impacted maxillary central incisor due to a supernumerary tooth by open surgical exposure.

Case: An eight year-old boy who had complaint of impacted left incisor was referred to our department. In radiographic examination the patient had a supernumerary tooth and impacted left maxillary central incisor. The location of the supernumerary toothwas in palatinale so that it had been planned to do treatment by open surgical exposure. First of all, the levelling of maxillary teeth had been done and the place for impacted central incisor had been gained. After the extraction of supernumerary tooth, spontaneous eruption had been waited for open surgical exposure of impacted tooth. Orthodontic treatment had been finished and the patient had no complaint in one-year follow up.

Conclusion: Impacted maxillary incisors are desired to accommodate in the dental arch at the first available opportunity by minimally invasive pathway to provide dental, aesthetic, functional, and psychosocial benefits for the patient.

Keywords: impacted incisor, supernumerary tooth, open surgical exposure, pediatric dentistry

PP 067
Multidisciplinary treatment approach in a complicated case

Esra Ece Cakmak[1], Cemile Yilmaz[2], Server Mutluay Unal[3], Mehmet Unal[1]
[1]*Afyonkarahisar Health Sciences University, Faculty of Dentistry, Department of Paediatric Dentistry, Afyonkarahisar, Turkey*
[2]*Afyonkarahisar Health Sciences University, Faculty of Dentistry, Department of Restorative Dentistry, Afyonkarahisar, Turkey*
[3]*Afyonkarahisar Health Sciences University, Faculty of Dentistry, Department of Prosthodontics, Afyonkarahisar, Turkey*

Objective: Tooth decay can cause pain. Endodontic treatment, bleaching and aesthetic restorations can make treatment more complicated. Multidisciplinary treatment of an exemplary case is presented below in this regard.

Case: A 14-year-old male patient who has poor oral hygiene was referred to Kocatepe University, Faculty of Dentistry, Department of Paediatric Dentistry with pain and aesthetic expectations. The upper central teeth and the upper left lateral tooth were diagnosed as tooth decay related irreversible pulpitis in radiological and clinical examination. Root canal treatment (Diadent Gutta Percha Points, Kerr Sealapex Root Canal Sealer) was performed to these incisor teeth. Tooth discoloration occurred in upper left lateral tooth and office bleaching (FGM Whiteness HP) was applied. The patient experienced trauma during the sessions and the upper left central tooth was broken. Fiber post (Angelus Reforpost) was performed to the upper left central tooth. In order to meet the aesthetic expectation of the patient, porcelain crowns of zirconium substructure were applied to the central incisor teeth that were treated with root canal treatment and direct composite restoration (3M Espe Filtek Z550 A2) was applied to the upper left lateral tooth which had damage of crown due to caries.

Conclusion: Root canal treatment, fiber post, direct composite restoration, and porcelain crowns can be successfully performed in such cases.

Keywords: fiber post, trauma, root canal treatment

PP 068
A case of canine fossa abscess in a young patient

Cafer Ataş[1], Günseli Güven Polat[1], Musa Erdem[2]
[1]*Health Science Institue University of Health Sciences, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey*
[2]*Health Science Institue University of Health Sciences, Faculty of Dentistry, Department of Oral Surgery, Istanbul, Turkey*

Objective: Odontogenous infections may develop from teeth damaged by caries, pulpal disease, acute periodontitis or, some cases after the trauma. Owing to their anatomical and topographic location at the roots, oral pathogens or inflammatory mediators can quickly infiltrate adjacent sites (e.g. the fossa canine). This can result in tissue liquefaction and abscess formation. These can expand cranially. Obstruction of the upper airways, necrotic fasciitis, periorbital abscess and intracranial abscess are familiar severe sequelae of ascending infections. Modern antibiotic therapy is useful in preventing such serious sequelae. This case reports the unusual case of odontogenic infection in children.

Case: A -five year old girl patient arrived at hospital. The patient presented with massive swelling and redness in the region of right eye. According to the subjective data obtained from her mother, the swelling occurs in the morning. She hospitalized and intravenous antibiotics were given by pediatrics clinic. Then they referred the patient to pedodontics clinic. There was no significant past medical history. The right maxillary first primary molar-canine caused swelling and abscess. Management of this case is establish drainage and then settle a rubber drain for one day and extraction of the right first primary molar and the canine.

Conclusion: This case report concludes that the canine fossa abscess develops faster in children (aproximately 7-8 hours) and cause more systemic problems comparing to adults. It must be treated immediately.

Keywords: canine fossa, abscess, children

PP 069
Radicular cyst associated with a primary second molar: a case report

Gülsevim Usta[1], Yeliz Güven[1], Pelin Sarp[2], Gamze Aren[1]
[1]*Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey*
[2]*Istanbul University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Istanbul, Turkey*

Objective: Radicular cysts are common inflammatory odontogenic cysts arising from epithelial residues in the periodontal ligament as a result of inflammation. This case report presents the treatment of a radicular cyst due to a periapical inflammation following pulp necrosis of mandibular second primary molar.

Case: A healthy 7-year-old female patient was referred to the Istanbul University Faculty of Dentistry Department of Pedodontics with the chief complaint of a painful swelling located in the lower right posterior teeth region which had started 4 weeks previously and had gradually progressed along with pain. On extraoral examination facial asymmetry was apparent with a diffuse swelling involving the right side of the mandibular body region. Intraoral examination revealed that there was a tooth decay at first primary molar and a restoration at second primary molar, and there was considerable expansion of buccal cortical plate. Panoramic radiograph revealed a well defined radiolucency above the crown of developing mandibular right second premolar and apical to carious second primary molar. Based on history, clinical and radiographic examination, a diagnosis of radicular cyst associated with mandibular right second molar was made. The treatment involved extraction of the second primary molar and marsupialization of the cyst to allow eruption of the succadenous tooth. Follow-up examination at one year showed good bone healing and uneventful eruption of mandibular second right premolar.

Conclusion: Early diagnosis and treatment of radicular cysts associated with deciduous dentition is important for prevention of adverse effects to the underlying permanent successor.

Keywords: radicular cyst, primary molar, marsupialization

PP 070
Investigation of physical and antibacterial properties of glass ionomer cement modified with garlic extract

Sukriye Turkoglu[1], Onur Gezgin[2], Kamil Kahraman[3], Emre Korkut[2], Emrah Torlak[4], Yağmur Şener[2]
[1]*Dentopol Oral&Dental Health, Istanbul, Turkey*
[2]*Necmettin Erbakan University, Department of Pediatric Dentistry, Konya, Turkey*
[3]*Canakkale Oral& Dental Health Center, Canakkale, Turkey*
[4]*Necmettin Erbakan University, Department of Molecular Biology and Genetics, Konya, Turkey*

Objective: The aim of this study was to investigate the antibacterial effect of a restorative material without deteriorating its physical properties by adding garlic extract to conventional glass ionomer cement.

Materials-Methods: Fine granules of garlic powder was added to powder part of the glass ionomer cement in two different proportions, 10% (group 1) and 30% (group 2) by weight percent. Sensitive scales were used to determine the weight of the materials. It was used as a control group (group 3) of glass ionomer cement in which no garlic powder was added. Bond strength test, surface roughness test, surface hardness test and antibacterial test were performed.

Results: No statistically significant difference was observed between the groups in terms of bond strength test ($p>0.05$). The surface roughness values of Group 2 and Group 1were statistically higher than the control group ($p<0,05$). There was no statistically significant difference between Group 2 and Group 1 ($p>0.05$). After exposure to the glass ionomer cements supplemented with garlic extract, the viable cell counts of S. aureus and S. mutans decreased.

Conclusion: After the physical properties of the material were achieved to an adequate level, antimicrobial effects and remineralization properties would be evaluated and it is predicted that glass ionomer based material can be obtained which can be used clinically.

Keywords: garlic, glass ionomer cement, antibacterial

PP 071
Preoperatively fasting time of the patients dental treatment performed with general anesthesia: two case reports

Dilek Günay Canpolat[1], Seher Orbay Yaşlı[1], Ezgi Güren[2]
[1] *Erciyes University, Faculty of Dentistry, Department of Oral and Maxillofasiyal Surgery, Kayseri, Turkey*
[2] *Erciyes University, Faculty of Dentistry, Department of Pedodontics, Kayseri, Turkey*

Objective: General anesthesia removes consciousness and reflexes iatrogenically. Decreasing in esophagus sphincter pressure by anaesthetics, can cause aspiration via passive regurgitation or active vomiting. The idealy fasting times before anesthesia are; 2, 4, 6, 8 hours for clear liquids, mother's milk, light meal and heavy meal respectively. It was aimed to discussed two case who have perioperatively vomiting.

Case: During the last 5 years, we met vomiting in 2 children in our clinic. The first case was a four years old patient that has developmental delay and digestive disturbance. Preoperative fasting time was 8 hours. There were corn grains in gastric contents which had taken 2 days ago and vomited in service. Patient was discharged with non-solid food nutrition suggestion. Treatments were performed after two days. The second case was 2 years old patient with serebral palsy. Family declared 7 hours starvation. Oral cavity aspirated in right lateral position after vomiting. Gastric continents was drained with nasogastric catheter. The patient was evaluated about aspiration due to postoperative fever by lung radiograph. The radiograph was normal. The patient consulted to pediatry. Fever was decided associated with new onset upper respiratory tract infection, not due to aspiration. He was discharged at 3. hour after giving the treatment.

Conclusion: Preoperative fasting time should be asked before general anesthesia and sedation, it should not be forgotten that even if the fasting period is sufficient, stomach may not be empty in the risk groups.

Keywords: general anesthesia, vomiting, aspiration, sedation, idealy fasting times

PP 072
A rare complication caused by throat tampon in dental treatment under general anesthesia: case report

Dilek Günay Canpolat[1], Seher Orbay Yaşlı[1], Salih Doğan[2]
[1] *Erciyes University, Faculty of Dentistry, Department of Oral and Maxillofasiyal Surgery, Kayseri, Turkey*
[2] *Erciyes University, Faculty of Dentistry, Department of Pedodontics, Kayseri, Turkey*

Objective: It is important to avoid aspiration of oral contents such as secretion, blood and dental filling materials or avoid these to fill the stomach. For this purpose, generally throat tampons are used during general anesthesia. Gauze is often preferred for throat tampon. Aim of this study is to present a rare complication caused by throat tampon.

Case: A six years old male patient applied to Erciyes University, Dental Faculty for dental treatment. General anesthesia indication was given due to noncooperation. After completing preoperative preparations, patient was taken to operating room. After the incubation a gauze tampon insert into throat area. After the dental treatments under general anesthesia patient awakened with no problem. The patients discharged at 6. hour with no additional problem and vital stability. Three days after the procedure, patient was applied to us with sore throat and swallowing difficulty. There was redness in the throat, edema and ulceration in uvula in physical examination. It was decided that especially ulceration was depended on the tightness of the throat tampon. Required treatment was planned. In control examination after a week, complaints and physical examination findings were found to have passed.

Conclusion: Throat tampon is a good method to avoid aspiration and stomach filling in oral procedures under general anesthesia. But, preferring soft materials and not inserting it firmly towards the pharynx, changing and controlling it in long procedures is important for avoiding complications.

Keywords: throat tampon, general anesthesia, avoid aspiration, complication

PP 073
Evaluation of knowledge and attitude of parents about bruxism in children and young adults

Merve Bayraklı[1], Nisanur Güney[2], Elif Bahar Tuna Ince[1]
[1]*Istanbul University, Faculty of Dentistry, Department of Pedodontics, Istanbul, Turkey*
[2]*Istanbul University, Faculty of Dentistry, 5th grade student, Istanbul, Turkey*

Objective: Bruxism is a parafunctional habit that affects children as well as adults. The aim of this study was to assess the knowledge and attitudes of parents about bruxism in their children and young-adults.

Materials-Methods: In this study, self-administered questionnaire consisted of 52 multiple-choice questions were distributed to parents who came to our clinics with their children. The responses of 367 parents were recorded. Descriptive statistics were calculated, Chi-square test, Fisher's exact test and Spearman's correlation test was used with P value fixed at 0.05.

Results: 38.7% of parents were reported that they knew the definition of 'bruxism'. 29.4% of the children had bruxism, while 45.5% had no bruxism and 25.1% of parents had no idea.The causes of bruxism mentioned as emotional (45.8%), dental (16.9%), medication (3.5%), religious/spiritual (3%), other sources (0.5%), respectively.About the treatment for bruxism parents reported that psychological (34.1%), dental (23.7%), medical (6.5%), religious (0.8%) 72.2% of parents with bruxism in their child stated that they wanted to have more information about bruxism, while 12% of parents were indecisive and 15.7% were unwilling. Significant difference was found between being married or separated parents and having bruxism in their child ($p<0.05$). The rate of bruxism was significantly higher in children with severe psychological trauma ($p <0.05$).

Conclusion: Parents play an important role in the diagnosis of bruxism in children. It is important to emphasize that parents' greater knowledge about bruxism in childhood and adolescence will contribute to them seeking appropriate help for their children/adolescents.

Keywords: bruxism, TMJ, adolescent

PP 074
Five different traumatic dental injuries and treatments

Zehra Şivgan, Eda Özdemir, Behiye Bolgül
Mustafa Kemal University, Faculty of Dentistry, Department of Pediatric Dentistry, Hatay, Turkey

Objective: The aim of this case series presentation is to present five different types of dental injuries and treatment. The injuries of the teeth and their surrounding tissues take the first place among the injuries seen in the maxillofacial region area. The great majority of cases of dental trauma in dentistry occur during childhood in cycling accidents, during sporting events or as a result of falling. Traumatic dental injuries are a difficult situation for all dental practioners and require interdisciplinary cooperation.

Case: Five different pediatric patients at different ages (8,10,10,11,12 years old) were referred to Mustafa Kemal University Dentistry Faculty Department of Pedodontics with complaint of intrusion, enamel-dentin-pulp fracture, enamel-dentin fracture without pulp involvement and avulsion. Appropriate treatment modalities have been applied, taking into consideration of the type of injury, patient's age, systemic condition, clinical and radiographic findings.This case series describes five different traumatic dental injury treatments including endodontic treatment, restorative treatment and splinting of teeth for dental trauma cases.

Conclusion: An accurate diagnosis, treatment planning and follow-up is important to achieve a favourable treatment outcome. Early intervention for trauma has a significant effect on the prognosis of the treatment as well as appropriate treatment.

Keywords: dental injuries, pediatric dentistry, treatment

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