

A Passion for Paediatric Dentistry



ABSTRACTS

**12th Congress of the European Academy
of Paediatric Dentistry**

5th – 8th June 2014, Sopot, Poland

12th Congress of the European Academy of Paediatric Dentistry

5th–8th June 2014, Sopot, Poland

A PASSION FOR PAEDIATRIC DENTISTRY

EAPD Congress Organising Committee

Professor Monty Duggal (UK) – President
Professor Katarzyna Emerich (Poland) – Co-President
Dr Paddy Fleming (Ireland) – President Elect
Professor Norbert Krämer (Germany) – Past President
Dr Elias Berduses (Greece) – Secretary
Professor Jack Tumba (UK) – Journal Editor
Dr Teresa Leisebach (Switzerland) – Treasurer

Scientific Committee & Abstract Reviewing Panel

Dr Paddy Fleming (Ireland) – Chair
Members:
Professor Norbert Krämer (Germany)
Professor Jack Tumba (UK)
Professor Maria Mielnik-Błaszczak (Poland)
Professor Martin Curzon (UK)
Professor John Roberts (UK)
Professor Monty Duggal (UK)
Dr Nick Lygidakis (Greece)




Contents

ORAL PRESENTATION

O1.1 Utilising a paediatric version of the Indicator of Sedation Need for children's dental care: A pilot study	15
<i>M. Madouh, J. Toumba, J. Tahmassebi</i>	
O1.2 Anaesthetic efficacy of articaine versus lidocaine in children's dentistry: a systematic review	15
<i>F. S. Alzahrani, M. S. Duggal, J. Tahmassebi</i>	
O1.3 Efficacy of 3 pulpotomy medicaments in primary molars – A Randomised Control Trial with one year follow up	16
<i>S. Rajasekharan, R. Cauwels, J. Vandenbulcke, L. Martens</i>	
O1.4 Dental trauma issues among Polish boxers and their coaches	16
<i>E. Nadolska-Gazda, K. A. Emerich</i>	
O1.5 Outcomes of Thermoplasticised Guttapercha in RCT of immature non-vital permanent incisors	17
<i>A. Faridoun, J. Toumba, M. Duggal</i>	
O1.6 Oral Health Related Quality of Life in children after dental trauma	17
<i>C. Lint, S. Rajasekharan, R. G. Cauwels, L. C. Martens</i>	
O2.1 Clinical and radiographic evaluation of Biodentine and MTA in pulpotomies of primary molars	18
<i>C. Cuadros, J. Garcia, S. Sandra, A. Lorente, M. Montse</i>	
O2.2 Laser assisted Pediatric Endodontics: Conventional v/s laser assisted root canal treatments in primary teeth – An in vivo study	18
<i>I. Madan</i>	
O2.3 Mineral trioxide aggregate/ferric sulfate pulpotomy for primary incisors: A randomized controlled trial	19
<i>T. D. Nguyen, P. L. Judd, M. J. Casas</i> 	
O2.4 The use of an operating microscope in paediatric dentistry: two case reports	19
<i>A. McKay, S. Al-Badri</i>	
O2.5 Alternatives to formocresol for pulpotomies in primary teeth: A systematic review and meta-analysis	20
<i>E. Stringhini Junior, M. E. Becker Vitcel, L. Butini-Oliveira</i>	
O2.6 Mortality and Complications of Office Based Anesthesia for Pediatric Dental Treatment; Retrospective Analysis in 10,400 Patients	20
<i>C. J. De Jong, J. B Krikken</i>	
O2.7 Effectiveness of Biodentine® versus Formocresol as dressing agents in pulpotomized primary molars: preliminary results	21
<i>M. Rubanenko, M. Moskovitz, R. Petel, A. Fuks</i>	
O2.8 Children's Preferences to Colored Compomers Compared to Tooth Colored Compomer	21
<i>S. M. Awad, D. M. Moheb, M. A. Rashed</i>	
O2.9 Assessing Pulp Therapy of Necrotic Primary Teeth Using Computer Software: Randomized-Clinical-Trial	22
<i>S. M. Awad, D. M. Moheb</i> 	
O2.10 Five-year evaluation of a low-shrink resin composite material: A randomized clinical trial	22
<i>M. Schmidt, I. Dige, L. L. Kirkevang, M. Vaeth, P. Horsted-Bindslev</i>	
O2.11 Flemish (Belgium) paediatric dentist's preference of restorative and endodontic materials in children	23
<i>J. Vandenbulcke, S. Rajashekharan, R. Cauwels, L. Martens</i>	
O3.0 The rehabilitation of stomatognathic system in disabled children	24
<i>E. Szklarska, E. Radwańska</i>	
O3.1 Oral health, medical diagnoses, and functioning in children with disabilities – a study using the ICF-CY	24
<i>J. Norderyd, D. Faulks, G. Klingberg</i>	
O3.2 Oral health care in children with epidermolysis bullosa	25
<i>M. Korolenkova</i>	
O3.3 Traumatic Dental Injuries in Children with Special Needs	25
<i>O. B. Al-Batayneh, A. I. Owais, M. O. Al-Saydali</i>	
O3.4 Oral health screening practices and perceptions of North American paediatric cardiologists	26
<i>K. Oliver, M. Casas, P. Judd, J. Russell</i>	


O3.5 Long Q-T Syndrome – A Practical Insight	26
<i>J. Verco</i>	
O4.1 Status of stomatognathic system in children with high BMI	27
<i>M. Mielnik-Blaszczak, M. Kaminska-Jaloza, E. Pels</i>	
O4.2 Early Transplantation of Immature Premolar Donor Teeth – A Case Series	27
<i>S. Barry, J. Spencer, N. Houghton, S. Barber, M. Duggal</i>	
O4.3 The effect of topical treatment with Doxycycline on avulsed permanent incisors – a retrospective study	28
<i>G. Tsilingaridis, B. Malmgren, C. Skutberg, O. Malmgren</i>	
O4.4 Prevalence, type, and aetiology of dental and soft-tissue injuries in children in Croatia	28
<i>H. Juric, M. Vuletic, J. Skaricic, S. Hrvatin, I. Cukovic-Bagic</i>	
O4.5 Preliminary results of a randomised controlled trial comparing regenerative endodontics versus root end closure with MTA	29
<i>L. Gartshore, S. Albadri, K. Fox, F. Jarad</i>	
O4.6 Auto-transplantation for multidisciplinary management of complex cases – A Case Series	29
<i>E. Ali Akbari, S. Barber, J. Spencer, S. Barry, M. Duggal</i>	
O4.7 Efficacy of Caphosol for prevention of chemotherapy-induced oral mucositis: a pilot study	30
<i>T. Tomazevic, U. Potoenik, J. Jazbec</i>	
O4.8 The advantages of local anaesthesia during general anaesthesia	30
<i>E. M. Fistes, O. Tolo Diallo, P. Tramini, J. Nancy, E. Trzaskawka-Moulis</i>	
O5.1 An investigation into the outcomes of different treatment strategies for caries in the primary dentition	31
<i>A. H. BaniHani, C. Deery, T. Munyombwe, J. Toumba, M. Duggal</i>	
O5.2 The efficacy of fluoride containing products on tooth surface loss of primary and permanent enamel in vitro	31
<i>M. Malinowski, Z. Mandinic, T. Toyama, J. Toumba, M. Duggal</i>	
O5.3 The synergistic role of fluoride and strontium as anti-cariogenic agents in solution	32
<i>E. Theodorou, R. Hill, P. Anderson</i>	
O5.4 Randomised control trial of three caries management methods for primary molars: survival analysis	32
<i>R. M Santamaria, N. Innes, V. Machiulskiene, D. Evans, C. Splieth</i>	
O5.5 Genetic polymorphisms in enamel formation and involved in immune response associated with Early Childhood Caries	33
<i>Z. Abbasoglu, I. Tanboga, E. Kuchler, A. R. Vieira</i>	
O5.6 Fluoride content of infant milks available in Leeds, UK	33
<i>R. M. Bussell, J. Toumba</i>	
O5.7 Translating caries preventive guidelines into practice in hospital and outreach undergraduate clinics	34
<i>F. Hogg, H. Goodwin, L. Ovenstone, C. Campbell</i>	
O5.8 Dental anomalies in cleft patients: Review of the literature and differential diagnostic model testing	34
<i>B. L. Kreps, P. J. De Coster, L. A. Marks</i>	
O6.1 Effect of probiotic bacterium <i>Lactobacillus reuteri</i> on oral health in orthodontic patients	35
<i>S. Gizani, G. Petsi, S. Twetman, C. Caroni, L. Papagiannoulis</i>	
O6.2 In-vivo evaluation of methods of approximal caries detection in primary molars	35
<i>S. Subka, H. Rodd, Z. Nugent, C. Deery</i>	
O6.3 Caries Risk Factors in a Cohort of pre-school refugee children	36
<i>R. P. Anthonappa, P. Nicol, N. M. King, L. Slack-Smith, S. Cherian</i>	
O6.4 Caries prevalence at 20 years of age: influence of parental factors during infancy	36
<i>H. Isaksson, A. Alm, G. Koch, D. Birkhed, L. K. Wendt</i>	
O6.5 The ability of pit and fissure sealant containing amorphous calcium phosphate to inhibit enamel demineralization	37
<i>F. I. Zawaideh, A. I. Owais, W. Kawaja</i>	
O6.6 Effect of oral health program during pregnancy on oral health of two years old children	37
<i>Rendeniece, R. Care, A. Brinkmane, K. Krasone</i>	

06.7 The presence of cariogenic pathogens in the oral cavity of 1 yr-old infants with very low birth weight	38
<i>R. Koberova Ivancakova, V. Merglova, Z. Broukal, J. Dort</i>	
07.1 Does early vitamin D and fluoride supplementation have any preventive effects?	39
<i>J. Kuhnisch, E. Thiering, R. Heinrich-Weltzien, R. Hickel, J. Heinrich</i>	
07.2 Dentists' self-reported stress during dental treatment of children	39
<i>A. Ronneberg, K. Strom, A. B. Skaare, T. Willumsen, I. Espelid</i>	
07.3 Dental anxiety in relation to behavioral problems in children undergoing dental treatment	40
<i>M. Majstorovic, L. L. Lim, D. Do, N. G. Herman, A. M. Moursi</i>	
07.4 Relationship between child and parent dental anxiety with the child's psychological functioning and behaviour during treatment	40
<i>V. Boka, K. Arapostathis, N. Kotsanos, V. Karagiannis, J. Veerkaamp</i>	
07.5 Dental health in Swedish children treated under general anesthesia because of caries or MIH	41
<i>K. Ridell, M. Borgstrom, S. Brogardh-Roth, E. Lager, G. Magnusson</i>	
07.6 Intranasal dexmedetomidine versus midazolam for premedication in children undergoing complete dental rehabilitation	41
<i>M. AlSarheed, M. AlMalik</i>	
07.7 Dental anxiety related to reasons for a child's first dental visit and parental explanations	42
<i>L. Kronina, R. Care, M. Rascevska</i>	
07.8 Association between weight and caries in children? A review and a study of Norwegian 5-year-olds	42
<i>R. Das, T. I. Wigen, N. J. Wang</i>	
07.9 Oral health indicators in assesment of oral health in school children in Moscow	43
<i>L. Kiselnikova, E. Boyarkina, P. Leus</i>	
07.10 The Oral Health of Cambodian Preschool-Aged Children	43
<i>K. Bach, D. J. Manton</i>	
07.11 Caries experience in 1-year-old children living in multicultural low socio-economic areas of Stockholm	44
<i>M. I. K. Anderson, G. Dahllof, M. Grindefford</i>	
07.12 Molar Incisor Hypomineralisation and Deciduous Molar Hypomineralisation among Brazilian children	44
<i>C. M. Viegas, T. C. van Voskuijen, J. M. van Agthoven, D. P. Raggio, C. C. Bonifacio</i>	
08.1 Diagnoses and disease assessments in dental practice and epidemiology	45
<i>M. Larmas</i>	
08.2 A case control study to examine recorded birth and labour parameters with the occurrence of Molar Incisor Hypomineralisation	45
<i>R. Balmer, J. Toumba, T. Munyombwe, M. Duggal</i>	
08.3 Maxillary incisor root resorption induced by ectopic maxillary canines: Literature review of prevalence rates & longevity outcomes	46
<i>L. Wong, S. Khan</i>	
08.4 Prenatal exposure to antiepileptic drugs and dental agenesis	46
<i>P. E. Jacobsen, T. B. Henriksen, D. Haubek, J. Rosendahl-Ostergaard</i>	
08.5 Evaluation of a treatment protocol for unerupted maxillary central incisors. Clinical study of 46 children	47
<i>K. Chatzidimitriou, N. N. Lygidakis, N. Theologie-Lygidakis, N. A. Lygidakis</i>	
08.6 Dental treatment under general anaesthesia of patients with Type I and Type II dentinogenesis imperfecta	47
<i>Y. Wang, E. J Barrett, M. J Casas, P. Judd</i>	
08.7 Undergraduates' Perceptions of a bespoke Patient Reported Outcome Measure iPad App	48
<i>S. Walley, S. Albadri, R. Harris, J. C. Jones, L. Dawson</i>	
08.8 E-logbooks for clinical skills programmes: using mobile technologies to support learning and assessment	48
<i>S. Parekh</i>	
08.9 Work-related musculoskeletal disorders (MSDs) among dentists – A nation wide study	49
<i>T. Andrikoula, A. Katsantoni, G. Kotantoula, C. Oulis</i>	

O8.10 Antinociceptive and anxiolytic effects of nitrous oxide (N ₂ O) in non-stressed and chronically-stressed mice	49
<i>D. Emmanouil, J. Y. Yeon, R. M. Quock</i>	
O8.11 The association between BMI and dental caries in 57 year old children 	50
<i>M. de Jong-Lenters, P. van Dommelen, E. Verrips</i>	

POSTER PRESENTATION WITH DISCUSSION

OPD1.1 The prevalence of ECC in 1–3 year old children in Moscow, Russia	52
<i>L. Kiselnikova, E. Kirillova, K. Fedotov, Y. Boyarkina, K. Miloserdova</i>	
OPD1.2 Oral clefts in Brazil according to the Live Birth Information System	52
<i>A. M. de Souza-Barros, C. M. Ferreira-Gradella, G. Cabral da Costa, T. Queiroz-Abreu, L. Butini-Oliveira</i>	
OPD1.3 Dental erosion experience & risk factors among 13–17 year old teenagers in Kaunas, Lithuania	53
<i>D. Zemgulyte, E. Bendoraitiene</i>	
OPD1.4 Feeding and oral hygiene habits of preschool children and their caries prevalence	53
<i>N. Ghimire, P. Nepal</i>	
OPD1.5 Comparison of Molar-Incisor Hypomineralization prevalence in Dubai/United Arab Emirates and Greifswald/Germany	54
<i>S. Haidary, M. Agathi Petrou, R. Hashim, A. Alhumrani, C. Splieth</i>	
OPD1.6 Enamel Hypomineralization and Oral-Health Related Quality of Life in schoolchildren	54
<i>J. van Agthoven, C. M. Viegas, T. van Voskuijlen, D. P. Raggio, C. C. Bonifacio</i>	
OPD1.7 Management of an anomalous permanent lateral incisor secondary to primary incisor trauma	55
<i>D. J. Coffey, A. C. O'Connell</i>	
OPD1.8 A case report outlining the orthodontic management of a traumatic intrusion of a left maxillary central incisor	55
<i>O. Carty, Y. MacAuley, E. Al-Awadhi, P. Fleming</i>	
OPD1.9 Paediatric dentists' choices of treatment modalities for children in Saudi Arabia: A web-based survey	56
<i>H. S. Halawany, T. Al Moharib, J. Al Harbi, F. Salama, N. Abraham</i>	
OPD2.1 Early management of unilateral posterior crossbite with Plana's direct tracks: case series	57
<i>C. Palma Portaro, R. Mayne, G. Redondo, X. Maristany</i>	
OPD2.2 Unilateral maxillary molar distalization with the Pendulum appliance followed by fixed orthodontic treatment: a case report	57
<i>Y. J. Cho</i>	
OPD2.3 Multidisciplinary Treatment of Polidiastema: Case Series	58
<i>E. Karaalioglu, Z. Hatipoglu, S. E. Yoldas, N. Akal, N. Oztas</i>	
OPD2.4 Deep bite correction with a preformed appliance	58
<i>G. Pellegrino, G. del Vecchio, M. Federico</i>	
OPD2.5 Management of a bilateral ectopic eruption of maxillary first permanent molar: a case report	59
<i>G. Pimentel, A. Lipari, S. Toledo, F. Figueroa</i>	
OPD2.6 Cleft patients – implants insertion, full ceramic CAD CAM treatment and longitudinal 3-D dental models computer evaluation	59
<i>T. Dostalova, P. Kriz, M. Kasparova, J. Veleminska, M. Peterka</i>	
OPD3.1 Case Report: Ultra-conservative Class II cavity preparations in children	60
<i>O. O. Kuscu, E. Caglar</i>	
OPD3.2 Effectiveness of fissure sealants on questionable occlusal surfaces of permanent molars: 2 years follow-up	60
<i>C. J. Oulis, E. D. Berdouses, N. Lygidakis, K. Tsinidou, A. Vlachou</i>	
OPD3.3 Parents and oral health information	61
<i>E. Ronning-Naess, K. A. Moan, N. J. Wang, T. I. Wigen</i>	
OPD3.4 Relationship between dental fluorosis and fluoride content in urine of schoolchildren from high and low fluorotic regions	61
<i>Z. Mandinic, E. Antonijevic, M. Curcic, B. Antonijevic, M. Ivanovic</i>	

OPD3.5 Oral health services among hospitalized children – a public responsibility that does not work?	62
<i>M. A. Kehl, A. B. Skaare, I. Espelid, H. J. Bangstad</i>	
OPD3.6 Public health nurses' opinions on collaboration between public health centres and dental services	62
<i>S. Y. Loeken, T. I. Wigen, N. J. Wang</i>	
OPD3.7 The influence of ozone, sealants and fluoride varnish on occlusal caries development in 12 months period	63
<i>J. Kalnina, R. Care, A. Brinkmane, J. Gudkina</i>	
OPD3.8 Dental morbidity among early childhood children left without parents' care in Moscow	63
<i>K. Miloserdova, L. Kiselnikova, K. Fedotov, O. Zaytseva, L. Shavlokhova</i>	
OPD3.9 Toothbrushing frequency and post-brushing rinsing habits of 10 to 12-year-olds from Southeast Slovenia	64
<i>T. Ris Koler, R. Kosem</i>	
OPD3.10 Assessment of the effectiveness of fissure sealants placed on permanent first molars	64
<i>H. Fellagh, S. Guner, N. Sandalli</i>	
OPD3.11 Microleakage of hydrophilic sealant after different enamel etching techniques ES	65
<i>Z. A. Guclu, N. Donmez, T. Tuzuner, M. E. Odabas</i>	
OPD3.12 Prevalence of oral habits in children treated in hospital and its relation with the caretaker's attitude	65
<i>A. Lipari, A. Vera, G. De La Fuente, A. Munoz, G. Pimentel</i>	
OPD3.13 Peripheral dentinogenic ghost cell tumor in an 8-year-old boy	66
<i>H. E. Kim, K. R. Kang, H. K. Hyun, S. H. Lee, K. T. Jang</i> 	
OPD3.14 Colour stability of composite resin with different polishing methods	66
<i>J. Ryu, K. T. Jang</i>	
OPD4.1 Longevity of composite fillings in primary teeth placed chair-side	67
<i>K. Buecher, I. Metz, V. Pitchika, R. Hickel, J. Kühnisch</i>	
OPD4.2 The Use of Near Infra-Red Imaging for Caries Diagnosis in Children	67
<i>O. Melnikova, M. Duggal</i>	
OPD4.3 Acceptability of three different caries treatment methods for primary molars among Lithuanian children	68
<i>J. Narbutaite, V. Machiulskiene, C. H. Splieth, N. P. T. Innes, R. Santamaria</i>	
OPD4.4 Study of dentine mineralization intensity of primary and permanent teeth in case of caries in children	68
<i>M. Shevchenko, L. Kiselnikova, D. Lezhnev, L. Sangaeva, S. Tihonova</i>	
OPD4.5 Hidden caries misdiagnosed as pre-cancer	69
<i>A. Gera, U. Zilberman</i>	
OPD4.6 Minimal invasive treatment of white spot lesions – a case report	69
<i>S. Hrvatin, I. Cukovic-Bagic, J. Jelacic, M. Vuletic, H. Juric</i>	
OPD4.7 Use of the ICDAS system and a fluorescence intraoral camera in examining occlusal surfaces	70
<i>A. Theocharopoulou, M. D. Lagerweij, A. J. P. van Strijp</i>	
OPD4.8 Influence of operator experience on the performance of resin infiltration in proximal caries lesions	70
<i>E. Diab, D. Hesse, C. Bonifacio</i>	
OPD4.9 Comparison of some salivary proteins by Gel Electrophoresis in caries and caries-free children	71
<i>M. Bakkal, B. Kargul, Timucin Ari, S. Hatibovic Kofman, W. L. Siqueira</i>	
OPD4.10 Microbiological and clinical investigations in infants with cleft lip and palate: 3 years follow-up	71
<i>M. A. Durhan, G. Kulekci, N. Topcuoglu, I. Tanboga</i>	
OPD4.11 Gene expression analyses of gtf, dex and lacG from Streptococcus mutans between Glucan biofilm and planktonic culture	72
<i>H. Nishimata, K. Sato, Y. Kamasaki, T. Hoshino, T. Fujiwara</i>	
OPD4.12 Clinical evaluation of the success of posterior preformed zirconia crowns: a pilot study	72
<i>S. Lopez Cazaux, I. Hyon, T. Prud'homme, C. Lussan, S. Dajejan Trutaud</i>	
OPD5.1 A survey of referrals to the Paediatric Dentistry department at the University Medical Centre (Slovenia)	73
<i>M. Cilensek, J. Jozef, T. Tomazevic, R. Kosem</i>	

OPD5.2 Oral health-related quality of life among children after dental general anaesthesia treatment	73
<i>B. Jankauskiene, J. I. Virtanen, J. Narbutaite, R. Kubilius</i>	
OPD5.3 Twenty-five years of planned dental care for hadicapped children at the Center Dobrna	74
<i>M. Tome, M. Skapin</i>	
OPD5.4 In-school fluoride varnish application for children with learning difficulties: 7-year evaluation	74
<i>J. C Harris, A. R Vora, D. Worsley, Z. Marshman</i>	
OPD5.5 Case Reports of Three Siblings with Epidermolysis Bullosa	75
<i>A. T. Tanyeri, M. Koruyucu, F. Seymen</i>	
OPD5.6 Oral health status in children with intellectual disabilities living in orphan institutions in Moscow	75
<i>Y. Pakhomova, O. Avraamova, M. Korolenkova</i>	
OPD5.7 Oral status and oral hygiene habits of Romanian Special Olympics athletes	76
<i>A. Vinereanu, A. M. Bratu, R. Ghiran, M. Mesaros, A. Balan</i>	
OPD5.8 Oral health status in children with special needs in Latvia (pilot study)	76
<i>V. Tupcijenko, I. Viduskalne, I. Bazarova</i>	
OPD5.9 Oral health in children with Down syndrome: Parents' views on dental care in Belgium	77
<i>I. Descamps, L. Marks, R. Leroy</i>	
OPD5.10 Dental trauma in permanent incisors among Special Olympics athletes from Europe and Eurasia	77
<i>C. Fernandez, I. Kaschke, S. Perlman, B. Koehler, L. Marks</i>	
OPD5.11 Dental management of a paediatric patient with mastocytosis under local anaesthesia: A Case Report	78
<i>Y. Akdemir, A. Olmez, G. Kip</i>	
OPD5.12 Effect of oral diseases and disorders on quality of life of children with cerebral palsy	78
<i>E. Alvarez-Vidigal, J. Abanto, A. L. Ciamponi, F. Medeiros Mendes, M. Bonecker</i>	
OPD5.13 Evaluation of the treatment under general anaesthesia of healthy and special needs patients	79
<i>M. Kasparova, M. Buckova, T. Dostalova</i>	
OPD5.14 Dental erosion in 5-yr-old children with congenital heart defects (CHD) in western Norway	79
<i>T. B. Sivertsen, A. Halle, A. N. Astrom, G. Greve, M. S. Skeie</i>	
OPD5.15 Management of a crowded dentition in a nine-year old boy with Fibrodysplasia Ossificans Progressiva	80
<i>L. Bryce, J. Kirby, N. O'Murchu, C. Campbell, G. Wright</i>	
OPD5.16 Surgical Assisted Rapid Palatal Expansion in the Treatment of Maxillary Hypoplasia: A Case Report	80
<i>M. Sencymen, E. Arat Maden, G. Guven Polat, E. Yildirim</i>	
OPD6.1 Biodentine® Application in a variety of indicationsI in young children	81
<i>L. C Martens, S. Rajasekharan, R. Cauwels</i>	
OPD6.2 Regenerative endodontic treatment with Biodentine (tm) in necrotic immature permanent teeth	81
<i>R. G. Cauwels, S. Rajasekharan, L. C Martens</i>	
OPD6.3 Separately growing root tips following dental trauma or infection: case reports	82
<i>B. Ozgur, Z. Cehreli</i>	
OPD6.4 Regenerative Endodontic Therapy (RET), protocol of a groupwise anecdotal procedure	82
<i>M. E. Elfrink, K. L. Weerheijm</i>	
OPD6.5 Regenerative Endodontic Therapy (RET), report of two cases	83
<i>J. Heijdra, J. Veerkamp</i>	
OPD6.6 Comparison of the Root Canal Length Measurement Methods in Primary Teeth	83
<i>F. Seymen, P. Barlak, M. Koruyucu</i>	
OPD6.7 Regenerative Endodontic Treatment (Revascularization) of Immature Necrotic Premolar: A Case report	84
<i>G. Inan, T. Ulu</i>	
OPD6.8 Root resorption of primary molar teeth: The location of the biological apex in a relation to the radiographic apex	84
<i>M. Malul</i>	
OPD6.9 Regenerative endodontic therapy of a non-vital immature permanent tooth: A case report	85
<i>S. E. Yoldas, H. M. Gorcek, H. Bodur</i>	

OPD6.10 Atypical root development following revascularization of immature necrotic permanent teeth	85
<i>H. J. Tong, J. J. Ng, V. Yu</i>	
OPD6.11 Reversible pulpitis in the second permanent premolar	86
<i>A. Getsman</i>	
OPD6.12 The use of laser doppler flowmetry in pulp vitality testing of immature permanent teeth	86
<i>H. Nazzal, J. Kang, M. S. Duggal</i>	
OPD6.13 Transplantation of a tooth with dentigerous cyst	87
<i>G. Erbas Unverdi, A. Aktas, Z. Cehreli</i>	
OPD6.14 The periodontal pathogens in the saliva of one-year-old infants delivered with very low birthweights	87
<i>V. Merglova, R. Koberova Ivancakova, Z. Broukal, J. Dort</i>	
OPD6.15 Effect of severe dental caries on oral health-related quality of life of preschool children	88
<i>A. Ciganovica, I. Viduskalne, B. Pulkstene</i>	
OPD6.16 Inflammatory mediators in gingival crevicular fluid before and during puberty	88
<i>B. N. Dogan, L. Kuru, S. Akyuz, A. Yarat</i>	
OPD6.17 Investigation of the in vitro antibacterial effects of different toothpastes and fluoride gels	89
<i>M. Koruyucu, N. Topcuoglu, F. Seymen, G. Kulekci</i>	
OPD7.1 Prevalence of peg-shaped laterals in a group of Istanbul children	90
<i>E. Caglar, O. O. Kusu</i>	
OPD7.2 Inverted impaction of mandibular second premolar: A case report	90
<i>J. Sabbarini, M. Al-Hijawi</i>	
OPD7.3 Microabrasion using 37% phosphoric acid for successful aesthetic treatment of hypo-maturation AI	91
<i>A. Alawami, M. Duggal</i>	
OPD7.4 Dens Invaginatus in a 11 year old girl	91
<i>F. Parree</i>	
OPD7.5 Management of rootless tooth eruption: A case presentation	92
<i>S. Sara Eryuruk, Z. Cehreli</i>	
OPD7.6 Comprehensive dental management of a patient with autoimmune polyendocrinopathy-candidiasis-ectodermal dystrophy (APECED)	92
<i>A. Pavlic, L. Hocevar, M. Ovsenik</i>	
OPD7.7 Primary triple tooth in mandible: A rare case report	93
<i>I. Mergen, S. Uysal, S. Dural, M. D. Turgut, M. Tekcicek</i>	
OPD7.8 X-shaped primary tooth in a patient with cleft lip and palate	93
<i>C. Ozsin, G. Erbas Unverdi, M. D. Turgut, M. Tekcicek</i>	
OPD7.9 Effect of antibiotics in mineralization degree of enamel in molars and incisors of mice	94
<i>C. Serna Munoz, A. Perez Silva, C. Finke, A. J. Ortiz Ruiz</i>	
OPD7.10 A novel approach to the management of a dilacerated incisor with associated supernumeraries in a child	94
<i>C. Marron, A. O'Connell</i>	
OPD7.11 Therapeutic management of Oligodontia: A case report	95
<i>M. A. Petrou, A. Spassov, C. H. Splieth</i>	
OPD7.12 Combination of severely malformed and supernumerary lateral incisor with major clinical implications	95
<i>K. Van Dromme, J. JR Wyatt, A. Mavridou, D. Declerck</i>	
OPD7.13 The confidence and effectiveness of medical research nurses taking intra-oral photographs	96
<i>M. Kalkani, J. Baird, R. Balmer, J. Hammond, P. Day</i>	
OPD7.14 A diagnostic challenge: pronounced tooth root hypoplasia of all first permanent molars in three ten-year old children	96
<i>G. Vansteenkiste, K. Van Dromme, A. Verdonck, D. Declerck</i>	
OPD7.15 Management of oligodontia and infraocclusion of primary molars in a cleft lip and palate patient	97
<i>S. Selvi-Kuvvetli, N. Capa, D. Germec-Cakan, N. Sandalli</i>	

OPD7.16 Epidemiologic survey of Molar Incisor Hypomineralisation among adolescents in Yangsan City	97
<i>T. H. Noh, Y. E. Bae, S. Kim, T. S. Jung, J. Y. Kim</i>	
OPD7.17 Dental rehabilitation of a child with Desmoplastic fibroma: A case report	98
<i>H. M. Uyan, R. Bozatlioglu, A. P. Munevveroglu</i>	
OPD8.1 Dental trauma in two organized sports communities from Bucharest, Romania	99
<i>C. Farcasiu, A. Munteanu, A. T. Farcasiu, R. Luca</i>	
OPD8.2 The Prevalence of Traumatic Injuries In Children	99
<i>B. Karabulut</i>	
OPD8.3 Treatment procedures and complications after avulsion – knowledge of dental general practitioners	100
<i>M. Goworowska-Truchan, K. Emerich, E. Nadolska-Gazda</i>	
OPD8.4 Avulsion of 3 permanent teeth. Novel temporary root filling for teeth with clinical dry time over one hour	100
<i>R. Steffen</i>	
OPD8.5 Dental trauma management and rehabilitation following a road traffic accident	101
<i>K. Parker, S. Parekh</i>	
OPD8.6 How do dentists estimate their own competence regarding treatment of avulsion and root fracture injuries?	101
<i>A. A. Pawlowski, I. Espelid, A. L. Maseng Aas, A. B. Skaare</i>	
OPD8.7 Stabilization of Luxated Teeth in Children with a Vacuum-formed Splint	102
<i>Y. K. Han, K. U. Song, S. E. Lee, J. H. Park</i>	
OPD8.8 Replantation of an avulsed maxillary incisor with an open apex: 23 year follow-up	102
<i>A. Goudakou, V. Kaitsas, K. Arapostathis</i>	
OPD8.9 A Quantitative Analysis of Low Level Diode Laser on PDL cell survival	103
<i>S. Peker, A. Durhan, P. Kulan, R. Pisiriciler, B. Kargul</i>	
OPD8.10 Decoronation for the management of avulsed young permanent teeth: A case report	103
<i>A. C. Santillan Torres, S. Yuste Bielsa, F. Guinot Jimeno, C. Cuadros Fernandez, A. I. Lorente Rodriguez</i>	
OPD8.11 Surgical repositioning of a displaced tooth germ. A case report	104
<i>A. Spoerri, C. Moret, H. van Waes</i>	
OPD8.12 A quantitative analysis of a new storage medium for avulsed teeth	104
<i>E. Caglar, S. Peker, A. Durhan, P. Kulan, B. Kargul</i>	
OPD8.13 Fracture resistance of simulated immature teeth restored with different reinforcement materials	105
<i>I. Aydinoglu, A. Alacam</i>	
OPD8.14 Five years survival of two Regenerative Endodontic Therapy (RET) cases	105
<i>W. H. Kouwenberg-Bruring, H. C. Kouwenberg, J. B. Krikken</i>	
OPD8.15 Prosthetic replacement after tooth loss due to dental trauma in disabled adolescents: Report of two cases	106
<i>J. Erb, A. Fontollet, A. Spoerri, H. van Waes</i>	
OPD8.16 Management of enamel-dentine fractures involving pulp exposure: Presentation of two clinical cases	106
<i>E. Birpou, A. Tzouanaki, O. Panagopoulou, G. Vadiakas</i>	
OPD8.17 Case report: Several traumatic injuries during childhood	107
<i>I. M. Cardoso Martins, N. Braz de Oliveira, R. Negrao, A. Coelho, P. F. Marques</i>	
OPD9.1 (Odonto) hypophosphatasia, two cases of premature tooth loss	108
<i>T. Brethouwer, J. B. Krikken, K. A van Nes</i>	
OPD9.2 Amelogenesis imperfecta	108
<i>J. Vaalas, H. Yli-Urpo</i>	
OPD9.3 Management of an Acute Facial swelling in a 13-month old child with Sickle Cell Disease	109
<i>J. T. Mangan, P. Fleming, K. Fitzgerald, Y. MacAuley, C. McMahon</i>	
OPD9.4 Atypical periodontitis associated with Kindler Syndrome	109
<i>M. L. Milvang-Noerregaard</i>	
OPD9.5 The total absence of teeth in a child of 6-years old with anhidrotic ectodermal dysplasia syndrome	110
<i>O. Kovylyna</i>	

OPD9.6 Dental implications for a patient with Simpson-Golabi-Behmel syndrome	110
<i>H. Batley, H. J. Rogers, M. S. Ali, C. Deery</i>	
OPD9.7 Papillon Lefevre Syndrome: A case report	111
<i>D. Akay Kotan, A. Alacam</i>	
OPD9.8 Dental management in a child with deletion of chromosome 10q. A case report	111
<i>C. R. Martinez, F. G. Jimeno, A. A. Olivares, C. C. Fernandez, A. I. Lorente Rodriguez</i>	
OPD9.9 Probiotics in complex therapy of chronic recurrent aphthous stomatitis (CRAS) in children	112
<i>S. Strakhova, L. Drobotko, K. A. Petrova</i>	
OPD9.10 Giant Cell Granuloma: Case report of an incidental finding	112
<i>A. Hollis, L. Carter, A. High, R. Bryan</i>	
OPD9.11 The dental implications and management of sarcoidosis in a paediatric patient	113
<i>A. Wallace, A. M. Hegarty, H. Zaitoun</i>	
OPD9.12 Three case reports of primary canine agenesis	113
<i>A. R. Tavares, R. E. Gomes, C. Palma</i>	
OPD9.13 Groups of teeth affected by hypomineralisation in a sample of 77 patients with MIH	114
<i>E. Garot, Patrick Rouas, Y. Delbos, C. Couture</i>	
OPD9.14 Infected Thyroglossal Duct Cyst in 5 years old Child: Case report and the role of pediatric dentist	114
<i>M. I. Al-Malik, L. Mirza</i>	
OPD9.15 Amelogenesis imperfecta	115
<i>T. Kripnerova, T. Dostalova, K. Ginzlova, D. Strakova, M. Simandlova</i>	
OPD9.16 Ectrodactyly, Ectodermal dysplasia and cleft lip/palate syndrome (EEC): Case report	115
<i>G. Atasever, M. Dilek Turgut, M. Tekcicek</i>	
OPD10.1 Clinical and microbiological findings of the oral cavity in Children with Fanconi's anaemia	116
<i>A. Pinar-Erdem, G. Yikarakayali, E. Sepet, N. Topcuoglu, N. Yalman</i>	
OPD10.2 Localized aggressive periodontitis of the primary dentition – a case report	116
<i>F. HersHKovitz, E. Mass</i>	
OPD10.3 Correlation between oral hygiene and odontogenic infections in Kosovo's children	117
<i>T. A. Kutllovci, S. Iljoska, A. Begzati, A. Rexhepi, Blerta Xhemajli</i>	
OPD10.4 The difficulties in management of amelogenesis imperfecta: a 10-year follow-up of two siblings	117
<i>E. Dursun, C. Vargas, E. Savard, F. Bdeoui, M. M. Landru</i>	
OPD10.5 MIH, breastfeeding and baby milk	118
<i>N. Jegat</i>	
OPD10.6 Management of enamel hypoplasia and Molar Incisor Hypomineralization. A report of 4 clinical cases	118
<i>M. Kukurba-Setkiewicz</i>	
OPD10.7 Dental phenotypes in WNT10A mutations: retrospective study from a group of 21 families	119
<i>F. Clauss, C. Tardieu, S. Hady-Rabia, N. Philip, M. C. Maniere</i>	
OPD10.8 The Use of Anxiety Scales in Patient Assessment	119
<i>H. AlShammasi, P. Ashley, H. Buchanan</i>	
OPD10.9 Intra-oral injection-phobia – a randomized controlled study in 10–17-yr-olds. Preliminary results	120
<i>K. G. Berge, M. L. Agdal, M. Vika, M. S. Skeie</i>	
OPD10.10 The relationship between dentists' education and their use of behavioural management techniques	120
<i>K. Stroem, A. Ronneberg, A. B. Skaare, T. Willumsen, I. Espelid</i>	
OPD10.11 Combined anaesthesia in paediatric dental treatment	121
<i>E. Shavlokhova, M. Korolenkova, I. Ostreikov</i>	
OPD10.12 Improvement of children's behaviour using Entonox during the dental treatment	121
<i>J. Vasakova, Z. Teuberova, L. Navarova, Z. Broukal</i>	
OPD10.13 Pulpectomy vs tooth extraction on dental pain and anxiety levels in children: A randomized clinical trial	122
<i>J. Abanto, S. M. Paiva, E. Alvarez-Vidigal, T. Cordeschi, M. Bonecker</i>	

OPD10.14 The In-office Dental Trauma Management in a 2.1 years old Boy Using a Safe Conscious Sedation Technique	122
<i>A. Stroianu</i>	
OPD10.15 Premedication at home with oral diazepam prior to dental general anaesthesia in children – an audit	123
<i>A. Ni Chaollai, K. Fitzgerald, J. McGinley, P. Fleming</i>	
OPD10.16 Hypohyperdontia in the premaxilla – a case series	123
<i>N. M. King, R. P. Anthonappa, S. Wong, R. Yawary</i>	
OPD11.1 Study of gingival fluid indices in pulpotomy treatment of primary tooth pulpitis in children	124
<i>L. P. Kiselnikova, I. S. Shcherbina, E. A. Savinova, T. P. Vavilova, I. G. Ostrovskaya</i>	
OPD11.2 The Occlusal Fracture Force of Primary Molar Crowns Prepared Using Three Different CAD/CAM Blocks	124
<i>Y. Yilmaz, A. Mete, S. Simsek Derelioglu</i>	
OPD11.3 Microleakage and Shear Bonding Strength of Sealants Using 4 Different Application Protocols	125
<i>J. M. Sun, J. H. Park, H. J. Ahn, S. C. Choi</i>	
OPD11.4 X-Ray Microtomography (XMT) to observe the depth of dentine bonding agent penetration into dentinal tubules; In Vitro studies	125
<i>N. Mohd Kenali, G. R. Davis, M. Patel</i>	
OPD11.5 The effects of coating material on selected physical properties of newly developed glass ionomer cements	126
<i>I. A. Baldag, C. Cinar</i>	
OPD11.6 Restoration of missing primary teeth with glass fibre (Stick-Tech, GC, Japan) and composite material	126
<i>U. Zilberman</i>	
OPD11.7 Micro-computed tomographic evaluation of stainless steel crowns on extracted primary molars	127
<i>Y. Bae, T. Noh, J. Y Kim, S. Kim</i>	
OPD11.8 Sodium fluoride, amine fluoride and HealOzone + Remineralization kit application as a treatment method for initial caries	127
<i>R. Bozatlioglou, H. M. Uyan, A. P. Munevveroglu</i>	
POSTER PRESENTATION WITHOUT DISCUSSION	
PND1 Providing of good children's cooperation during dental treatment	129
<i>E. Falko, V. Elizarova, N. Sirota</i>	
PND2 Prevalence of traumatic dental injuries in children and adolescents in connection with their pulpal consequences – 10 ys follow-up	129
<i>M. A. Raducanu, I. V. Feraru, M. Tanase</i>	
PND3 Case report on treatment of skeletal class III malocclusion with facemask and rapid maxillary expansion therapy	130
<i>N. K. Choi</i>	
PND4 Regenerative endodontic treatment of an immature permanent premolar with necrotic pulp: A case report	130
<i>P. Kinay, A. Olmez</i>	
PND5 Ten special kinds of supernumerary teeth need extra attention	131
<i>M. C. Wang, S. W. Yu</i>	
PND6 Endodontic, Surgical and Restorative management of a Complicated crown-root fracture	131
<i>E. Y. Ballikaya, Z. C. Cehreli</i>	
PND7 Treatment of Ameloblastoma in a Child: A case report	132
<i>D. Sakaryali, A. Alacam, G. Dimiller</i>	
PND8 Using gelitaspon in pulpectomy of primary molars with advanced root resorption: 3-year follow up	132
<i>J. Hassi, L. Arancibia, C. Danzjner, V. Soto</i>	
PND9 Treatment of anterior cross-bite using lower anterior inclined plane	133
<i>A. Hassan</i>	

PND10 General anesthesia and postoperative cooperation. A case report	133
<i>M. Armas, P. Lorente, F. Guinot Jimeno, C. Cuadros, A. I. Lorente Rodriguez</i>	
PND11 Age of first dental visit and dental condition in 6–7-year old children	134
<i>I. Grzesiak-Gasek, U. Kaczmarek</i>	
PND12 Pulp Survival After Traumatic Extrusion: A Case Report	134
<i>F. Z. Aytepe, S. Akcay Ozer</i>	
PND13 Multidisciplinary management of unerupted central incisors due to supernumerary teeth in a young patient: A case report	135
<i>E. Arat Maden, C. Altun, S. Secer, K. Gyder</i>	
PND14 Tooth surface loss in a patient suffering from endometriosis	135
<i>A. B. Ammari</i>	
PND15 Myofibroma of the mandible: A case report	136
<i>U. Karacayli, E. Arat Maden, M. Dad, O. M. Akgun</i>	
PND16 Complex Odontomas, an unusual cause of dental pain from erupting molars in children	136
<i>S. A. Tukmachi, D. Baldwin, J. Long</i>	
PND17 Dental erosion in children and adolescents with gastroesophageal reflux disease	137
<i>U. Kaczmarek, M. Kowalczyk-Zajac</i>	
PND18 Malocclusion in primary dentition of Saudi children: A cross-sectional study	137
<i>S. A. Bin Hassan, A. M. Alqhtani, M. Zakirulla</i>	
PND19 Dental Findings and Treatment of a Patient with Cyclic Neutropenia	138
<i>M. S. Park, N. K. Choi</i>	
PND20 Oral Health Survey of 5 and 12 Years Old School Children in Northern Cyprus	138
<i>S. Korun, L. Ozkan, A. Islam, O. Oge, T. Sakar</i>	
PND21 Reliability of Information Obtained by Children's Self-Reports in the NOT-S	139
<i>B. L. Cavalcante-Leao, S. R. Barancelli-Todero, G. Solheid-Gil, F. M. Ferreira, F. C. Fraiz</i>	
PND22 Clinical experience of a pediatric dentistry private clinic in Bucharest, Romania	139
<i>M. Toma, D. Ivan, O. Taban, M. Taban</i>	



ORAL PRESENTATION

SESSION 01 – EAPD Young Scientist Award Session

Date: Friday 6th June, **Time:** 11:30–13:00, **Hall:** MARCO POLO

Chair: Dorote Haubek, Denmark; Anna Dyster-Aas, Sweden

01.1 Utilising a paediatric version of the Indicator of Sedation Need for children's dental care:

A pilot study

M. Madouh*, J. Toumba, J. Tahmassebi

Paediatric Dentistry Dept, Leeds Dental Institute, UK

AIM

To assess the treatment outcomes of using inhalation sedation for comprehensive dental care by utilising a modified version of the Indicator of Sedation Need tool.

METHODS

The study was conducted in two phases: Retrospective Phase – A study of the treatment outcomes when using inhalation sedation for comprehensive dental care. Prospective Phase – Investigating the outcomes of dental treatment of patients referred to the sedation unit at the Leeds Dental Institute when the paediatric version of the indicator of sedation need (p-IOSN) was utilised.

RESULTS

Retrospective Phase: the records of 453 patients were evaluated. Mean age was 10.30 (SD = 2.95) years. Treatment was completed successfully in 63.6% of the cases. Age below 10 years was significantly associated with the outcome that “treatment abandoned in sedation unit, child referred to general anaesthesia services”. Prospective Phase: Forty patients of mean age 9.99 (SD = 3.14) years were followed-up to ascertain treatment outcomes when the p-IOSN was used. Of the total of 40 children included, 20 scored 6 on p-IOSN. Treatment completion rate was 72.5%. Although major differences existed between age and treatment outcomes, they failed to achieve statistical significance. No significant association was found between gender (in both phases) and p-IOSN of any score with any treatment outcome.

CONCLUSIONS

p-IOSN is a useful tool that can be utilised to predict child patients who would benefit from sedation for their dental treatment. However, the p-IOSN is still in the investigational stages and further research is required prior to its use on clinical grounds.

01.2 Anaesthetic efficacy of articaine versus lidocaine in children's dentistry: a systematic review

F. S. Alzahrani*, M. S. Duggal, J. Tahmassebi

Paediatric Dentistry Dept, Leeds Dental Institute, UK

AIM

To systematically review available evidence on the efficacy of local anaesthetic solutions (lidocaine/articaine) used for dental treatment in children.

METHODS

A systematic search was conducted on Cochrane CENTRAL Register of Controlled Trials, MEDLINE (OVID; 1950 to June 2013), Cumulative Index to Nursing and Allied Health Literature (CINAHL; EBSCOhost; 1982 to June 2013), EMBASE (OVID; 1980 to June 2013), SCI-EXPANDED (ISI Web of Knowledge; 1900 to June 2013), key journals, and previous review bibliographies through June 2013. No restrictions were placed on years, language or publication status. Original research studies that compared articaine with lidocaine in children dental treatment were included and methodological quality assessment including assessment of risk of bias was carried out for each of the included studies.

RESULTS

Electronic searching identified 520 publications. After the primary and secondary assessment process only 3 studies were included in the final analysis. The RCTs included in this review investigated the efficacy of local anaesthetic solutions when given as a combination of both techniques – local infiltration as well as block anaesthesia. The data analyses identified a trend of superiority of articaine over that of lidocaine in terms of achieving anaesthetic success, although these results were not statistically significant.

CONCLUSIONS

Both articaine and lidocaine solutions presented the same efficacy. Articaine was found to have longer soft tissue anaesthesia than lidocaine. However, the number of adverse events reported following use of either solution was similar. Registration PROSPERO registration: CRD42013004620.

01.3 Efficacy of 3 pulpotomy medicaments in primary molars – A Randomised Control Trial with one year follow up

S. Rajasekharan*, R. Cauwels, J. Vandenbulcke, L. Martens

Dept. Paed. Dent. PAECOMEDIS Research, Ghent University & University Hospital, Ghent, Belgium

AIM

To compare the clinical and radiographic efficacy of a new tricalcium silicate cement (Biodentine™), ProRoot™ White Mineral Trioxide Aggregate (WMTA) and iodoform paste (Tempophore™) as pulpotomy medicament in the treatment of carious deciduous molars in children treated under general anesthesia.

METHODS

A double blind, parallel design, randomised control trial was developed. Sixty patients (81 teeth) with a mean age of 4.82 years (3–7 years) were included in the trial. The teeth were randomised and allocated to one of the three groups (Group-1. Biodentine™, Septodont Ltd., Saint Maur des Faussés, France; Group-2. ProRoot™ WMTA, Dentsply, Tulsa Dental, Okla, USA; or Group-3. Tempophore™, Septodont Ltd., Maidstone-Kent, UK) for pulpotomy treatment. Treated teeth were restored with glass ionomer cement followed by pre-formed stainless steel crowns. All teeth were followed up clinically (after 1, 3, 6 and 12 months) and radiographically (after 6 and 12 months) by two blinded calibrated investigators.

RESULTS

46 patients and 63 teeth were available for follow up after 12 months. The results showed clinical as well as radiographic success in 94.73% for Biodentine™ and 100% for ProRoot™ WMTA and Tempophore™, but the difference was not statistically significant. The ability of the pulpotomy material used to induce dentine bridge formation was significantly higher in the ProRoot™ WMTA group. Uneventful shedding of 1 tooth (ProRoot™ WMTA group) was observed during the 12 month follow up.

CONCLUSIONS

After 12 months follow up, there was no significant difference between the new product Biodentine™ in comparison to the well-known products (ProRoot™ WMTA or Tempophore™).

01.4 Dental trauma issues among Polish boxers and their coaches

E. Nadolska-Gazda*, K. A. Emerich

Dept. of Paediatric Dentistry, Medical University of Gdańsk, Poland

AIM

To establish the frequency of dental injuries, the habit of wearing mouthguards as well as the general level of knowledge concerning procedure after dental trauma among young amateur boxers and their coaches.

METHODS

338 boxers and 100 their coaches, all members of Polish boxing teams, were interviewed countrywide using a standardized questionnaire. The questions focused on the frequency of dental accidents, their prevention and subsequent procedures. The participating 338 boxers were classified into 3 age groups: schoolboys and juniors (155), youth (66) and elite (117).

RESULTS

The 338 of interviewed boxers 36% had already seen dental trauma when practicing boxing and 26% had witnessed it during a tournament. The 43% of all interviewed boxers had worn mouthguards during training and 93% of them during tournaments. According to the coaches, 45% had witnessed dental trauma during trainings and 46% during tournaments. Also 84% of the coaches declared that they had always reminded the boxers to put on their mouthguards and 11% of them had done this sometimes. Only 15.8% boxers and 13% coaches knew that immediate tooth replantation was possible.

CONCLUSIONS

The results of the survey shows that significantly more information and education is required to be propagated for Polish amateur boxers and their coaches through sports associations and dentists.

01.5 Outcomes of Thermoplasticised Guttapercha in RCT of immature non-vital permanent incisors

A. Faridoun*, J. Toumba, M. Duggal

Paediatric Dentistry Dept, School of Dentistry, University of Leeds, UK

AIM

To evaluate the clinical and radiographic success of Obtura-II system in root canals of non-vital young traumatised permanent incisors in children, and to study the prognostic factors which affect the success rate.

METHODS

This was a retrospective study. Clinical records and periapical radiographs of 667 patients who attended the trauma clinic at the Paediatric Dentistry Department at Leeds Dental Institute in the period between 2003 and 2011 were initially screened. 235 cases with 275 teeth that had been obturated were classified as successful or failed according to criteria developed for this study. Various prognostic factors that could influence the outcome of the technique were recorded using a special data extraction proforma. Simple descriptive bivariate analyses were conducted in addition to the logistic regression analysis.

RESULTS

The mean age at time of trauma was 10.2 years. The clinically successful cases accounted for 92.7% whilst radiographically successful cases accounted for 85.4% over a mean follow-up period of 51 months. The logistic regression analysis showed a significant association between some of the prognostic factors, such as type of trauma ($p < 0.000$), duration of Ca(OH)_2 dressing ($p < 0.01$), and quality of obturation ($p < 0.007$) and the treatment outcomes.

CONCLUSIONS

Root canal treatment of immature teeth with thermoplasticised gutta-percha was considered clinically successful in 92.7% and radiographically in 85.4% for non-vital young traumatised teeth cases over a long follow-up period. Several factors were found to be significantly associated with the treatment outcomes of this technique.

01.6 Oral Health Related Quality of Life in children after dental trauma

C. Lint*, S. Rajasekharan, R. G. Cauwels, L. C. Martens

Dept. Paediatric Dentistry, Paecomedis Research, Ghent University & University Hospital, Belgium

AIM

This was to assess the impact of traumatic dental injury (TDI) on the Oral Health Related Quality of Life (OHRQoL) in children 5–18 years old.

METHODS

A total of 94 patients who attended the university hospital of Ghent, for management of traumatized deciduous or permanent teeth in the past five years, were invited to participate. Clinical information relating to the dental trauma was collected from patients' data. Patients were requested to fill out a validated postal questionnaire. This questionnaire was developed to analyse the effect of TDI at the oral, functional, emotional and social levels. Data analysis included descriptive statistics and analytic statistics (Kruskall-Wallis and Bonferroni correction). Statistical significance was set at $p < 0.05$.

RESULTS

Forty seven patients with a mean age of 10.65 years (5–16 years) participated in the study (50% response rate). Results showed that girls with TDI reported a more negative impact on their functional well-being than boys ($p = 0.006$). Regarding the type of trauma there is a significant difference between a fracture and an avulsion ($p = 0.023$) for the OHRQoL. Upon pairwise comparison a significant difference was found between "fracture and avulsion" ($p = 0.007$) and "extrusion and avulsion" ($p = 0.035$) in the social level of the OHRQoL. No significant difference was found whether the traumatic injury occurred to a deciduous or a permanent tooth.

CONCLUSIONS

Gender and type of TDI have a negative impact on the OHRQoL, while age and type of treatment have no difference.

SESSION 02 – DENTAL MATERIALS / ENDODONTICS

Date: Friday 6th June, **Time:** 15:30–17:30, **Hall:** MARCO POLO

Chair: Benjamin Peretz, Israel; Karin Ziskind, Israel

02.1 Clinical and radiographic evaluation of Biodentine and MTA in pulpotomies of primary molars

C. Cuadros*, J. Garcia, S. Sandra, A. Lorente, M. Montse

International University of Catalunya, Barcelona, Spain

AIM

To compare the preliminary results of Biodentine and mineral trioxide aggregate (MTA) when used as pulp agents in pulpotomies of primary molars.

METHODS

The study involved 39 healthy male and female patients from 4 to 9 years of age with at least one or more cavities in their primary teeth that needed pulp treatment. Fifty primary molars that required pulp treatment were allocated randomly to the MTA or Biodentine groups. Clinical and radiographic evaluations were performed 6 months after treatment. All teeth were restored with a reinforced zinc oxide-eugenol base and stainless steel crowns. Statistical analysis using Fischer's exact test was performed to determine significant differences between the groups.

RESULTS

Both of the MTA and Biodentine groups showed 100% clinical and radiographic success after 6 months of follow-up.

CONCLUSIONS

Biodentine seems to be a promising alternative for use in pulpotomies of primary molars although studies with longer follow-up times are required to confirm this.

02.2 Laser assisted Pediatric Endodontics: Conventional v/s laser assisted root canal treatments in primary teeth – An in vivo study

I. Madan*

Private Practice, UAE

AIM

To make a comparative analysis of conventional and laser-assisted root canal treatments in primary teeth with different stages of periapical changes.

METHODS

10 teeth with periapical changes (in children within the age group of 5–7 years), each in Conventional treatment group (Group I) and Laser assisted Treatment group (Group II) were chosen. Group I: cooperative children subjected to conventional root canal treatments under rubber dam. Conventional irrigation solutions including saline, hydrogen peroxide, chlorhexidine, sodium hypochlorite were used. Group II: potentially uncooperative children, treated with 940 nm Diode laser-assisted root canal treatment without rubber dam. Irrigation solutions used were saline and chlorhexidine. The comparative analysis was based on pain assessment, clinical grades of mobility and radiographic changes. Mann Whitney test and Fisher's exact tests were used for statistical analysis.

RESULTS

Pain Assessment: Group I pain score was higher than Group II. Clinical results: A greater number of cases healed from Grade II mobility to Grade 0 (no mobility) in Group II. Radiographic Changes: There was a trend to higher success in cases where lasers have been used.

CONCLUSIONS

940 nm Diode laser-assisted root canal treatments can prove equally or more effective than conventional root canal treatments in clinically difficult situations where ideal clinical conditions for pulpectomies, such as rubber dam and conventional irrigation, are difficult to achieve.

O2.3 Mineral trioxide aggregate/ferric sulfate pulpotomy for primary incisors:

A randomized controlled trial

T. D. Nguyen*, P. L. Judd, M. J. Casas

Dept of Dentistry, The Hospital for Sick Children, Toronto, Canada



AIM

To compare clinical and radiographic outcomes of mineral trioxide aggregate/ferric sulfate (MTA/FS) pulpotomy and root canal therapy (RCT) in carious vital primary maxillary incisors.

METHODS

Asymptomatic carious vital primary incisors with pulp exposure in healthy children aged 18 to 46 months were allocated randomly to receive MTA/FS pulpotomy or RCT. FS was used to induce haemostasis after coronal pulp amputation prior to the placement of MTA in MTA/FS pulpotomy treated incisors. Clinical and radiographic post-treatment assessments occurred at 6-month intervals for up to 24 months. Two disinterested raters classified each incisor into one of the following radiographic outcomes: N = normal incisor without pathologic change; Po = pathologic change present, follow-up recommended; Px = pathologic change present, extract. Inter-rater and intra-rater reliabilities were calculated. Univariate logistic regressions and survival analysis were used to compare MTA/FS and RCT outcomes.

RESULTS

Twelve month outcomes demonstrated no statistical difference in clinical outcomes for MTA/FS pulpotomy and RCT (Chi-square test, $p = .84$). No statistical difference in radiographic outcomes for MTA/FS pulpotomy and RCT for Px outcomes was demonstrated (Chi-square test, $p = .19$). Inter-rater and intra-rater reliabilities for outcome Px were excellent (Kappa=1.0). Survival analysis demonstrated no statistically significant difference in survival for MTA/FS pulpotomy and RCT incisors (log-rank test, $p = .69$) over a 6 to 24 month follow-up interval.

CONCLUSIONS

MTA/FS pulpotomy is an effective treatment for carious vital primary incisors.

O2.4 The use of an operating microscope in paediatric dentistry: two case reports

A. McKay*, S. Al-Badri

Liverpool University Dental Hospital, UK

INTRODUCTION

Endodontic management of traumatised incisors can be challenging, particularly when re-root treatment is required. We report two cases in which use of an operating microscope facilitated re-root treatment.

BACKGROUND

The use of operating microscopes is widespread amongst endodontists. However, their use by paediatric dentists is more limited and not widely reported, with some citing poor patient acceptance and excess patient movement as barriers to use.

COMMENTS

A 14-year old male presented with a history of enamel-dentine fracture to 21, sustained 5-years previously. The incisor had been root treated twice by the patient's dentist. Assessment of the tooth revealed failed obturation, a mid-third constriction of the canal and a perforation 2 mm mesial to the radiographic apex. The tooth was successfully obturated with MTA and thermoplastic gutta-percha (GP). A 13-year old male with a history of enamel-dentine fracture to 11 and 21 that occurred 7-years prior to assessment, attended following a request from their orthodontist to re-root treat 11. Assessment of 11 showed inadequate obturation with residual periapical radiolucency 3-years post-root canal treatment. Following removal of old GP the canal was chemo-mechanically disinfected and MTA used to facilitate root-end closure before obturation with thermoplastic GP. Follow-up varied from 3 to 12 months.

CONCLUSION

These cases demonstrate how the use of an operating microscope can facilitate challenging endodontic treatment in adolescent patients. In these examples its use aided the removal of pre-existing GP, negotiation of root canal perforation and placement of MTA apically. Patient acceptance was good.

O2.5 Alternatives to formocresol for pulpotomies in primary teeth: A systematic review and meta-analysis

E. Stringhini Junior¹, M. E. Becker Vitce², L. Butini-Oliveira*²

¹Sao Leopoldo Mandic Institute and Research Center, Brazil

²Unisep School of Dentistry, Brazil

AIM

The aim of this research was to evaluate mineral trioxide aggregate (MTA), calcium hydroxide, ferric sulphate, and electrosurgery pulpotomy and compare them with formocresol after a systematic review and meta-analysis.

METHODS

A systematic search using key words was conducted in seven databases up to March 10, 2013. Clinical articles in English, Portuguese and Spanish were selected, which were in accordance with the inclusion and excluded criteria and this research objective. A meta-analysis was undertaken considering the results from reviewed studies.

RESULTS

Out of the 12,515 publications initially identified, 30 clinical articles were included in the systematic review and analyzed by 4 meta-analyses. The success rate of MTA (94.61%) was higher than that of formocresol (87.40%), with a statistically significant difference (OR = 0.395; 95% CI = 0.252–0.620). Formocresol pulpotomy success was not statistically different from ferric sulphate or electrosurgery pulpotomy.

CONCLUSIONS

In conclusion, MTA was clinically and radiographically superior to formocresol in pulpotomy of primary teeth. The other alternatives to formocresol such as electrosurgery and ferric sulphate can be used instead of formocresol since they showed success similar to formocresol.

O2.6 Mortality and Complications of Office Based Anesthesia for Pediatric Dental Treatment; Retrospective Analysis in 10,400 Patients

C. J. De Jong*¹, J. B Krikken²

¹Kindertand, Netherlands

²Kindertand-West, Netherlands

AIM

To evaluate safety and complications of an office-based anaesthesia method that is in accordance with standard hospital safety rules. Basic principles are pre-treatment screening, propofol anaesthesia with a laryngeal mask in spontaneous breathing patients, supplemented with local analgesia by a dentist. The method is intended for extensive dental treatments (restorations, pulpotomies, stainless steel crowns and extractions) in paediatric secondary dental care clinics.

METHODS

A retrospective descriptive analysis of all patient records (1997–2013) was performed. All anaesthesia records included information on variables as HR, RR, Breathing Rate, SO₂, ETCO₂, amount of propofol used and complications. Major complications were death or where hospital admission was needed. Minor complications were difficult venous access, laryngeal mask displacement, desaturation (< 90% SO₂), subcutaneous propofol, allergic reactions and other incidents.

RESULTS

10,400 patients (age 2–18 yrs average 4.7 yrs) were treated. There were zero deaths and only one hospital admission. The most reported complications and incidents were difficult venous access (1.3%), laryngeal mask displacement (0.9%), desaturation (1%), subcutaneous propofol (0.5%), mild allergic reactions (0.1%), and lost teeth (0.1%). These incidents did not lead to serious adverse events.

CONCLUSIONS

This study indicates that office based ambulatory propofol anaesthesia that is in accordance with standard hospital safety rules, with laryngeal mask and spontaneous ventilation for dental treatment in children is a safe method with a very low number of serious adverse events.

O2.7 Effectiveness of Biodentine® versus Formocresol as dressing agents in pulpotomized primary molars: preliminary results.

M. Rubanenko*¹, M. Moskovitz¹, R. Petel², A. Fuks¹

¹Hebrew University Hadassah School of Dental Medicine, Israel

²Dental Volunteers for Israel (DVI) Center, Israel

AIM

To assess, clinically and radiographically, the effect of Biodentine® as a pulp dressing in pulpotomies of cariously exposed human primary molars and compare it to that of Formocresol.

METHODS

Following a standard pulpotomy procedure, the pulp stumps of 64 primary molars in 53 healthy children were randomly covered either with Biodentine® or Formocresol. The pulp chambers were filled with Intermediate Restorative Material (IRM®) and the teeth were restored with stainless steel crowns. At the six months follow-up appointment, the clinical status of the treated teeth was assessed and radiographs were taken

RESULTS

Biodentine®: success: 6 months – 22, one year – 3 failure: 0 Formocresol: success: 6 months – 23, one year – 7 failure: 6 months – 2, one year – 0.

CONCLUSIONS

Preliminary results demonstrated a success rate of 100% for Biodentine® while that of Formocresol was 94%, similar to that described in the literature.

O2.8 Children's Preferences to Colored Compomers Compared to Tooth Colored Compomer

S. M. Awad*, D. M. Moheb, M. A. Rashed

Faculty of Oral and Dental Medicine, Cairo University, Egypt

AIM

To investigate children's preferences to various colours of coloured compomers against a tooth coloured compomer. Twinky Star® coloured compomer with glitter effect- was developed especially for children. Children may have the feeling of influencing treatment by choosing their preferred colour of restoration. Hence, fear and impatience can be reduced.

METHODS

A total 60 children aged 5–8 years old (32 females and 28 males) participated in this study. Tooth coloured and coloured compomers were placed near to the dental unit for the child and parent(s) to choose the colour of restoration according to their preference during dental treatment. Preferred colour of compomer, gender and age were recorded per patient. All data were statistically analyzed.

RESULTS

63% of children who preferred tooth coloured compomer and 37% chose colored compomers. Regarding the coloured compomers, the preference of children among the colours gold, berry, blue, pink, lemon, orange, green and silver, were 14%, 32%, 21%, 15%, 7%, 2%, 1% and 8% respectively. Girls preferred berry and boys preferred blue but this difference was not statistically significant.

CONCLUSIONS

Tooth coloured compomer was the most popular. Coloured compomers did not appeal to the majority of children in this study, as hypothesized.

O2.9 Assessing Pulp Therapy of Necrotic Primary Teeth Using Computer Software: Randomized-Clinical-Trial

S. M. Awad, D. M. Moheb*



Faculty of Oral and Dental Medicine, Cairo University, Egypt

AIM

Clinical and radiographic evaluations of non-vital pulpotomy and partial pulpectomy using calcium hydroxide iodoform paste (Metapex) in treating necrotic primary molars possessing pathologic root resorption.

METHODS

Forty necrotic mandibular second primary molars possessing root resorption less than third of the root randomly divided into; Group A: treated by non-vital pulpotomy and Group B: treated by partial pulpectomy. Treated molars were capped by Metapex and restored by preformed metal crowns. Clinical and radiographic evaluations were performed at intervals of 3, 6 and 12 months postoperatively. Radiographic assessment was performed using University of Texas Health Science Center at San Antonio (UTHSCSA) image tool analysis software that allows automatic counting and percentages of black and white pixels. Treated molars that showed evidence of reduction or no increase in size of radiolucency were considered radiographically successful.

RESULTS

Subjects were 5–7 (mean = 5.9) years old. Clinical success was noted in 19 cases (95%) treated by non-vital pulpotomy and 16 cases (80%) treated by partial pulpectomy. Whereas 14 cases (70%) treated by non-vital pulpotomy and 8 cases (40%) treated by partial pulpectomy were considered radiographically successful. Interrelating the techniques, the difference was statistically insignificant clinically yet significant radiographically.

CONCLUSIONS

When treating necrotic primary molars with root resorption, non-vital pulpotomy could represent a more successful treatment modality compared to partial pulpectomy. UTHSCSA could represent a promising tool as it allowed standardized correlation of images obtained at follow-up periods and was capable of detecting extremely small bone alterations, thus increasing accuracy for assessment of bone gain or loss.

O2.10 Five-year evaluation of a low-shrink resin composite material: A randomized clinical trial

M. Schmidt*¹, I. Dige², L. L. Kirkevang², M. Vaeth³, P. Horsted-Bindslev²

¹Section of Pediatric Dentistry, Dept. of Dentistry, Aarhus, Denmark

²Section of Dental Pathology, Operative Dentistry and Endodontics, Dept. of Dentistry, Aarhus, Denmark

³Department of Public Health, Section for Biostatistics, Aarhus University, Denmark

AIM

The aim of the present study was to investigate the clinical performance of a low-shrinkage silorane-based composite material (Filtek™ Silorane, 3M-Espe) by comparing it with a methacrylate-based composite material (Ceram•X™, Dentsply DeTrey).

METHODS

Seventy-two patients (158 restorations) participated in the study. After 5 years a total of 107 restorations (52 Filtek™ Silorane, 55 Ceram•X™) in 48 patients were evaluated. Only Class II restorations were included. All the restorations were placed by the same dentist and the restorations were scored by one experienced dentist/evaluator. Materials were applied following the manufacturer's instructions. The primary outcome was marginal adaptation. Secondary outcomes were: marginal discoloration, approximal contact, anatomic form, fracture, secondary caries, and hypersensitivity.

RESULTS

After five years, no statistically significant differences between the two materials were found in marginal adaptation either occlusally ($p = 0.96$) or approximally ($p = 0.62$). No statistically significant differences were found between the two materials in terms of approximal contact, anatomic form, fractures or discoloration. Secondary caries was found in two teeth (Filtek™ Silorane). One tooth showed hypersensitivity (Ceram•X™).

CONCLUSIONS

Restorations of both materials were clinically acceptable after five years. This study did not find any advantage of the silorane-based composite over the methacrylate-based composite, which indicates that the low-shrinkage of Filtek™ Silorane may not be a determinant factor for clinical success.

O2.11 Flemish (Belgium) paediatric dentist's preference restorative and endodontic materials in children

J. Vandenbulcke*, S. Rajashekharan, R. Cauwels, L. Martens

Dept. Paed. Dent. PAECOMEDIS research, Ghent University & University Hospital, Ghent, Belgium, Belgium

AIM

To assess the current preference of restorative and endodontic materials in primary and mixed dentition amongst Flemish paediatric dentists (FPD).

METHODS

All active members of the Belgian Academy of Paediatric Dentistry working in the region of Flanders were contacted to participate in a validated questionnaire study. FPD were asked to select the single most preferred material in different treatment strategies which were divided into a co-operative, non co-operative and general anaesthesia group. In addition, the most preferred endodontic material in primary and immature permanent teeth were questioned as well as the most preferred isolation technique for the different treatments. FPD were also requested to reason their choice of materials. Descriptive and analytic statistics were performed.

RESULTS

Responses were received from 35/63 FPD (56% response rate). Compomer was used by 69% of the FPD for Class I and II restorations in primary molars for cooperative children. For pulpotomy procedures in primary molars Biodentine™ was preferred by 66% of the FPD. The majority of the FPD preferred Biodentine™ as endodontic material in immature permanent teeth. 83% of the FPD chose Ca(OH)_2 as a temporary root canal filling material. Preference of materials was mainly based on evidence and biocompatibility. The most preferred isolation technique for endodontic procedures was rubber dam whereas for restorations, cotton rolls and saliva ejector were chosen.

CONCLUSIONS

In general, compomer was the most preferred restorative material in the primary dentition. Biodentine™ appeared to be the favoured endodontic material in primary and permanent immature teeth.

SESSION 03 – SPECIAL NEEDS PATIENTS

Date: Saturday 7th June, **Time:** 14:00–15:30, **Hall:** COLUMBUS A

Chair: Dominique Declerck, Belgium; Wendy Bellis, UK

03.0 The rehabilitation of stomatognathic system in disabled children

E. Szklarska*, E. Radwańska

Krakowska Poradnia Stomatologiczna, Kraków, Poland

AIM

The idea of rehabilitation was created and developed thanks to prof. Hellbruegge and prof. Castillio-Morales. After many years of research and trials our clinic has elaborated a model of care for disabled children in the field of dental services conducted since the first years of child's life. The disorder symptoms within the sphere of dental services of disabled children are often overlooked or neglected in the early stages of diagnostics and therapy due to other more important and severe general disorders. The reason for this is also limited accessibility to specialists, experiences with the previous treatment of masticatory system and also an aversion to therapists, dentists, orthodontists or their lack of preparation to work with disabled children.

Dental problems of disabled patients can be presented in the best way on the example of the Down Syndrome because of the biggest percentage of such patients. The Down Syndrome characterizes by a general muscle weakness which manifests itself in stomatognathic system through tongue protrusion and habitual mouth opening. It influences the impairment of suction, chewing, swallowing, breathing, speech and facial expressions.

The original model of dental care for disabled children is conducted from the first months of child's life in cooperation with physiotherapists, speech therapists and doctors. The model consists of: health education, prevention, rehabilitation of stomatognathic system and treatment. The key element of the presented model is an orofacial rehabilitation based on the concept of rehabilitation introduced by R. Castillio-Morales. The rehabilitation plan of stomatognathic system of disabled children was developed at Krakowska Poradnia Stomatologiczna. It includes structure and functioning of masticatory system during certain periods of development. Methods of therapy include: stimulating massage of face and mouth, miotherapy and usage of a stimulating plate according to Castillio-Morales as well as other braces.

CONCLUSIONS

Dental treatment should constitute a permanent element of rehabilitation of a disabled child. An early start of the rehabilitation gives the optimum results of the treatment. The first contact of a doctor with a patient and his/her parents plays a key role in the dental treatment. Multidisciplinary cooperation gives a possibility of a complex diagnostics and treatment.

03.1 Oral health, medical diagnoses, and functioning in children with disabilities – a study using the ICF-CY

J. Norderyd*¹, D. Faulks², G. Klingberg³

¹The Institute for Postgraduate Dental Education and CHILd, Swedish Institute for Disability Research, School of Health Sciences, Jonkoping, Sweden

²CHU Clermont-Ferrand, Service of Odontology, Clermont-Ferrand, France

³Dept of Paediatric Dentistry, Faculty of Odontology, Malmö University, Sweden

AIM

To describe children with disabilities receiving paediatric specialist dental care, from a biopsychosocial perspective, using the International Classification of Functioning, Disability and Health – Children and Youth version (ICF-CY) and with a focus on the relationship between oral health, medical diagnosis, and functioning.

METHODS

The ICF-CY Checklist for Oral Health was completed using structured interview, direct observation, and dental records. Descriptive data analysis was performed together with Principle Component Analysis to calculate factors of functioning and cluster analysis in order to present functioning profiles.

RESULTS

99 children with at least one major medical diagnosis were included. The most common acquired dental diagnoses noted in the dental records were plaque and calculus (19%), significant tooth wear (12%), and gingivitis (11%). Only 7% had manifest caries at the time for the interview and 20 children had previous or current experience of

caries. There were no statistically significant differences between medical diagnoses or clusters of functioning concerning caries experience or the oral health parameters studied.

CONCLUSIONS

The children in this study had good oral health, despite complex disabilities. Neither medical diagnosis nor functioning was found to have a clear relationship with oral disease.

O3.2 Oral health care in children with epidermolysis bullosa

M. Korolenkova*

Central Research Institute of Dentistry and Maxillofacial Surgery, Moscow, Russian Federation

AIM

To summarize the provision of oral health care in children with epidermolysis bullosa (EB).

METHODS

Sixteen EB patients (10 female and 6 male aged 5–17) were included in the study. Ten of 16 patients had dystrophic form of EB while 6 had simple form. Oral status was recorded (oral hygiene, presence of enamel hypoplasia and intraoral soft tissue lesions). Dental treatment provided included teeth extractions under conscious sedation (11 cases), teeth treatment (both conventional and ART methods) (10 cases) and preventive program (15 cases).

RESULTS

Routine dental treatment in EB simplex patients is unlikely to produce any soft tissue lesions (the only exception was caused by a wrongly placed suction tube). All 10 dystrophic EB patients presented with generalized enamel hypoplasia in both primary and permanent dentition. In these patients one should consider using non-adhesive face dressings and careful suction tube positioning, as well as applying liniments on cotton rolls to protect both intraoral and extraoral soft tissue lesions. In 11 EB patients 23 primary teeth were extracted under conscious sedation; in 3 of those cases the procedure caused significant vestibular scarring. Twenty two teeth were treated mostly by ART method (81.8%), as limited mouth opening made conventional treatment impossible.

CONCLUSIONS

While routine oral health care can be provided in EB simplex patients with minimal precautions, dental treatment in dystrophic EB is challenging for paediatric dentist. This group of patients requires a special dental rehabilitation plan as they present with generalized enamel hypoplasia and have significant risk of intraoral lesions with excessive scarring.

O3.3 Traumatic Dental Injuries in Children with Special Needs

O. B. Al-Batayneh*, A. I. Owais, M. O. Al-Saydali

Dept. of Preventive Dentistry, Faculty of Dentistry, Jordan University of Science and Technology, Jordan

AIM

To identify prevalence, types, possible risk factors for traumatic dental injuries (TDI) and treatment seeking behaviour in special-needs children.

METHODS

A study group (n = 959) of special needs children were examined in special-needs schools in Jordan with a control group of (n = 1010) age- and gender-matched healthy school-children. Age range was 3–18 years (mean 11.8 ± SD 4.22). Statistical analysis was performed using SPSS for descriptive statistics and Chi-square to determine statistical differences between groups; level of significance was set at $p \leq 0.05$.

RESULTS

The study group consisted of 14 subgroups according to medical diagnosis. Prevalence of examined TDI in study and control groups was (8.7%) and (4.1%), respectively with higher prevalence in males (72.3%) in the study group. TDI were significantly higher in children with mental retardation, vision and hearing deficiency, ($p < 0.05$). Multiple disabilities showed an increased tendency toward TDI, but this was not significant ($p = 0.055$). The most common type of TDI was uncomplicated crown fractures, and upper left central incisor was the most commonly affected tooth. Both over-jet ($> 3\text{mm}$) and lip incompetence were significant risk factors for TDI, ($p < 0.05$). Self-inflicted injuries were found in (4.2%) of special-needs children. In the study group, there was less reported TDI, poorer oral hygiene and treatment seeking for TDI than the control group; the most common reason for that was lack of dental awareness.

CONCLUSIONS

Prevalence of traumatic dental injuries was higher in special-needs children than in healthy children. The poor treatment seeking behaviour suggests a need to increase awareness of care-givers about TDI.

03.4 Oral health screening practices and perceptions of North American paediatric cardiologists

K. Oliver*, M. Casas, P. Judd, J. Russell

The Hospital for Sick Children, Toronto, Canada

AIM

To examine the practices and perceptions of North American cardiologists regarding oral health assessment and the impact of oral health on their patient's cardiac care.

METHODS

Surveys were e-mailed to 665 North American paediatric cardiologists and addressed oral health assessment for paediatric cardiac patients, and cardiologist's perceptions of the impact of oral health on cardiac care.

RESULTS

The overall response rate was 17%. Most cardiologists included oral health assessments as a component of cardiac care (97%) and discussed oral health with families (86%). While most oral assessments involved a dentist, 14 per cent of cardiologists performed the oral assessment without the aid of a dentist. The most common time for first oral assessment of paediatric cardiac patients was prior to cardiac surgery (60%). Four out of five cardiologists (81%) reported oral disease necessitated cancellation of scheduled cardiac surgery. Children who required pre-surgical high calorie diets were perceived by cardiologists (90%) to be at increased risk of oral disease. Some cardiologists reported limited access to dentists willing to treat young children with cardiac diagnoses.

CONCLUSIONS

North American paediatric cardiologists were cognizant of the importance of oral health for their patients. Despite the common experience of surgical cancellation due to poor oral health status, most cardiologists deferred assessment until prior to cardiac surgery. Perceived or actual difficulties accessing appropriate dental support or unfamiliarity with recommended timing for a child's first dental visit may contribute to this delay.

03.5 Long Q-T Syndrome – A Practical Insight

J. Verco*

The University of Adelaide, Australia

INTRODUCTION

Long Q-T Syndrome is a cardiac condition which reflects electrical malfunction. The incidence of LQTS has increased to 1:1100 in developed countries. 30-40% of sudden deaths in children are at the first event in "asymptomatic patients".

BACKGROUND

There are in excess of 300 variations of LQTS which may be genetically linked or potentiated with prescription medications. Triggers in dentistry include stress, sound and light. Early detection of LQTS by the dental profession when patients are treated under general anaesthesia could enhance an holistic approach.

COMMENTS

Case I Early detection in a boy aged 9 years at the time of dental general anaesthesia. Case II 14 year old boy died following a rowing race. Case III 62 year old male with untreated cardiac disease died while rowing. Case IV Mother of 11 Children, 9 died, 7 suspected of LQTS. Case V 26 year old male died in his sleep. Treatment varies from the use of beta-blockers, pacemakers, cardioverter defibrillators or sympathetic nerve denervation. Withdrawal of beta-blockers can lead to adrenergic bounce-back and create tachycardic problems.

CONCLUSION

A protocol for interested parties include general practitioners, physicians, cardiologists and geneticists is suggested to gain public awareness.

SESSION 04 – DENTAL TRAUMA / OTHER

Date: Saturday 7th June, **Time:** 14:00–15:30, **Hall:** COLUMBUS B
Chair: Maria Mielnik-Blaszczak, Poland; Gunilla Klingberg, Sweden

04.1 Status of stomatognathic system in children with high BMI

M. Mielnik-Blaszczak*¹, M. Kaminska-Jaloz², E. Pels¹

¹Medical University of Lublin – Dept. of Paediatric Dentistry, Poland

²Dental Office Krosno, Poland

AIM

Overweight and obesity are among the most common health problems in the developed world and the developing world. The aim of this study was to assess the state of the mouth in children and adolescents aged 12–18 years in the region of Lublin – Poland, in relation to body weight status.

METHODS

The study involved 193 adolescents, 105 female, 88 male, aged 12 to 18 years. As a result of the statistical analysis it was found that slightly more girls were obese (51.43%) compared with boys (47.73%).

RESULTS

Turnout decay in the group of children and adolescents was 93.78%. Decay turnout was higher in the group with excess body weight. The average number of DMF in the study group was 7.48 and was higher in the group of children and young people with a high BMI (8.29), compared with the group of subjects with normal weight (6.68). Expressed caries average number of DMF in the study group was 7.48. It has been found that the group of excess body weight caries was higher at 8.75. Obtained in the study, the mean value of the number of D was 3.92 and was higher in the group of children and adolescents with excess body weight

CONCLUSIONS

Both obesity and tooth decay are common risk factors and should therefore be included in an integrated specialist investigation

04.2 Early Transplantation of Immature Premolar Donor Teeth – A Case Series

S. Barry*¹, J. Spencer², N. Houghton², S. Barber², M. Duggal¹

¹Dept of Paediatric Dentistry, School of Dentistry, University of Leeds, UK

²Dept of Orthodontics, School of Dentistry, University of Leeds, UK

INTRODUCTION

Three cases of autotransplantation of immature donor teeth into recipient areas with evidence of severe bone resorption are described and where the donor teeth had very immature roots. The aim in these cases was to achieve root development and also allow the transplanted teeth to erupt into the mouth, thereby bringing the bone with it.

BACKGROUND

Autotransplantation of immature teeth is a treatment modality gaining popularity in the field of paediatric dentistry. Long-term success rates of 95% have been reported in the literature. Previous reports have described transplantation of donor teeth into near normal bone.

COMMENTS

Cases one and two involved the transplantation of two immature upper premolar teeth into the 11/21 sockets. Case three involved the transplantation of two immature, lower premolar teeth into the 11/21 sockets. Donor teeth were transplanted in positions of minimal eruption, in areas with limited alveolar bone. This technique was demonstrated to be successful in all 3 cases, with subsequent full and normal eruption of the transplanted teeth with associated generation of alveolar bone. All transplanted teeth showed full root development and remain vital at a mean follow up of 4 years. Full case histories and radiography will be further discussed.

CONCLUSION

This case series further develops the feasibility of the techniques of autotransplantation and may in fact broaden its applicability through a multidisciplinary team approach. The demonstration of normal eruption and new bone development reveal that successful transplantation can occur into areas, which would have been previously considered to represent a poor prognosis.

04.3 The effect of topical treatment with Doxycycline on avulsed permanent incisors – a retrospective study

G. Tsilingaridis*¹, B. Malmgren¹, C. Skutberg², O. Malmgren¹

¹Karolinska Institutet, Dept of Dental Medicine, Division of Pediatric Dentistry, Sweden

²Eastman Institute, Dept of Pediatric Dentistry, Sweden

AIM

Tooth avulsion in young growing individuals is an uncommon but very severe dental trauma. The aim of this study was to evaluate the effect of topical treatment with Doxycycline on avulsed permanent incisors compared to treatment with only saline, regarding pulp survival and periodontal healing.

METHODS

The material consisted of 66 avulsed teeth in 50 patients (34 boys and 16 girls) with a mean age of 11 years (range 6.5–18 years). Before replantation, 30 teeth were treated topically with Doxycycline and 36 teeth with saline. The mean observation time was 48 months. Root development was categorized with respect to root formation and development of the apex into three groups, ¼-root formation to full root formation with open apex, full root formation with half-closed apex and full root formation with closed apex.

RESULTS

In the Doxycycline group 27 were diagnosed with pulp necrosis, 15 with replacement resorption and 9 were extracted. In the saline group, 30 were diagnosed with pulp necrosis, 23 with replacement resorption and 11 were extracted. No significant differences were found between the two groups. Teeth with immature root development show significantly less pulp necrosis ($p = 0.002$) compared to teeth with full root formation regardless if treated topically with Doxycycline or not.

CONCLUSIONS

Our findings suggest that topical Doxycycline treatment of avulsed permanent teeth has no beneficial effect on pulp survival and periodontal healing regardless of root development, storage and extra oral time.

04.4 Prevalence, type, and aetiology of dental and soft-tissue injuries in children in Croatia

H. Juric*¹, M. Vuletić², J. Skaricic², S. Hrvatin³, I. Cukovic-Bagic¹

¹Dept. of Paediatric and Preventive Dentistry, School of Dental Medicine, University of Zagreb, Croatia

²Private Practice, Croatia

³Dept. of Paediatric Dentistry and Orthodontics, Dept. of Dental Medicine, Faculty of Medicine, University of Rijeka, Croatia

AIM

This was to analyse the prevalence, type and aetiology of dental and soft-tissue injuries. The relationship between the time of patient's arrival at the dental office and the presence of soft-tissue injury was also analysed.

METHODS

A retrospective study was conducted from 2009 to 2013. Documentation of 447 patients (264 males and 183 females) were analysed separately in three age groups (1–6, 7–12, 13–16 years).

RESULTS

The highest frequency of traumatic dental injuries (TDI) was found in the group 7–12 years. Maxillary central incisors (80.9%) were most frequently affected in both dentitions. Enamel-dentin crown fracture without pulp exposure was the most commonly observed TDI of the hard tissue (31.9%), whereas subluxation was the most common periodontal tissue injury in both dentitions (27.3%). The most frequent location, cause and seasonal variation of trauma were at home, falling and Spring. Soft-tissue injuries were observed in 203 patients (45.4%) and were less likely when fewer teeth were traumatized ($P < 0.001$). Comparing children with soft-tissue injuries and those without, a statistically significant difference was found in the time of arrival in the office between primary and permanent dentition ($P < 0.01$).

CONCLUSIONS

Soft-tissue injuries include bleeding, and the clinical situation appears more dramatic. Therefore time elapsed between injury and initial treatment was shorter than in non-bleeding injuries. Those data show a need for better education of parents and school-teachers in Croatia regarding the importance of dental office visit without delay in cases of bleeding and non-bleeding TDI's.

O4.5 Preliminary results of a randomised controlled trial comparing regenerative endodontics versus root end closure with MTA

L. Gartshore*, S. Albadri, K. Fox, F. Jarad
Paediatric Dentistry, University of Liverpool, UK

AIM

To compare the outcomes of regenerative endodontics versus root end closure with mineral trioxide aggregate (MTA) in the management of non-vital, immature, permanent incisors.

METHODS

Ethical approval was granted by the local Research Ethics Committee. 21 children aged between 7 and 15 years were initially recruited into the study. Consent from children and guardians was obtained prior to treatment and participants were randomly assigned into either regenerative endodontics or MTA root end closure intervention groups. Follow-up took place at 3, 6, 9 and 12 months. This abstract presents the clinical outcome data for those patients with a minimum of 6 months follow-up.

RESULTS

The mean age of participants was 10 years and 70% were male. At presentation, 48% complained of pain/tenderness to percussion, 38% exhibited infection and 14% were asymptomatic. 24% of children complained of tooth discolouration prior to treatment. 11 teeth have been treated via regenerative endodontics and 10 teeth via root end closure with MTA. Following treatment, 100% of patients were asymptomatic with no clinical signs of infection/failure. Two teeth (18%) managed via regenerative endodontics produced a positive response to sensibility testing. Deterioration in tooth shade (recorded with standardised clinical photography and a digital shade matching system) was recorded in both groups.

CONCLUSIONS

There was no difference in clinical success between the intervention groups. Both interventions were largely acceptable to participants despite their limited dental experience.

O4.6 Auto-transplantation for multidisciplinary management of complex cases – A Case Series

E. Ali Akbari*¹, S. Barber², J. Spencer², S. Barry¹, M. Duggal¹

¹Dept. of Paediatric Dentistry, School of Dentistry, University of Leeds, UK

²Dept. of Orthodontics, School of Dentistry, University of Leeds, UK

INTRODUCTION

Three autotransplantation cases are presented, which reflect a multidisciplinary approach, with pre and post-transplant orthodontic treatment to manage one case of severe trauma and two cases of cleft lip and palate (CLAP) with associated hypodontia.

BACKGROUND

Auto-transplantation is not widely used, but has recently grown in popularity, especially in the management of dental trauma. Successful application of the technique must be based on multidisciplinary management with involvement of orthodontics and paediatric dentists and an effective endodontic management of the transplant if required. In complex trauma, and in cases of hypodontia associated with CLAP, this approach is critical for optimal long-term outcomes.

CASE REPORT

The child with trauma presented with three re-implanted teeth following a severe skiing accident. The teeth had prolonged extra-alveolar time and poor prognosis. Following an orthodontic assessment and provision of Transpalatal Arch, two immature upper second premolars were transplanted to the position of 11, 21 and 22, following which they continued their eruption and root development. Post-transplant functional appliance therapy, followed by fixed appliances was used to achieve an excellent result. Case 2 and 3 were both cases of CLAP. In case 2 complex pre-transplant orthodontics was used to avoid transplantation in region with danger of perforating the maxillary sinus, and in case 3 an un-erupted canine was used as the donor tooth to replace 21 which had failed to erupt.

CONCLUSION

The three cases demonstrate a multidisciplinary team approach in order to achieve excellent long-term outcomes for children who are unfortunate to suffer severe trauma or congenital abnormalities.

O4.7 Efficacy of Caphosol for prevention of chemotherapy-induced oral mucositis: a pilot study

T. Tomazevic^{*1}, U. Potoenik², J. Jazbec²

¹Dept. of Paediatric and Preventive Dentistry, UMC Ljubljana; Faculty of Medicine,
University of Ljubljana, Slovenia

²Dept. of Oncology and Haematology, Children's Hospital, UMC Ljubljana; Faculty of Medicine,
University of Ljubljana, Slovenia

AIM

To evaluate the efficacy of a calcium phosphate oral rinse (Caphosol) for prevention of oral mucositis in paediatric cancer patients receiving chemotherapy.

METHODS

In a prospective randomized controlled study, 18 cancer patients with planned chemotherapy were assigned to test (n = 8) and control (n = 10) groups. Patients carried out a basic oral care. Patients in the test group used Caphosol to rinse the oral cavity 4 times daily for 3 days, starting at the onset of chemotherapy cycles. Oral mucosa was evaluated with the WHO scale 2 to 3 times weekly. The difference in the distribution of mucositis episodes and differences in the distribution of mild (WHO grades 1, 2) and severe mucositis (WHO grades 3, 4) episodes between study groups were statistically evaluated by the Mann-Whitney test.

RESULTS

Sixteen patients were included in the analysis. In the test group, 4 out of 7 patients developed mucositis, while the numbers in the control group were 8 out of 9 patients. In test and control groups, the mean number of mucositis episodes per patient was 0.9 ± 0.9 and 2.6 ± 1.7 , respectively. Mucositis distribution differed significantly between groups ($p = 0.023$). In the test group, the mean number of mild and severe mucositis episodes was 0.6 ± 0.5 and 0.3 , respectively; in the control group the numbers were 1.1 ± 1.0 and 1.6 ± 1.9 , respectively. The differences in mild and severe mucositis distributions were not statistically significant between groups ($p = 0.212$ and $p = 0.067$, respectively).

CONCLUSIONS

Using Caphosol as a preventive measure reduced the frequency of mucositis but the mucositis intensity was not affected.


O4.8 The advantages of local anaesthesia during general anaesthesia

E. M. Fistes^{*1}, O. Tolo Diallo², P. Tramini¹, J. Nancy², E. Trzaskawka-Moulis¹


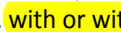


¹University Hospital of Montpellier, France

²University Hospital of Bordeaux, France


AIM

"Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage" (Merskey, 1979). Several perioperative analgesics and local analgesics (LA) are used to limit the memory of pain. Nevertheless, the use of local analgesics during general anaesthesia (GA) remains contradictory in the literature, and today there is no consensus concerning their use. The aim of this study was to evaluate the influence of the use of the LA Articaine before dental extractions, on the perioperative consumption of an analgesic (Remifentanyl) during GA, by children receiving oral rehabilitation at the Unit of Ambulatory Surgery and Anaesthesia  the University Hospital of Montpellier, France.


METHODS

A clinical study protocol  evaluating the perioperative pain of 62 ASA (American Society of Anesthesiologists) I or II children, during dental extractions under GA,  with or without associated LA (by randomized simple blind draw)  was created. The patients' pain was objectified through its physiological manifestations,  which are heart rate and arterial blood pressure.

RESULTS

The children that did not undergo local peri-apical LA before the tooth extractions experienced a significant increase in systolic blood pressure and heart rate ($p < / = 0,05$), which necessitated an increase of the dose of peri-operative analgesic (Remifentanyl). 

CONCLUSIONS

This study illustrates the advantage of the use of local anaesthetics during dental surgery under general anaesthesia, which  allows a reduction of the consumption of analgesic products during the surgery.

SESSION 05 – EAPD Young Scientist Award Session

Date: Saturday 7th June, **Time:** 14:00–15:30, **Hall:** MARCO POLO

Chair: Nick Lygidakis, Greece; Ivar Espelid, Norway

05.1 An investigation into the outcomes of different treatment strategies for caries in the primary dentition

A. H. BaniHani^{*1}, C. Deery², T. Munyombwe³, J. Toumba¹, M. Duggal¹

¹*School of Dentistry, University of Leeds, UK*

²*School of Clinical Dentistry, University of Sheffield, UK*

³*Dept. of Biostatistics, University of Leeds, UK*

AIM

To investigate the outcome of conventional (complete caries removal with or without pulp therapy) versus biological (Hall Technique and Indirect Pulp Capping (IPC), approach for the treatment of carious primary teeth

METHODS

A retrospective study of 245 children aged 4–9 at the time of the dental treatment, with 836 primary teeth treated with either approach in two U.K. dental hospitals. Data analysed using SPSS and STATA

RESULTS

In the conventional group 324 teeth (38.8%) had complete caries removal and 104 teeth (12.4%) had pulpotomy. In the conservative group 388 teeth (46.4%) had Hall Technique preformed metal crowns (PMC) and 20 teeth (2.4%) had IPC. PMCs were the restoration of choice for most of the cases except for the complete caries removal group where composite resin was used most frequently. The majority of conventional treatment was performed under L.A, whereas no analgesia was required for most of the biological (Hall+IPC) treatment. The majority of the primary teeth treated with either approach remained asymptomatic after a mean follow up of 14 months; 95.8% of the conventional and 96.6% of the biological. Pain and sepsis developed in 3% and 3.7% of the teeth treated with the conventional and the biological approaches respectively. Of the Hall crowns 4.1% had been replaced after their initial placement. Using a multilevel logistic regression model no significant association was found between remained asymptomatic outcome and the approach used for treatment, age of the patient, gender, initial diagnosis, and number of carious surfaces or tooth type.

CONCLUSIONS

Both conventional and biological approaches had similar outcomes

05.2 The efficacy of fluoride containing products on tooth surface loss of primary and permanent enamel in vitro

M. Malinowski¹, Z. Mandinic^{*2}, T. Toyama³, J. Toumba¹, M. Duggal¹

¹*School of Dentistry, University of Leeds, UK*

²*School of Dental Medicine, University of Belgrade, Serbia*

³*School of Dentistry, Aichi-Gakuin University, Japan*

AIM

To evaluate and compare the effect of some fluoride containing products alone and in combination on tooth surface loss (TSL) of permanent and primary enamel under erosive/abrasive conditions in vitro.

METHODS

15 enamel slabs/group were obtained from extracted teeth. The test groups were: Pronamel toothpaste twice/day (PT), Pronamel toothpaste plus Pronamel Mouthrinse twice/day (PT/PM). Pronamel toothpaste twice/day plus Leeds Slow Release Fluoride Glass Device (PT/SRFD), Proexpert toothpaste twice/day plus Proexpert Mouthrinse twice/day (PET/PEM). Fluoride-free toothpaste served as a control. A non- static pH cycling model was used with 1% citric acid/ pH 3.6, with an abrasive 200 g challenge from a brushing machine for 2 minutes twice/day. Tooth-pastes were applied as 3:1 slurry. TSL was measured using non-contact laser profilometry after 28 days. Data were analysed using one-way analysis of variance (ANOVA) with Tukey multiple comparisons post-test and t test.

RESULTS

Significantly lower TSL was observed in all the test groups compared with control in permanent enamel ($p < 0.000$). However, for primary enamel all groups except PET/PEM provided significant protection compared with control

($p < 0.000$). When effects between permanent and primary enamel were compared no significant differences were observed for the three Pronamel TP groups containing sodium fluoride, but PET/PEM containing stannous fluoride did not demonstrate a significant protective effect, being similar to the control group in primary enamel.

CONCLUSIONS

All fluoride containing test products, alone and in combination provided protection against TSL for permanent enamel but PET/PEM, which contains stannous fluoride had no protective effect on primary enamel.

05.3 The synergistic role of fluoride and strontium as anti-cariogenic agents in solution

E. Theodorou*, R. Hill, P. Anderson

*Centre of Oral Growth and Development, Barts and the London School of Medicine and Dentistry,
Institute of Dentistry, Queen Mary University of London, UK*

AIM

This was to verify the synergistic effect of fluoride (F) and strontium (Sr) on the rate of demineralisation of hydroxyapatite (RDHAP) discs in solution.

METHODS

An acetic acid (pH = 4.0) caries-simulating demineralising solution was circulated through a scanning microradiography (SMR) cell containing an artificial hydroxyapatite disc for three days. The demineralising solution (control) was then changed to acetic acid containing F and/or Sr (test) at concentrations ($[F^-] = 27\text{--}61$ ppm, $[Sr^{2+}] = 3\text{--}131$ ppm) typical for that released from Glass Ionomer Cement (GIC) samples. The test demineralising solution was then changed back to the control demineralising solution. SMR was used to measure the RDHAP throughout. Student's t-tests were used for statistical analysis.

RESULTS

The RDHAP was significantly reduced by 34% and 57%, when Sr and F were present in the test solution, respectively ($p < 0.001$). The RDHAP was significantly lowered further by 94% in the presence of both Sr and F in solution ($p < 0.001$). When the combined F and Sr test solution was then replaced by the control solution, the RDHAP increased, but was still significantly lower (57%) than the control solution ($p < 0.001$).

CONCLUSIONS

Sr and F solely have an inhibitory effect on RDHAP under caries-like conditions. However, their synergistic effect is greater even at concentrations as low as those released from GICs. Therefore, the addition of both Sr and F improves the cariostatic properties of GICs.

05.4 Randomised control trial of three caries management methods for primary molars: survival analysis

R. M Santamaria*¹, N. Innes², V. Machiulskiene³, D. Evans⁴, C. Splieth¹

¹*Dept. of Preventive and Paediatric Dentistry University of Greifswald, Germany*

²*Unit of Dental and Oral Health, School of Dentistry, University of Dundee, UK*

³*Clinic of Dental and Oral Pathology, Faculty of Odontology, Lithuanian University of Health Sciences, Lithuania*

⁴*Unit of Dental and Oral Health, School of Dentistry, University of Dundee, UK*

AIM

To compare 1-year survival rates of three caries treatment approaches: Non-restorative Caries Treatment (NRCT), the Hall Technique (HT), and Conventional Restorations (CR), for management of Class II caries lesions (ICDAS 3-5) in primary molars.

METHODS

In this multi-centre, secondary care-based, three-arm parallel-group, randomized controlled trial, 169 children (3–8-year-olds; mean = 5.56, SD = 1.45) were allocated to: NRCT ($n = 52$; opening-up the cavity and applying fluoride), HT ($n = 52$; sealing in caries with stainless steel crowns without caries removal), CR ($n = 65$; control arm, complete caries removal and compomer restoration), and treated by 12 paediatric dentists. The primary outcome was treatment failure; caries progression, pulpitis, abscess, pain or treatment replacements. Kaplan-Meier survival analyses with Mantel-Cox statistics, absolute risk reduction (ARR) and numbers-needed-to-treat (NNT) were calculated.

RESULTS

148 children (88%) had a minimum follow-up of 11 months. Patients' dropouts were recorded as censored. Twenty-nine patients (19.6%) experienced at least one failure: NRCT 12 (8.11%), CR 16 (10.81%), HT 1 (< 1%) ($p = 0.002$, $CI = 0.001$ to 0.004). Six teeth were extracted: NRCT 3 (2%), CR 3 (2%), HT 0. The cumulative survival rate was 75% for NRCT, 97.7% HT, and 71.4% CR ($p = 0.030$). Failure rates for CR-HT gave an ARR value of 0.26 (95% $CI = 0.14$ to 0.39) and NNT of 4, for CR-NRCT: ARR value was 0.04 (95% $CI = -0.13$ to 0.21) and NNT was 28.

CONCLUSIONS

HT exhibited superior survival rates than NRCT and CR with benefit of no treatment failures, while NRCT and CR failure rates were comparable. This study was funded by Greifswald University/Germany, Paediatric Dentistry Department (Trial registration no. NCT01797458).

05.5 Genetic polymorphisms in enamel formation and involved in immune response associated with Early Childhood Caries

Z. Abbasoglu*, I. Tanboga, E. Kuchler, A. R. Vieira

Paediatric Dentistry Dept., Faculty of Dentistry, Yeditepe University



AIM

Early childhood caries (ECC) is the result of unequal contributions of risk factors and protective factors that influence the disease. Therefore, the aim of this study was to assess genetic and environmental factors that may contribute to ECC.

METHODS

259 unrelated children were evaluated using a cross-sectional design. Data on oral habits were obtained through a questionnaire and caries experience data were collected by clinical examination. 23 markers in ten genes were studied. Genotyping of the selected polymorphisms was carried out by real-time PCR. Regression analyses were performed comparing individuals with and without caries experience and the interaction with environmental factors.

RESULTS

Of 259 subjects, 123 were caries-free. The genotype TT in ALOX15 (rs7217186) was a risk factor for ECC whereas the genotypes GG in ENAM (rs1264848), AG and GG in KLK4 (rs198968), CT in LTF (rs4547741), and GG in TUFT1 (rs3790506) were protective for ECC.

CONCLUSIONS

Environmental factors and gene-interactions can act as protective or risk factors for early childhood caries. These factors together contribute to the presence and severity of the disease.

05.6 Fluoride content of infant milks available in Leeds, UK

R. M. Bussell*, J. Toumba

Paediatric Dentistry Dept, Leeds Dental Institute, UK

AIM

The purpose of this study was to provide a comprehensive report of the fluoride content in infant milks (formula and cow's milk) available within Leeds, UK.

METHODS

A total of 60 formula milk products available 'over-the-counter' or within a hospital environment were analysed, in addition to 8 pasteurised cow's milk samples. Formula milk products requiring preparation were reconstituted with fresh Leeds tap water (0.02 ppmF). Fluoride was measured for all products directly using an ion selective electrode after addition of low-level total ionic strength adjustment buffer.

RESULTS

The overall mean fluoride content for the 68 infant milks was 0.03 ppmF, with a wide range of 0.002 ppmF to 0.28 ppmF. Analysis revealed differences between measured and labelled fluoride content, in addition to a wide inter-manufacturer variation. Furthermore, although products contained low fluoride content, the mean fluoride content for formula milks used within the hospital setting (0.03 ppmF) were statistically higher in comparison to "over-the-counter" (0.02 ppmF) and cow's milk (0.02 ppmF) products. The daily fluoride contribution from infant milks was low; 0.004 mgF/kg/body weight daily intake was estimated between birth and 6 months of age, continually decreasing as intake of infant milk decreases with age.

CONCLUSIONS

Fluoride content of infant milks in Leeds is low, providing minimal contribution towards fluoride intake for optimum dental health. Furthermore, the fluoride intake of the analysed infant milks is unlikely to pose a threat for the development of dental fluorosis.

05.7 Translating caries preventive guidelines into practice in hospital and outreach undergraduate clinics

F. Hogg*, H. Goodwin, L. Ovenstone, C. Campbell

Paediatric Dentistry, Glasgow Dental Hospital, UK

AIM

To evaluate the impact of a continuous quality improvement project (QIP) to improve implementation of guidelines relating to caries risk assessment (CRA) and fluoride varnish (FVA) application.

METHODS

Setting: Glasgow Dental Hospital and School, UK (GDH & S) and outreach undergraduate paediatric clinics from 2013–2014. In GDH & S weekly run charts were plotted and used for a year (Feb 2013 to present) to continuously monitor documentation of CRA and FVA rates. Results were shared with supervising clinicians and students. Strategies were gradually developed during regular Plan-Do-Study-Act meetings to improve implementation rates. The project was expanded from Sept. 2013 to involve outreach undergraduate clinics.

RESULTS

Over the course of the project, in GDH & S the median rate of CRA completion improved from 38% in the first term to 72% in the second academic term. Fluoride varnish application rates also increased from 38% to 72% in the same time frame. In outreach clinics the following increases in FV median were recorded over this observation period: 50% to 67%. CRA median remained at 100% throughout.

CONCLUSIONS

Increased implementation of CRA and FVA was achieved through the QIP. This used continuous feedback, barrier identification and motivation to supervising staff and students. Changes were introduced via PDSA cycles including education, procurement of fluoride varnish dispensing pads, involvement of nursing staff and development of a student competency assessment on FVA. The project has enhanced patient care and has provided a focus on caries prevention and QIP's for students qualifying from GDH & S.

05.8 Dental anomalies in cleft patients: Review of the literature and differential diagnostic model testing

B. L. Kreps*¹, P. J. De Coster, L. A. Marks²

¹Centre of Congenital Facial Anomalies, Ghent University Hospital, Belgium

²Centre for Special Care, Dental School, Ghent University Hospital, PAECOMEDIS, Belgium

AIM

Cleft lip and/or palate is one of the most common congenital disorders. Aetiological factors of cleft formation — genetics and exogenous factors interfering at different times during gestation — may also be involved in abnormal development of the dentition. The objective of this paper is to review dental anomalies encountered in cleft patients and to test an aetiology-based diagnostic protocol for dental agenesis in a population of cleft patients.

METHODS

A structured literature search on dental anomalies presenting in oral clefting and non-clefting patients was performed, and an aetiology-based protocol for differential diagnosis of dental agenesis was developed, including weighted assessment of specific additional symptoms in clefting. This diagnostic approach will be illustrated in a non-syndromic cleft patient population of the Centre of Congenital Facial Anomalies of the Ghent University Hospital (Belgium).

RESULTS

Different aetiological entities and associated dental anomalies, such as abnormal tooth number, shape or size, have been delineated in clefting and non-clefting populations. On the basis of these findings, a novel protocol for differential diagnostics of dental agenesis is proposed and tested in a cleft population. It shows that specific additional dental anomalies, including agenesis patterns, may be associated with specific cleft types.

CONCLUSIONS

The clinical variety of cleft types and associated dental anomalies reflect the genetic heterogeneity of the condition. Further research will possibly elucidate the interrelation between the cleft type and additional oral features, such as hypodontia and tooth shape anomalies.

SESSION 06 – PREVENTION / CARIOLOGY

Date: Saturday 7th June, Time: 16:00-18:00, Hall: COLUMBUS A

Chair: Sortiria Gizani, Greece; Figen Seymen, Turkey

06.1 Effect of probiotic bacterium *Lactobacillus reuteri* on oral health in orthodontic patients

S. Gizani*¹, **G. Petsi**¹, **S. Twetman**², **C. Caroni**³, **L. Papagiannoulis**¹

¹Paediatric Dentistry Dept., Dental School, University of Athens, Greece

²University of Copenhagen, Denmark

³National Technical University of Athens, Greece

AIM

To evaluate the effect of daily intake of probiotic bacteria on salivary lactobacilli (LB) and mutans streptococci (MS) counts, as well as white spot lesion formation (WSL) in adolescents undergoing orthodontic treatment with fixed appliances.

METHODS

A randomised double-blind placebo-controlled study design with two parallel arms was employed. Patients (n = 85, mean age 14.3 yr.) with maxillary braces on at least 8 teeth and a remaining treatment period of 7–18 months were enrolled and randomly allocated to a test or placebo group. Subjects in the test group were instructed to dissolve one probiotic tablet containing *Lactobacillus reuteri* (Biogaia AB, Sweden) in their mouth once daily. An identical tablet without active bacteria was used in the placebo group. Dental plaque, gingival inflammation, WSL and salivary MS and LB levels were recorded at baseline and immediately after debonding.

RESULTS

The groups were balanced at baseline. At debonding, the levels of salivary LB were significantly reduced in both groups ($p < 0.05$), while alterations of the MS counts were unveiled. There were no differences in plaque index, gingival inflammation or incidence of WSL between the groups at debonding.

CONCLUSIONS

Daily consumption of probiotic lozenges by orthodontic patients did not seem to affect oral health during treatment with fixed appliances. The study was supported by Biogaia AB and partially funded by Ivoclar-Vivadent.

06.2 In-vivo evaluation of methods of approximal caries detection in primary molars

S. Subka*, **H. Rodd**, **Z. Nugent**, **C. Deery**

Unit of Oral Health & Development, School of Dentistry, University of Sheffield, UK

AIM

Diagnosis of approximal caries in primary molars is difficult. This in-vivo study aimed to assess the validity and reproducibility of three methods of approximal caries detection in primary teeth: visual inspection (ICDAS), radiographs, and temporary tooth separation (TTS).

METHODS

30 children aged 5–11 years were recruited. Proximal surfaces (69) were evaluated using: meticulous visual examination (ICDAS) before and after TTS, and radiographic examination. The teeth were subsequently extracted and serially sectioned for histological validation. Kappa was used to assess inter- and intra-examiner reproducibility (10%).

RESULTS

At D1 (enamel and dentine caries) diagnostic threshold, the sensitivity of radiographic examination, ICDAS visual examination and TTS was 69%, 51%, 78%, respectively. The specificity for all examinations at this threshold was 100%. At D3 (dentine caries) diagnostic threshold, the sensitivity of the radiographic examination, ICDAS examination, TTS was 72%, 19%, 35% respectively, while the specificity was 100% for both ICDAS examination and TTS, and 92% for radiographic examination. Intra-examiner reproducibility was excellent for both ICDAS examination ($K = 0.79$ at D1, $K = 0.96$ at D3), and radiographic examination ($K = 1$ at D1, $K = 0.9$ at D3). Inter-examiner reproducibility for ICDAS and radiographic examinations demonstrated substantial agreement at $K = 0.79$, $K = 0.75$ respectively.

CONCLUSIONS

For the detection of approximal caries in primary teeth, whether the lesion is in enamel or dentine, meticulous visual examination should be supported by radiographs. TTS does assist the diagnosis of lesions in enamel but does not add to the diagnostic validity of dentine caries diagnosis.

O6.3 Caries Risk Factors in a Cohort of pre-school refugee children

R. P. Anthonappa*, P. Nicol, N. M. King, L. Slack-Smith, S. Cherian

Paediatric Dentistry, University of Western Australia, Perth, Australia

AIM

This study aimed to assess the associated risk factors for early childhood caries (ECC) in a cohort of pre-school refugee children.

METHODS

This was a cohort study using a quasi-experimental design and a convenience sample. Ethics approval was granted and those pre-school children referred to the state's paediatric tertiary hospital Refugee Health Clinic were examined over a period of eight months by a paediatric dentist. Medical charts of all study participants were reviewed to collect demographic and other data for correlation with dental disease. Data included the patient's medical record number, date of birth, gender, country of origin, language(s), visa status, country and duration of transit, postcode, government assistance, dietetic history, anthropometric measures, relevant co-morbidities, and relevant biochemical data (presence of anaemia, Fe, ferritin, calcium, vitamin D deficiency, vitamin D levels). Spearman's rho (rho) and Poisson regression were used to test associations.

RESULTS

Of the 105 children (54% male, median age 3.2 years, 41.5% Burmese), 62% had caries with a mean dmft of 5.2. Almost all pre-schoolers ($n = 91/104$; 87.5%) were Vitamin D insufficient ($< 70 \text{ nmol/l}$) and 29.5% (31/105) were anaemic for age/gender. Similarly, almost all ($n = 80/105$, 76%) had one or more significant co-morbidities. Caries experience was significantly correlated with age, BMI-for-age-Z scores, serum calcium and consumption of soft drinks. After adjustment for age, gender and total number of teeth, only BMI-for-age-score-Z score and soft drink consumption remained associated with caries experience.

CONCLUSIONS

The majority of children in this study exhibited ECC and poor general health. Vitamin D insufficiency, anemia, BMI-for-age-score-Z score and soft drink consumption remained associated with caries experience.

O6.4 Caries prevalence at 20 years of age: influence of parental factors during infancy

H. Isaksson*^{1,4}, A. Alm^{1,2}, G. Koch³, D. Birkhed⁴, L. K. Wendt⁵

¹Dept. of Paediatric Dentistry, The Institute for Postgraduate Dental Education, Jonkoping

²Dept. of Paediatric Dentistry, Karnsjukhuset, Skovde

³Dept. of Preventive and Community Dentistry, Public Dental Health Service Vstra Gotaland Region, Sweden

⁴Dept. of Cariology, Institute of Odontology, Sahlgrenska Academy, University of Gothenburg, Sweden

⁵Centre of Oral Health, School of Health Sciences, Jonkoping University, Sweden

AIM

Most health-related factors are established early in life. Parents are the major influence. The aim was to investigate whether parental factors, recorded in early childhood, have an influence on approximal caries prevalence in young adulthood.

METHODS

The subjects comprised a cohort in which 494 individuals were followed longitudinally from 1 to 20 years of age. Selected data were retrieved for analysis from clinical and radiographic examinations and interviews and questionnaires at 1 and 3 years of age. At age 20, the subjects underwent clinical and radiographic examination and completed a questionnaire. Behavioural and parental factors were analysed in relation to approximal caries prevalence (DimFSa) at 20 years of age.

RESULTS

Tooth-brushing habits ($p < 0.01$) and consumption of juice ($p < 0.05$) at 3 years of age and the mother's estimation of her oral health care ($p < 0.01$) and maternal dental anxiety ($p < 0.01$) at 1 year of age had an impact on approximal caries prevalence (DimFSa). Children who failed to attend an examination at 1 year of age had a mean value of DimFSa 4.5 (SE 0.9) compared with 1.9 (SE 0.14) for children examined at 1 and 20 years of age.

CONCLUSIONS

Parental factors in early childhood influence caries prevalence at 20 years of age. Early primary prevention with intervention on parental factors has the potential for improvement of the child's oral health with long lasting effect.

O6.5 The ability of pit and fissure sealant containing amorphous calcium phosphate to inhibit enamel demineralization

F. I. Zawaideh*, A. I. Owais, W. Kawaja

Jordan University of Science and Technology, Irbid, Jordan

AIM

To evaluate the effect of incorporating Amorphous Calcium Phosphate (ACP) into pit and fissure sealant in inhibition of enamel demineralization in vitro and to assess the dynamics of its ion release under neutral and acidic conditions.

METHODS

Enamel specimens (n = 75) were prepared using freshly extracted non-carious human third molars. Box-shaped cavities (8 x 2 x 2 mm) on the buccal or lingual surfaces were prepared and restored with either resin-based sealant (Concise), ACP-containing sealant (Aegis®), or fluoride containing sealant (Conseal-F). The samples were acid challenged in a demineralizing solution of 50 mmol/L lactic acid at pH 5.0 for 4 days. The change in enamel Microhardness (SμHA) was calculated. Data were analyzed using one-way ANOVA and (P < 0.05). Calcium and phosphorous ions released from Aegis® were measured after immersion in solutions with pH of 7, 5.5, and 4 for 28 days using Atomic Absorption Spectrometer.

RESULTS

The mean SmicroH (±SD) (in Vicker's unit) prior acid challenge was: Concise (318.83 ± 33.86) Aegis® (331.03 ± 21.52) Conseal-F (310.12 ± 34.31). Following the acid challenge, the values dropped in all groups and % SμHA (±SD) values were: 84.18 ± 9.77, 45.67 ± 6.57 and 56.35 ± 6.31. Calcium and Phosphorus concentrations at 28 days were (14.40, 2.21 and 3.10 mg/g) and (1.23, 0.05 and 0.19 mg/g) at pH 4.0, 5.5, and 7.0. Significantly more Calcium and Phosphorous ions were released in pH 4.0.

CONCLUSIONS

The ACP-containing pit and fissure sealant does inhibit enamel demineralization through the release of calcium and phosphate ions especially in acidic environments.

O6.6 Effect of oral health program during pregnancy on oral health of two years old children

Rendeniece*, R. Care, A. Brinkmane, K. Krasone

Paediatric Department, Riga Stradins university Institute of stomatology, Latvia

AIM

To evaluate oral health of two-year old children whose mothers were involved in oral health care program during pregnancy.

METHODS

85 mothers, who attended private dentistry in Riga, agreed to participate in the study. The study continued until their children reached two years of age, giving 72 mother-child pairs who underwent the special prevention programme. The control group consisted of 95 mother-child (2 years old) pairs who were not involved in an oral health care programme. Participants of the study underwent evaluation of oral status and saliva tests. Mothers filled out questionnaires about dietary and tooth-brushing habits of their children. Data were entered into Microsoft Excel program and processed. The threshold of statistical significance was selected as p < 0.05.

RESULTS

81.9% (n = 59) of children in the research group and only 47.36% (n = 45) of children in the control group were caries-free. Assessment of the amount of microorganisms led to finding elevated *Streptococcus mutans* (SM) in 9.7% (n = 7, p < 0.001) of the children study group and in 33.7% (n = 32, p < 0.001) of the control group. In addition, elevated SM finding in mothers was accordingly in 25% (n = 18, p < 0.001) of the study group and in 42.1% (n = 40, p < 0.001) of the control group.

CONCLUSIONS

Oral health care programmes, if started during pregnancy and focused on the child's oral health, help to reduce development of dental caries in children.

O6.7 The presence of cariogenic pathogens in the oral cavity of 1 yr-old infants with very low birth weight

R. Koberova Ivancakova*¹, V. Merglova², Z. Broukal³, J. Dort⁴

¹*Dept. of Paediatric Dentistry, Faculty of Medicine Charles Univ. and Univ. Hospital, Hradec Kralove, Czech Republic*

²*Dept. of Paediatric Dentistry, Faculty of Medicine Charles Univ. and Univ. Hospital, Pilsen, Czech Republic*

³*Inst. of Clinical and Experimental Dentistry, Prague, Hradec Kralove*

⁴*Dept. of Paediatrics, University Hospital, Pilsen, Czech Republic*

AIM

This was to identify the main cariogenic pathogens in the oral cavity of 1 yr-old infants delivered prematurely with very low birth weight (VLBW) and to compare these findings with the same aged full-term delivered children.

METHODS

Sixty nine 1 yr-old infants were included in the study; 24 infants were born prematurely with VLBW and 45 were carried full-term. Children were examined clinically, and unstimulated saliva samples from the dorsum of the tongue and dental plaque samples were collected with a sterile cotton swab. The cariogenic bacteria were identified using the PCR-based method. Chi-square and Fisher's factorial tests were used for the statistical analysis ($p < 0.05$). Approval from the ethical committee and informed consent from parents, were obtained prior the study.

RESULTS

One or more cariogenic microbes were detected in 91.7% of both groups of infants. The most commonly identified microbes were Lactobacillus species 98.7% (no statistical difference between VLBW and full-term infants), Actinomyces species 83% (no statistical difference between groups) and Streptococcus mutans 66.7%. Forty five (100%) of full-term infants were positive for SM compare to 1 (4.2%) positive VLBW infant (statistical difference between groups).

CONCLUSIONS

This pilot study confirmed the early transmission of cariogenic pathogens to the oral cavity of 1 yr-old infants. The presence of cariogenic microbes in the oral cavity represents a risk factor for the development of dental caries in infants. Supported by the grant IGA MZCR, NT-14336-3.

SESSION 07 – EPIDEMIOLOGY / OTHER

Date: Saturday 7th June, **Time:** 16:00–18:00, **Hall:** COLUMBUS C

Chair: Jan Kuhnisch, Germany; Anne Tveit, Norway

07.1 Does early vitamin D and fluoride supplementation have any preventive effects?

J. Kuhnisch*¹, E. Thiering^{2,4}, R. Heinrich-Weltzien³, R. Hickel¹, J. Heinrich²

¹Dept. of Conservative Dentistry and Periodontology, Ludwig-Maximilians-University of Munich, Germany

²Institute of Epidemiology I, Helmholtz Zentrum Munich, German Research Centre for Environmental Health, Neuherberg, Germany

³Dept of Preventive and Paediatric Dentistry, Friedrich-Schiller-University of Jena, Germany

⁴Dr von Hauner Children's Hospital, Ludwig-Maximilians University Munich, Germany

AIM

Early fluoride supplementation seems to be an effective caries preventive measure. Furthermore, it's well-known that ameloblasts and odontoblasts are target cells for vitamin D which plays a key role in hard tissue formation. The association between vitamin D/fluoride supplementation in the first year of life was studied related to caries and molar incisor hypomineralisation (MIH) considering dental, medical, behavioural and socio-economic data from 406 children of the 10-year follow-up from the Munich LISA-plus birth cohort.

METHODS

The dental examination included the registration of (non)cavitated caries lesions in primary and permanent teeth (UniVISS criteria, dmf/DMF index). Further the diagnosis of MIH (EAPD criteria) was considered. Logistic regression was adjusted for gender, age, BMI, parental education and equivalent income. The study protocol was approved by the ethics committee at the Bavarian General Medical Council.

RESULTS

The mean caries experience amounted to 1.8 (standard deviation 3.3) d3 4mfs and 0.3 (1.0) D3-4MFS. Compared to children receiving supplementation during the whole first year of life, children with supplementation in less than 6 month had a significantly higher probability of having caries-related restorations in primary teeth (Fluoride supplementation: OR for d3-4mfs 2.47 (1.32–4.63) and for fs 2.70 (1.43–5.10); Vitamin D supplementation: OR for d3-4mfs 2.08 (1.00–4.32) and for fs 2.50 (1.19–5.25)).

CONCLUSIONS

Early fluoride/vitamin D supplementation might prevent caries and might reduce the number of caries related restorations in the primary dentition. No long-term caries preventive effect for permanent teeth and MIH appearance was found.

07.2 Dentists' self-reported stress during dental treatment of children

A. Ronneberg*, K. Strom, A. B. Skaare, T. Willumsen, I. Espelid

Dept of Paediatric Dentistry and Behavioural Science, Institute of Clinical Dentistry, University of Oslo, Norway

AIM

The objective of this study was to identify factors related to dentists' self-reported stress during dental treatment of children.

METHODS

A precoded questionnaire (QuestBack) was sent electronically to all dentists working in the Public Dental Health Service (PDHS) in eight counties in Norway. Data was analyzed by cross tabulation, chi-square statistics and bivariate logistic regression with $p < 0.05$ as level of statistical significance.

RESULTS

A total of 611 dentists received the questionnaire and 391 (65%) returned the completed form. There were no statistical differences between the study sample and all PDHS dentists in Norway with respect to age ($p = 0.31$) and sex distribution ($p = 0.43$). Self-reported stress and years in practice (< 10 yr) had statistical significant association with the dentists' self-reported difficulties in doing restorative treatment. The dentists' self-perception of own ability to perform restorative treatment differed markedly according to patients' age. The percentage of dentists who found it frequently or always difficult to perform restorative treatment differed between the age groups 3–5 yr and 6–9 yr (51% vs. 14%, $p < 0.01$). Dentist's sex, allocated time with children aged 3–18 yr and number of years in practice had significant impact on the use of conscious sedation.

CONCLUSIONS

Dental treatment of children and adolescents are challenging, not only for the child but for the caregivers as well. Dentists' stress is an important variable, which should receive increased attention when high quality dentistry for children is on the agenda.

07.3 Dental anxiety in relation to behavioral problems in children undergoing dental treatment

M. Majstorovic^{1,2}, L. L. Lim², D. Do³, N. G. Herman², A. M. Moursi^{*3}

¹Pediatric Dentistry Dept, School of Dental Medicine of the University of Zagreb, Croatia,

²Dept of Pediatric Dentistry, New York University College of Dentistry, New York, USA

³NOVA Southeastern University in Fort Lauderdale, Florida, USA

AIM

This was to evaluate the relationship between behavioural and emotional characteristics and anxiety in children prior to dental treatment.

METHODS

Children and their parents were interviewed at the New York University, Dept. of Paediatric Dentistry. The Children's Fear Survey Schedule – Dental Subscale (CFSS-DS) evaluated the child's self-reported anxiety, with severe anxiety defined as a score of 38+. The Modified Dental Anxiety Scale (MDAS) was used to measure maternal anxiety regarding their own dental care and the Strengths and Difficulties Questionnaire (SDQ) measured child's behavioural and emotional characteristics. All questionnaires were applied prior to the child receiving dental treatment.

RESULTS

91 children and their parents completed all questionnaires. Controlling simultaneously for age, gender and maternal anxiety, an SDQ score of 11+ was positively associated with severe dental anxiety when compared with children with an SDQ score of < 6. No increase in dental anxiety was observed for children with an SDQ score of 6.25–10. In addition, both female gender and MDAS were significantly associated with higher child dental anxiety.

CONCLUSIONS

Children who reported a higher level of behavioural and emotional challenges had an elevated likelihood of higher dental anxiety. Also, female gender and maternal anxiety were predictors of child dental anxiety.

07.4 Relationship between child and parent dental anxiety with the child's psychological functioning and behaviour during treatment

V. Boka^{*1,2}, K. Arapostathis¹, N. Kotsanos¹, V. Karagiannis¹, J. Veerkaamp²

¹Dept. of Paediatric Dentistry, Aristotle University of Thessaloniki, Greece,

²Dept. of Cariology, Endodontology and Pedodontology, ACTA Amsterdam, Netherlands

AIM

To find: 1) the relationship between child's psychological functioning, dental anxiety and behaviour before and during local anaesthesia, 2) the association of parental dental anxiety with the child's measurements.

METHODS

100 randomly selected children (40 boys, 60 girls), 4–12 years old were included. Their dental anxiety and psychological functioning were measured using the "Children's Fear Survey Schedule" (CFSS-DS) and the "Strengths and Difficulties Questionnaire" (SDQ) respectively. Parental dental anxiety was measured using "Modified Dental Anxiety Scale" (MDAS). All the questionnaires were completed by the parents. Each child's behaviour before and during local analgesia was scored by an independent examiner using the Venham-scale. Non-parametric tests and correlations (Mann-Whitney, Spearman's rho) were used for the analysis.

RESULTS

The mean SDQ score was 17.32 ± 4.68 . There was a statistically significant difference between boys and between age and gender. Children with higher levels in the pro-social scale of the SDQ had statistically significantly less anxiety and better behaviour before local anaesthesia. Higher CFSS-DS mean scores were statistically significantly associated with uncooperative behaviour during local analgesia ($p = 0.04$). Parent and child dental anxiety were not correlated. 61% of the children were re-assessed after six months, and their behaviour during local analgesia improved compared to the previous treatment.

CONCLUSIONS

Correlations were found between child's psychological functioning, dental anxiety and behaviour during various stages of dental appointment.

07.5 Dental health in Swedish children treated under general anesthesia because of caries or MIH

K. Ridell*, M. Borgstrom, S. Brogardh-Roth, E. Lager, G. Magnusson

Dep Ped Dent, Faculty of Odontology, Malmo University, Sweden

AIM

To study the dental health of children treated under general anesthesia (GA) because of caries or Molar-incisor hypomineralisation (MIH) and to describe which treatment was performed.

METHODS

A consecutive sample of children (3–14 yr) from the southern part of Sweden and in need of treatment under GA because of caries or MIH participated. The children ($n = 132$) were divided into two groups: 3–6 yr and 7–14 yr. Background information on the patient's age, sex, ethnicity and presence of chronic illness was retrieved from dental records. Caries data (dt/DT, dmft/DMFT), episodes of pain and number of restorations/extractions performed during the GA were collected. Descriptive statistics were performed.

RESULTS

Mean age in the younger age group was 4.9 and in the older age group 9.4. Mean dmft was 9.8 (SD 3.1) in the younger age group and in the older age group mean DMFT was 3.5 (SD 2.8). The performed treatment consisted of multiple fillings and extractions (3–6 yr: fillings: mean 5.0 (SD 2.8), extractions: mean 4.3 (SD 2.8), 7–14 yr: fillings (permanent teeth): mean 2.2 (SD 2.3), extractions (permanent teeth): mean 1.1 (SD 1.4). Sixty-four percent of all children had experiences of pain.

CONCLUSIONS

Children in need of dental treatment under GA because of caries or MIH constitute a young age group, with a high proportion of non-Nordic ethnic background. They have higher dmft/DMFT than regional and national caries data for the corresponding ages. They also report frequent episodes of pain.

07.6 Intranasal dexmedetomidine versus midazolam for premedication in children undergoing complete dental rehabilitation

M. AlSarheed*¹, M. AlMalik²

¹King Saud University/College of Dentistry, Saudi Arabia

²King Fahad Hospital/Military Hospital, Saudi Arabia

AIM

A prospective, randomized, double-blind study was designed to evaluate the use of intranasally administered dexmedetomidine versus intranasal midazolam as a premedication in children undergoing complete dental rehabilitation

METHODS

72 children of ASA physical status (I & II), aged 3–6 years, were randomly assigned to one of two equal groups. Group M received intranasal midazolam (0.2 mg/kg), and group D received intranasal dexmedetomidine (1 mg/kg). The patients' sedation status, mask acceptance and haemodynamic parameters were recorded by an observer until anaesthesia induction. Recovery conditions, postoperative pain and postoperative agitation were also recorded.

RESULTS

The median onset of sedation was significantly shorter in group M 15 (10–25) min than in group D 25 (20–40) min ($P = 0.001$). Compared with the children in group M, those in group D were significantly more sedated when they were separated from their parents (77.8 vs. 44.4%, respectively) ($p = 0.002$). Satisfactory compliance with mask application was 58.3% in group M vs. 58.3% 80.6% in group D ($P = 0.035$). The incidences of postoperative agitation and shivering were significantly lower in Group D compared with group M. Thirteen children (36.1%) in group M, showed signs of nasal irritation with teary eyes, none of these signs were seen in the children in group D ($p = 0.000$).

CONCLUSIONS

Intranasal dexmedetomidine is an effective and safe alternative for premedication in children; it resulted in superior sedation in comparison to intranasal midazolam. However, it has a relatively prolonged onset of action.

07.7 Dental anxiety related to reasons for a child's first dental visit and parental explanations



L. Kronina*¹, R. Care¹, M. Rascevska²

¹*Institute of Stomatology, Riga Stradins University, Latvia*

²*Faculty of Education, Psychology and Arts, University of Latvia, Latvia*

AIM

This was to explore reasons for child's first dental visit and parents' explanations before it, and to evaluate their relationship to dental anxiety.

METHODS

Parents of 281 children (135 boys, 146 girls, mean age $m = 7.96$, $SD = 2.61$) evaluated their children's dental anxiety (CFSS-DS parental version). Parents were asked about the reason of the first dental visit and explanations they give before the dental appointment (multiple-choice survey was used). ANCOVA was performed to compare dental anxiety to each reason for dental appointment and parents' explanation (age was covariate factor).

RESULTS

Check-up was the main reason for the first dental appointment (54.8%), 23.8% parents noticed changes in teeth, 10.3% of children had toothache, 7.3% were referred by another specialist, 6.8% had another reason. Dental anxiety was lower for children who came for check-up than all others ($M = 30.10$ ($SD = 10.26$) and $M = 32.61$ ($SD = 10.98$), respectively; $F(1,277) = 5.19$; $p = 0.02$), but it was significantly higher for children referred to dentist by another doctor ($M = 35.16$ ($SD = 12.84$) and $M = 30.93$ ($SD = 10.43$), respectively, $F(1,277) = 4.01$; $p = 0.046$). Dental anxiety was significantly lower for children with "no particular preparation", ($M = 33.92$ ($SD = 11.23$) and $M = 27.48$ ($SD = 7.78$); $F(1,212) = 10.42$; $p = 0.001$), but statistically higher using other explanations ("reading children's books about dentists", "telling it won't hurt", "telling about my own dental experience", "taking with me to my dentist", "promising a gift").

CONCLUSIONS

The main reason for the first dental visit was for a check-up. Those children and children whose parents were not particularly preparing them for the dental appointment showed lower dental anxiety than any other proposed preparation sentence. Probably, anxious children demand more explanations or the proposed variants are inappropriate.

07.8 Association between weight and caries in children? A review and a study of Norwegian 5-year-olds

R. Das*, T. I. Wigen, N. J. Wang

University of Oslo, Institute of Clinical Dentistry, Department of Paediatric Dentistry and Behavioural Science, Norway

AIM

The purpose of the study was 1) to review international literature on the relationship between weight and dental caries, and 2) to study the association between weight and dental caries in Norwegian 5-year-olds.

METHODS

A search in PubMed with the keywords obesity, overweight and dental caries was performed. Studies written in English published between 1980 and 2013, on humans aged 0 to 18 years were targeted, 77 papers were identified and 32 papers included in the review. In the Norwegian study, caries data was recorded by clinical and radiographic examination of 523 5-year-olds. Parents completed questionnaires with information on family characteristics, oral health behaviour and weight. Results were described by percentages and analysed with bi- and multivariable logistic regression.

RESULTS

Of the papers approximately 50%, 17 studies showed no association between dental caries and weight, 15 studies reported association between dental caries and overweight, while 2 studies showed an association between caries and underweight. This distribution was similar regardless of the age of the children and which part of the world the study was performed. In the Norwegian study no statistically significant association between weight and dental caries was found, neither in bi- nor in multivariable analysis.

CONCLUSIONS

The review showed inconsistent results regarding the association between dental caries and weight. Further studies are required to investigate the association between dental caries and weight both in Norway and internationally.

07.9 Oral health indicators in assesment of oral health in school children in Moscow

L. Kiselnikova¹, E. Boyarkina*¹, P. Leus²

¹Moscow State University of Medicine and Dentistry named after A.I. Evdokimov, Russia

²Belarus State Medicine University, Belarus

AIM

To study sensitivity and specificity of International oral health indicators for monitoring the effectiveness and quality of prevention and treatment assistance for children in Moscow.

METHODS

In 2013 200 children at the age of 12 and 15 were examined applying oral health indicators in the central area of Moscow. Criteria and questionnaire corresponded to the 15 most essential oral health indicators (EGOHID (2005), WHO (2008)).

RESULTS

The indicator “No obvious decay experience” (“B-12”) was 5% at the age of 12 and 0% at 15. Dental caries severity (indicator “B-13”) equaled 4.71 ± 0.28 and 6.52 ± 0.27 respectively. According to data of indicator “B-9” the part of “D” in DMF index was 81% in 12-year-olds, 74% at 15 years. Daily brushing with fluoride toothpaste (A-1) as a subjective measure of oral hygiene revealed that only 56% and 61% the polled 12- and 15-year-old teenagers carried out the recommended tooth brushing. Data of periodontal health assessment (B-10) equaled 41% and 37% respectively. 5% of children felt psychological disability due to appearance of teeth (D-4). From 51% to 99% children had a dental appointment within 12 months (B5) in 15. Children at 12 and 15 felt physical pain due to oral disease (D-2) in 30% and 26% of cases.

CONCLUSIONS

This is the first study applying oral health indicators for children in Russia. These indicators are comparable internationally and may promote quicker attainment of optimal dental healthcare standards for Russian children.

07.10 The Oral Health of Cambodian Preschool-Aged Children

K. Bach*, D. J. Manton

Paediatric Dentistry, Melbourne Dental School, Australia

AIM

To determine the prevalence and severity of Early Childhood Caries (ECC) in a population of preschoolers in Siem Reap Province, Cambodia.

METHODS

Standardised oral examinations were conducted in a convenience sample of 356 children aged 6 months to 6 years-of-age. These children attended preschools run by a Non-Governmental Organisation (Caring for Cambodia). The Caries Assessment Spectrum and Treatment index was used to record the prevalence and severity of caries in these children. Prevalence of caries was determined both with inclusion of enamel caries, and with the WHO criteria that does not include enamel lesions.

RESULTS

Of the 356 children included in the study, 179(50%) were male. The prevalence of ECC (including enamel lesions) was 32% at 1 year-of-age, 69% at 2 years, 93% at 3 years increasing to 100% at 5 and 6 years-of-age. The prevalence of ECC (using traditional WHO criteria) was 13% at 1 year-of-age, 47% at 2 years, 90% at 3 years increasing to 100% at 5 and 6 years-of-age. The majority of the dental caries were untreated, only 5 children had restorations placed and 21 children had teeth extracted due to caries.

CONCLUSIONS

The prevalence of ECC is very high in this group of Cambodian preschool-aged children. Early lesions are more prevalent in children below three years of age. Preventive intervention and education in this population needs to be aimed at infants and toddlers and their caregivers to prevent and reverse the disease process before cavitation occurs and surgical intervention is required.

07.11 Caries experience in 1-year-old children living in multicultural low socio-economic areas of Stockholm

M. I. K. Anderson^{* 1, 2}, G. Dahllof², M. Grindefford^{1, 2}

¹Dept. of Dental Medicine, Karolinska Institutet, Stockholm Sweden

²Dept. of Pediatric Dentistry, Eastman Institute, Public Dental Service, Stockholm, Sweden

AIM

To study the prevalence of dental caries in 1-year-old children participating in a longitudinal preventive study in relation to known caries risk factors.

METHODS

A cohort of 1-year-old children living in multicultural areas with low socioeconomic status in Stockholm was invited to participate in a cluster-randomized, two-arm, parallel trial with a longitudinal design. The children attended 23 participating public dental service clinics and dental caries was recorded by 48 different examiners using ICDAS II criteria for diagnosis. Questionnaires to parents assessed oral hygiene habits, socio-economic conditions and main language spoken in the family.

RESULTS

3,420 children born 2010 were recruited. Caries prevalence was calculated in 1,258 children who had all primary incisors erupted. Ninety-two percent of the children were caries free (ICDAS II = 0), 7% had initial caries (ICDAS II = 1–3) and 1% had manifest caries (ICDAS II = 4–6). Significantly less carious lesions were seen in the children when Swedish was the main language spoken in the family ($p < 0.001$). Caries was significantly more common in children living in households with a monthly salary < 20,000 SEK (12%) in comparison with those living in households with a monthly salary 21–30,000 SEK (7%) and > 30,000 SEK (5%) respectively ($p < 0.01$).

CONCLUSIONS

Dental caries was diagnosed in 8% of the 1-year-old children living in multicultural low socio-economic areas of Stockholm and was more common if the main language in the family was other than Swedish and if income of the household was < 20,000 SEK a month. Supported by grants from the Stockholm County Council.

07.12 Molar Incisor Hypomineralisation and Deciduous Molar Hypomineralisation among Brazilian children

C. M. Viegas^{* 1}, T. C. van Voskuilen¹, J. M. van Agthoven¹, D. P. Raggio², C. C. Bonifacio¹

¹Paedodontology – ACTA, Amsterdam, The Netherlands

²Paediatric Dentistry, University of São Paulo, Brazil

AIM

To assess the prevalence and predisposing factors of Molar Incisor Hypomineralisation (MIH) and Primary Molar Hypomineralisation (PMH) among 7- to 9-year-old Brazilian children.

METHODS

A cross-sectional study was carried out in Barueri, Brazil, with 617 male and female school children. Oral examinations were conducted by two calibrated examiners. The European Academy of Paediatric Dentistry (EAPD) criteria were used for diagnosing MIH and PMH. Dental caries were scored according the WHO criteria. A questionnaire addressing health information, demographic data and socio-economic status was sent to parents. Data analysis involved descriptive statistics and Poisson regression analyses with robust variance at 5% of significance level. The Human Research Ethics Committee of the University of São Paulo, Brazil approve this study.

RESULTS

The prevalence of MIH was 15.7% and of PMH was 8.6% . The most prevalent type of MIH and PMH was a demarcated opacity (73.5% and 42.9%, respectively). In the final multiple model for MIH, the factors dental caries experience [PR = 2.52, 95% CI = 1.50–4.22] and age [PR = 1.32, 95% CI = 1.04–1.68] remained associated. For DMH, in the final multiple model, dental caries experience [PR = 12.85, 95% CI = 3.16–52.27] and pre-term delivery [PR = 2.12, 95% CI = 1.23–3.65] remained associated.

CONCLUSIONS

The prevalence of MIH and PMH was not high, but special attention should be given for these oral conditions as they are associated with dental caries experience. Moreover, older children had a higher prevalence of MIH and pre-term children had a higher prevalence of PMH.

SESSION 08 – DENTAL ANOMALIES / OTHER

Date: Saturday 7th June, **Time:** 16:00–18:00, **Hall:** MARCO POLO

Chair: Richard Balmer, UK; Markku Larmas, Finland

08.1 Diagnoses and disease assessments in dental practice and epidemiology

M. Larmas*

Institute of Dentistry, University of Oulu, Finland

AIM

Because dentists are obliged to record their diagnoses in Finland, the International Classification of Diseases (ICD) of the World Health Organization (WHO) is followed.

METHODS

Officially, WHO classifies dental caries as a disease of the digestive system (code K) as follows: caries limited to enamel (K02.0), caries extending into dentin (K02.1), caries of cementum (K02.3) etc. The gingivitis and periodontal diseases (K05) family contains acute periodontitis (K05.2), chronic periodontitis (K05.3) and periodontosis (K05.4). As “primary diagnosis” the disease needing most effort in the treatment is recorded, all other diseases are recorded as “secondary diagnoses”. Prevalence may be defined as the proportion of a population that has a disease at a specific point in time. Primary diagnoses are followed and the prevalence of the disease is reported. In oral epidemiological surveys, DMF-index values represent caries experience and the Community Periodontal Index (CPI) areas around the tooth.

RESULTS

Although dentists are making diagnoses in the course of their normal dental practice, the criteria of diagnoses are vast and dentists are not scientifically calibrated. Therefore, the statistics of diagnoses does not give any scientific prevalence values. Dental epidemiology based on index values does not give any information of the subject-specific prevalence.

CONCLUSIONS

The WHO tools for dental health determinations are different from those for the diagnosis of oral diseases. Therefore, oral diseases have remained as the only ailments without sufficient scientific knowledge of their real prevalence.

08.2 A case control study to examine recorded birth and labour parameters with the occurrence of Molar Incisor Hypomineralisation

R. Balmer*, J. Toumba, T. Munyombwe, M. Duggal

Paediatric Dentistry, Leeds Dental Institute, UK

AIM

To examine the role of specific birth and labour factors in the occurrence of Molar Incisor Hypomineralisation (MIH).

METHODS

Children with a diagnosis of MIH and born at one of three local hospitals after the year 2000 were recruited. A control group consisted of children without MIH. Consent was obtained to examine birth records of these children. Outcomes for a number of birth and labour parameters were examined. After checking for normality, chi square test, independent t-tests and Mann-Whitney U tests were used to compare the findings for each parameter between the two groups. The most relevant parameters were then entered by forward selection into a multiple logistic regression model.

RESULTS

The study and control groups comprised 90 and 95 children respectively. There was no difference in socio-economic status of the two groups. In the univariate analysis the only difference between the two groups was use of spinal anaesthetic and breast feeding on discharge. In the logistic regression model only breast feeding on discharge was a significant risk factor for the occurrence of MIH (odds ratio = 2.8, 95% Confidence Interval = 1.2 to 6.8). There was no difference between the two groups in terms of birth weight, gestation, birth length, head circumference, apgar scores, labour onset, mode of delivery, delivery anaesthetic, labour duration and maternal age.

CONCLUSIONS

In this study children with MIH were more likely to have been breastfed at time of discharge than children without MIH. No other birth or labour parameters affected the occurrence of MIH.

O8.3 Maxillary incisor root resorption induced by ectopic maxillary canines: Literature review of prevalence rates & longevity outcomes

L. Wong*¹, S. Khan²

¹*Oral and Maxillofacial Dept, John Radcliffe Hospital, Oxford, UK*

²*Dept of Orthodontics, John Radcliffe Hospital, Oxford, UK*

AIM

To carry out a systematic and comprehensive review of the literature to determine the prevalence and long term prognosis of resorbed maxillary incisors as a result of ectopic maxillary canines.

METHODS

The search strategy for this review followed guidelines from the UK National Health Service (NHS) Centre for reviews and Dissemination (2011). A computerized search was performed using the Medline database (Entrez PubMed) and the Cochrane Library electronic data bases. Non electronic journals were also hand searched. The terms used in the search were 'canine, tooth, root, impaction, ectopic, incisors, root resorption, radiographs and Cone beam CT'.

RESULTS

A total of 62 papers were identified within the search as being of relevance to this study. There have been no prospective studies on this subject and the available literature consists mainly of case series and retrospective reports

CONCLUSIONS

Lateral incisors are more commonly affected by resorption induced by ectopic buccal canines than palatal canines and lateral incisors are also more commonly resorbed than central incisors. Consolidation of the available published literature reveals the prevalence of incisal resorption to widely range between 0.3% to 77.8% due to varying methods of 2 dimensional (2D) and 3 dimensional (3D) imaging. Conventional 2D imaging has been deemed to be less diagnostically accurate in detecting the extent of resorption in comparison to 3D imaging, particularly with Cone Beam Computed Tomography (CBCT). Contrary to the widely held belief that resorbed incisors have a poor long term prognosis, this study revealed minimal loss of resorbed incisors from follow up studies ranging between 1 to 28 years.

O8.4 Prenatal exposure to antiepileptic drugs and dental agenesis

P. E. Jacobsen*¹, T. B. Henriksen², D. Haubek¹, J. Rosendahl-Ostergaard³

¹*Section of Paediatric Dentistry, Dept of Dentistry, Aarhus University, Denmark*

²*Perinatal Epidemiology Research Unit, Dept of Pediatrics, Aarhus University Hospital, Denmark*

³*Center for Rare Diseases, Dept of Pediatrics, Aarhus University Hospital, Denmark*

AIM

This was to investigate the association between prenatal exposure to antiepileptic drugs (AED) and the risk of dental agenesis, and to differentiate between the possible effects of the different drugs used.

METHODS

Data on 214 exposed and 255 unexposed children, aged 12–years, were extracted from the Prescription Database of the Central Denmark Region and North Denmark Region and the Danish Medical Birth Registry. The children's dental charts were examined for the presence of dental agenesis.

RESULTS

Overall, children exposed to AED in utero had an increased risk of developing dental agenesis, but as a group, the difference was not significant (OR = 1.7; [95% CI: 0.8–3.6]). The risk of developing dental agenesis was three-fold increased (OR = 3.1; [95% CI: 1.3–7.4]) in children exposed to valproate in mono- or in poly-therapy with other AED than carbamazepine or oxcarbazepine. The risk was further increased (OR = 11.2; [95% CI: 2.4–51.9]) in children exposed to valproate and carbamazepine or oxcarbazepine in combination.

CONCLUSIONS

The present study shows that dental agenesis is a potential congenital abnormality that is related to prenatal exposure to valproate, and dental agenesis may be considered a sensitive marker for the teratogenicity of valproate.

O8.5 Evaluation of a treatment protocol for unerupted maxillary central incisors.

Clinical study of 46 children

K. Chatzidimitriou*, N. N. Lygidakis, N. Theologie-Lygidakis, N. A. Lygidakis

Private Practice, Greece

AIM

To evaluate the clinical outcome of a treatment protocol performed in children with impacted permanent maxillary central incisors, including surgical removal of any related obstruction and traction initiation in one stage, under fully repositioned flap, combined with pre-op orthodontics for space creation.

METHODS

46 patients aged 7.3–12.7 years (mean = 9.44 ± 1.36) were reviewed having 54 impacted maxillary central incisors. The study group included 37 patients fully treated by us and 9 referrals with eruption failure of impacted incisors following previous surgical removal of various obstructions. Detailed patient's clinical and radiographic data were recorded.

RESULTS

The mean treatment time following our method was 7.29 ± 3.56 months, while the time needed using different approaches (obstruction removal and wait, no pre-op orthodontics) ranged from 15–21.8 months ($p < 0.05$). Time needed for full alignment was depended on the inclination, the height of the impacted tooth ($p = 0.001$) and the patient's age ($p = 0.002$). Additionally the absence of pre-op orthodontics for space creation dramatically increased treatment time ($p = 0.018$). In contrast, the maturity of the impacted tooth and developmental stage of the anterior teeth did not affect treatment time. Finally when the maturity, the location of the impacted tooth and the space availability allowed waiting for spontaneous eruption, treatment time was not statistically different from that of the main treatment protocol ($p = 0.545$).

CONCLUSIONS

The studied treatment protocol appears ideal for successful results and minimum treatment time. Space creation followed by surgical removal of any obstruction together with traction initiation produces excellent results, while waiting for spontaneous eruption is indicated only in favourable cases.

O8.6 Dental treatment under general anaesthesia of patients with Type I and Type II dentinogenesis imperfecta

Y. Wang*, E. J Barrett, M. J Casas, P. Judd

The Hospital for Sick Children, Canada

AIM

To compare treatment under general anaesthesia of patients with Type I and II dentinogenesis imperfecta (DI).

METHODS

A retrospective chart review identified individuals with DI who had been treated under general anaesthesia (GA) between January 2000 and December 2013. An initial sample of 82 patients was identified (15 Type I (OI+DI); 67 Type II (DI)). After applying inclusion and exclusion criteria 35 patients remained (4 DI + OI; 29 DI). Data were collected on treatment performed at each GA and compared using t-test and Chi-square statistics.

RESULTS

All subjects had at least one GA over the time period under review. Twenty-three subjects had only one (4 DI + OI; 19 DI) while 12 subjects had two GA visits over the same time period (1 DI + OI; 11 DI). The average age at the first GA for the DI+OI group was 3.8 y (2.9–4.6 y) and 4.7 y (2.2–10.6 y) for the DI group (NS, $p = .47$). The average age at the second GA was 8.1 y (2.9–18.1 y). There was not a significant relationship between the type of DI and the placement of preformed metal crowns (PMCs) ($X^2 = 3.56$; $p = 0.06$), anterior restorations ($X^2 = 2.27$; $p = 0.13$) or extractions ($X^2 = 1.36$; $p = 0.24$). Treatment done during the second GA was characterized by replacement of PMCs on primary molars, placement of PMCs on first permanent molars and the extraction of primary anterior teeth. Statistical comparisons could not be made as only one patient in the DI + OI group had a second GA.

CONCLUSIONS

Patients DI received similar treatments under GA regardless of type.

O8.7 Undergraduates' Perceptions of a bespoke Patient Reported Outcome Measure iPad App

S. Walley*, S. Albadri, R. Harris, J. C. Jones, L. Dawson

Paediatric Dentistry Dept, Liverpool Dental School, UK

AIM

Effective management of the paediatric patient requires an appreciation of the individual child's desired treatment outcomes, beyond disease and physiological markers. However, educating undergraduates in this skill and measuring its accomplishment can be difficult. In 2013, a bespoke Patient Reported Outcome Measures (PROMs) iPad app was developed and implemented on paediatric clinics at Liverpool Dental School in order to address these issues. Aim: To undertake a pilot evaluation of strengths and weaknesses of collecting PROMs data using the app from the undergraduates' perspective.

METHODS

All undergraduates who had participated in the completion of the app (n = 18) were asked to complete a questionnaire, consisting of five-point Likert scales and free-text questions. Qualitative data were approached using an inductive process of thematic content.

RESULTS

Seventeen (94%) undergraduates participated. All reported the app being easy to use and felt collecting the data on an iPad rather than paper enhanced the process, making it more likely that they would collect data in the future. Most described the app design as "excellent" or "good" (94%) and found its completion had little or no impact on appointment times (82%). All respondents provided at least one written perspective (n = 45) from which three major categories emerged; design/usability of the app, educational outcomes and patient communication.

CONCLUSIONS

Students appeared to engage with PROMs using the app and recognised the value in service and educational enhancement. The app will be used to carry out service evaluations in paediatrics, as well as developing and informing undergraduate performance across the Dental School.

O8.8 E-logbooks for clinical skills programmes: using mobile technologies to support learning and assessment

S. Parekh*

Paediatric Dentistry, UCL Eastman Dental Institute, London, United Kingdom

AIM

This was to pilot and evaluate an e-logbook to support learning and assessment in an e-enabled MSc for Paediatric Dentistry.

METHODS

Pilot version of the e-logbook was developed using the Moodle platform (Moodle Pty Ltd, Australia) and iPad mini (Apple, USA). After piloting, the logbook was further developed using technical input. Evaluation was split into two phases: Phase 1 – E-logbook (with accompanying usage guide) released to 5 current EDI Paediatric Dentistry students. A set of exercises were given to each student to perform with corresponding exercises to be carried out by the tutors over a 5 day period. One-to-one support was given as necessary throughout this period. E-logbook was further revised following this feedback. Phase 2 – E-logbook re-released to initial pilot group and then after a short evaluation period discussed in a half-day group session to determine how feedback from phase 1 has been dealt with. Minor modifications were performed after this evaluation cycle.

RESULTS

Initial evaluation confirmed that the e-logbook supported more direct engagement between the learners and their tutors and allowed assessment of individual learning gains relative to individual learning goals. It simplified logbook data entry for the student and was integrated with other curriculum tools.

CONCLUSIONS

The e-logbook was easy to use and encouraged self-reflection. It enabled timely evaluation by tutors, supported learning, and received good feedback from users. Future work will look at transferability of the e-logbook to different clinical programmes and test the methods on a range of devices.

08.9 Work-related musculoskeletal disorders (MSDs) among dentists – A nation wide study

T. Andrikoula*¹, A. Katsantoni², G. Kotantoula³, C. Oulis⁴

¹Oral Biology Dept, Dental School, University of Athens, Greece

²Paediatric Dentistry Dept, University of Medicine and Dentistry of New Jersey, USA

³Paediatric Dentistry Dept, University of Leeds, UK

⁴Dept. of Paediatric Dentistry, Dental School, University of Athens, Greece

AIM

The purpose of this survey was to investigate the prevalence of MSDs among Greek dentists and how they are correlated to the prevailing working conditions in practicing clinical dentistry.

METHODS

The sample consisted of 1500 telephone interview questionnaires completed by private dentists, randomly selected nationwide. The questionnaire concerned dentist's demographic and background data, whether being a specialist or a general dentist, working time during the day, number and duration of breaks, dentist's posture and patient's position, whether practicing four-handed dentistry and the recorded MSDs. Categorical variables have been summarized through absolute and relative% frequencies and continuous ones through their median and interquartile range. Associations between categorical variables have been tested through the chi-square test.

RESULTS

The results indicated that 54.1% of the sample had experienced a MSD, the prevalence of the problems was increased after 10 years of practice (10.3%) and was doubled after 30 years of practice in the 76.8% of the cases. The most prevalent work-related MSDs referred by dentists concerned their back (22.4%), hands and wrists (19.2%), cervical syndrome (15%), shoulder (10.8%), lower leg (12.3%) and Carpal Tunnel Syndrome (8.5%). Only 1/3 of the dentists (35.5%) work with an assistant in a four-handed seated dentistry and the patient in a supine position (24.3%) and that group presented much less MSDs.

CONCLUSIONS

Seated four-handed dentistry, supine patient's position and induction of ergonomic principles during dental practice seem to be little-known among Greek dentists although the results indicated there were fewer problems for those practicing with these principles.

08.10 Antinociceptive and anxiolytic effects of nitrous oxide (N2O) in non-stressed and chronically-stressed mice

D. Emmanouil*¹, J. Y. Yeon², R. M. Quock²

¹Dept. of Paediatric Dentistry, School of Dentistry, University of Athens, Greece

²Dept. of Pharmaceutical Sciences, College of Pharmacy, Washington State University, USA

AIM

Subanaesthetic concentrations of N2O are routinely used in clinical dentistry to produce moderate sedation and analgesia. The purpose of this study was to assess the influence of chronic stress on the antinociceptive and anxiolytic effects of N2O.

METHODS

Male NIH Swiss mice (20–25 g) were subjected to chronic stress by undergoing a modified forced-swim test four times over a 48-min period. Then mice were exposed to a mixture of 30%, 50% or 70% N2O in oxygen (O2) or compressed air (CA) and tested for antinociceptive and anxiolytic responsiveness. Antinociception and anxiolysis were assessed using the hot plate test and light/dark exploration test, respectively, 30 min after the forced-swim.

RESULTS

Exposure of non-stressed control mice to N2O produced a concentration-dependent antinociceptive effect. However, chronically-stressed mice that were exposed to N2O exhibited a marked hyperalgesic response. Exposure of non-stressed control mice to N2O caused concentration-related increases in both the time spent in the light compartment and the number of intercompartmental transitions. Compared to CA-exposed controls, chronically-stressed mice that were exposed to 30%, 50% or 70% N2O in O2 showed increases in the number of transitions between light and dark compartments but not an increase in time spent in the light compartment.

CONCLUSIONS

These findings may be of clinical significance in the use of N2O in patients with chronic stress. Further investigation in the influence of stress on the antinociceptive and anxiolytic actions of N2O is warranted.

O8.11 The association between BMI and dental caries in 57 year old children



M. de Jong-Lenters*¹, P. van Dommelen¹, E. Verrips²

¹Dutch Organization for Applied Scientific Research (TNO), The Netherlands

²Academic Centre for Dentistry Amsterdam (ACTA), Dutch Organization for Applied Scientific Research (TNO), The Netherlands

AIM

To investigate the association between Body Mass Index (BMI) and dental caries in children.

METHODS



Participants were 5-to-7-year old children attending a paediatric dental referral practice in The Netherlands (n = 249, response rate 56%). Data were collected through a parental questionnaire. Dmft-scores of children were obtained from dental records. Weight and height of the children were self-reported by their parents. Dmft-scores were dichotomized into caries free and one or more elements affected. Extended International (IOTF) body mass index cut-offs were used to define underweight, normal weight, overweight and obesity. A chi-square test was used to test the association between BMI and dichotomized dmft.

RESULTS

In total 49% boys and 51% girls were available, of whom 16% did not have caries. Mean dmft was 4.6 ± 3.4 , and 84% of the children were classified as underweight or normal weight (N = 211), 10% as overweight (N = 25), and 5% as obese (N = 13). 19% of the children with a normal weight were caries free compared to 3% of children with overweight ($p = 0.007$).

CONCLUSIONS

The present study found an association between BMI and dental caries in children. The extent to which the association is determined by common underlying determinants requires further investigation.

POSTER PRESENTATION WITH DISCUSSION

SESSION OPD1 – EPIDEMIOLOGY

Date: Friday 6th June, **Time:** 11:30–13:00, **Hall:** VASCO DA GAMA

Chair: Beata Pregiel, Poland; Maria Spyridonos Loizidou, Cyprus

OPD1.1 The prevalence of ECC in 1–3 year old children in Moscow, Russia

L. Kiselnikova, E. Kirillova, K. Fedotov*, Y. Boyarkina, K. Miloserdova

Moscow State University of Medicine and Dentistry, Russian Federation

AIM

To evaluate the prevalence of ECC in 1–3 year old children in Moscow.

METHODS

Clinical investigation of primary dentition in 478 children was carried out in 2012. Decayed, missing and filled teeth (DMFT) were employed. Criteria for caries recording followed WHO standards. Groups of 184, 169 and 125 children aged 1, 2 and 3 year respectively were investigated.

RESULTS

The prevalence of dental caries in children aged 1 year was 7.07%; in children aged 2 years – 26.62%; in children aged 3 years – 53.33%. The mean DMFT index in children aged 1 year was 0.32 ± 0.09 ; in children aged 2 year – 1.25 ± 0.19 ; in children aged 3 year – 2.83 ± 0.37 .

CONCLUSIONS

The prevalence of dental caries and the mean DMFT index at children from 1 to 4 years of Moscow increases with age by a factor of 7.5 and 8.8, respectively.

OPD1.2 Oral clefts in Brazil according to the Live Birth Information System

A. M. de SouzaBarros¹, C. M. Ferreira-Gradella*², G. Cabral da Costa¹, T. Queiroz-Abreu¹, L. Butini-Oliveira¹

¹Sao Leopoldo Mandic School of Dentistry, Brazil

²Brazilian Association of Paediatric Dentistry, Brazil

AIM

To assess the prevalence of oral clefts in Brazil in the Live Birth Information System (SINASC), describing its distribution in different regions and the carrier morbidity profile.

METHODS

A descriptive study was developed using a 2001 to 2010 time series and the most updated data from the SINASC. The prevalence of infants with oral clefts was estimated based on the variables contained in the statements of live births which feed the system such as: Brazilian mesoregions of mother's dwelling, sex and race. Pearson chi-square tests were used within each year searched in order to compare the prevalence of fissures according to the variables.

RESULTS

The prevalence was estimated at 0.48 per 1,000 live births and the highest rates were observed in the South region and the lowest in the Northeast region. Males presented a higher prevalence (0.55) and it was significantly higher in all the years studied when compared to females. The higher prevalence of oral clefts was in whites (0.59), followed by indigenous (0.50), the latter showing an increasing trend.

CONCLUSIONS

It was concluded that the prevalence of oral clefts in a Brazilian population showed an increasing trend between 2001 and 2010.

OPD1.3 Dental erosion experience & risk factors among 13–17 year old teenagers in Kaunas, Lithuania

D. Zemgulyte*, E. Bendoraitiene

Clinic of Oral Health & Pediatric Dentistry, Academy of Medicine, Lithuanian University of Health Sciences, Kaunas, Lithuania

AIM

To evaluate dental erosion (DE) incidence among 13–17 year old teenagers and to identify any related risk factors.

METHODS

The study was initiated in several Kaunas educational institutions where total of 73 teenagers were clinically examined using Basic Erosive Wear Examination (BEWE) index in each sextant of the mouth. Participants completed an original questionnaire inquiring concerning risk factors (nutrition habits, swimming pool attendance, health conditions etc.). Data collected were analyzed using logistic regression.

RESULTS

DE was registered in 28 subjects. Logistic regression showed that teenagers who consumed soft drinks more frequently had higher non-sporadic DE (DE > than 1 sextant) risk. The logistic regression coefficient for gender was .402 ($p > .05$), coefficient for the variable of soft drinks consumption was .845 ($p < .05$). Probability for DE for those who consumed soft drinks less frequently (value of 1 for grade of consumption) was .186 for boys and .133 for girls. Probability for DE for those who consumed soft drinks more frequently (value of 3 for grade of consumption) was .0550 for boys and 0.454 for girls.

CONCLUSIONS

Results of logistic regression show that high soft drinks consumption increases the risk of having non-sporadic DE. Other nutritional factors, attendance at swimming pool, and health condition were not considered to affect the development of DE.

OPD1.4 Feeding and oral hygiene habits of preschool children and their caries prevalence

N. Ghimire*¹, P. Nepal²

¹Dept. of Pedodontics and Preventive Dentistry, Chitwan Medical College, Bharatpur, Chitwan, Nepal

²Chitwan Medical College, Bharatpur, Chitwan, Nepal

AIM

To determine and correlate knowledge and attitude of parents/caregivers concerning feeding and oral hygiene habits of preschool children, and caries prevalence.

METHODS

A questionnaire survey was conducted among 600 parents/caregivers of preschool children (2–6 years) who visited the department of paedodontics and preventive dentistry. Knowledge regarding the feeding and oral hygiene habits of preschool children was assessed using the questionnaire. This was followed by oral examination of the children. The deft index was recorded. Data were analyzed using Chi square test.

RESULTS

56.8% of the children were male and 43.2% were female. Of 600 parents/caregivers 77% were mothers, 15.3% were fathers, 4% were adopted mothers, 3.7% were grandparents; 64.2% of parents were older than 25 years, 31.2% were between 20–25 years and only 4.7% were below 20 years. Out of 600 parents, 18.7% ($n = 112$) were illiterate, and 81.3% ($n = 488$) were educated. Overall knowledge regarding the feeding and oral hygiene habits among parents was found to be poor. Regardless of education level, 89% of the parents had no idea of relationships between night-time bottle feeding and dental caries. Only 15% knew the first dental visit should be within 1 year after birth, whereas 46% felt that it should be only after a problem arises. Children of educated parents had less deft indices compared to illiterate parents. Only 13.2% of the total children ($n = 600$) examined had 0 deft index.

CONCLUSIONS

The present study revealed high caries prevalence in preschool children, due to lack of oral health knowledge and awareness amongst parents.

OPD1.5 Comparison of Molar-Incisor Hypomineralization prevalence in Dubai/United Arab Emirates and Greifswald/Germany

S. Haidary*¹, M. Agathi Petrou², R. Hashim³, A. Alhumrani⁴, C. Splieth¹

¹Preventive and Paediatric Dentistry, University of Ernst-Moritz-Arndt Greifswald, Germany

²Dept. of Operative Dentistry, Periodontology and Preventive Dentistry, Rheinisch-Westfälisch-Technische Hochschule (RWTH) University of Aachen, Germany

³Dept. of Growth & Development, College of Dentistry, Ajman University (AUST), UAE

⁴Ajman University of Science and Technology, UAE

AIM

This was to find the prevalence of Molar-Incisor Hypomineralization (MIH) in Dubai/United Arab Emirates (UAE), and to compare it with MIH prevalence in Greifswald/Germany.

METHODS

In this cross-sectional study, 779 children (female: 513; male: 261) age of 7–9 (± 1) year-old in the city of Dubai/UAE were randomly selected and examined. The examination was carried out for children in Dubai governmental schools by one examiner who had previously been trained and calibrated with the MIH diagnostic criteria of the European Academy of Paediatric Dentistry (EAPD).

RESULTS

The percentage of children with MIH in Dubai/UAE was 7.6%. There was no significant gender difference (7.57% female, 7.58% male). The DMFT/dmft indices were generally high (8.22 ± 0.91). However, the difference of DMFT index between children with and without MIH was statistically significant ($p < 0.001$).



CONCLUSIONS

The prevalence of MIH was higher among the children population of Dubai/UAE compared with Greifswald/Germany. This finding requires adequate treatment from local dentists for such developmental defects.

OPD1.6 Enamel Hypomineralization and Oral-Health Related Quality of Life in schoolchildren

J. van Agthoven*, C. M. Viegas, T. van Voskuijen, D. P. Raggio, C. C. Bonifacio

Academisch Centrum Tandheelkunde Amsterdam, Netherlands

AIM

To assess the presence of hypomineralized permanent (MIH) and primary (DMH) molars, and its association with Oral-Health Related Quality of Life (OHRQoL) in Brazilian school children.

METHODS

A cross-sectional study was carried out in Barueri, Brazil, with 587 7–9 years-old school children. To assess the OHRQoL, the Brazilian version of the Child Perceptions Questionnaire (CPQ8-10) was used. Another questionnaire addressing socio-demographic data was sent to the parents. The EAPD criteria were used for diagnosing MIH and DMH. Caries experience was assessed with the WHO criteria. Two calibrated examiners performed all clinical examinations. Data were analyzed using descriptive bivariate and multiple Poisson regression analyses using a hierarchical model ($\alpha = 5\%$).

RESULTS

The mean (\pm SD) of CPQ8-10 total score was 10.7 (± 10.9) and total score ranged from 0 to 59. The bivariate analysis showed that experience of dental caries [PR = 1.24, 95% CI = 1.04–1.47] and number of decayed teeth [PR = 1.07, 95% CI = 1.03–1.12] were associated with CPQ8-10 total score. In the final adjusted model, children with lower family income [PR = 1.65, 95% CI = 1.13–2.42; PR = 1.57, 95% CI = 1.06–2.33], whose fathers do not work [PR = 1.41, 95% CI = 1.05–1.88] and living in a house with more than four people [PR = 1.39, 95% CI = 1.03–1.86] presented an increase in negative impact on OHRQoL.

CONCLUSIONS

MIH and DMH do not have an impact on the OHRQoL and schoolchildren with lower socioeconomic status are more likely to perceive negative impact.

OPD1.7 Management of an anomalous permanent lateral incisor secondary to primary incisor trauma

D. J. Coffey*, A. C. O'Connell

Dept. of Public and Child Dental Health, Dublin Dental University Hospital, Dublin, Ireland

INTRODUCTION

Dental trauma to primary teeth can have a number of consequences on the permanent dentition commonly causing discolouration, eruption disturbance and hypoplasia. Trauma may also have a direct affect on morphological development.

CASE REPORT

An anxious 10-year-old boy was referred for treatment of an anomalous lateral incisor. He had experienced a significant dental trauma to his primary incisors at a young age, and as a consequence there had been abnormal development of the crown of the 2.2.

Intra-oral investigation revealed an accessory mesial cusp on the non-vital 2.2 with a direct communication between pulp chamber and oral cavity, and an associated draining labial sinus. There was also hypoplastic and discoloured enamel on the facial surfaces of 1.1/2.1 and extensive dental caries on a number of primary molars. Radiographic examination confirmed an immature thin root of 2.2 with an open apex. Various treatment options for the 2.2 were considered; conventional RCT, apexification, regeneration, transplantation of a lower premolar and extraction. It was decided that pulp therapy and recontouring of the 2.2 and extraction of the carious molars would be carried out under general anaesthesia due to his anxiety.

CONCLUSION

This case illustrates the effect of trauma to primary teeth may have on the developing dentition and explores the various management options for a permanent incisor with an anomalous crown and immature root development.

OPD1.8 A case report outlining the orthodontic management of a traumatic intrusion of a left maxillary central incisor

O. Carty*¹, Y. MacAuley¹, E. Al-Awadhi², P. Fleming¹

¹Paediatric Dentistry, Dublin Dental University Hospital, Ireland

²Orthodontics, Dublin Dental University Hospital, Ireland

INTRODUCTION

Trauma is a large part of paediatric dentistry today, with the immediate management of these cases being essential to provide the best outcome for the patient.

BACKGROUND

Intrusive injuries are often associated with subsequent ankylosis or infection-related root resorption. The treatment of choice varies according to the extent of the injury and amount of root maturity.

CASE REPORT

This case outlines the diagnosis, treatment and follow up of a six year old girl who presented to Accident and Emergency Dept. (DDUH) having intruded and slightly labially luxated her 21 at home the previous day. The URA was fitted 11 days following the initial trauma and was worn full time for seven months. In this case the intrusion was initially managed by allowing for spontaneous eruption. However, following little clinical improvement after one week an orthodontic upper removable appliance (URA) was fabricated to extrude the 21. The position of tooth 21 has improved but the aesthetic result remains limited. Tooth 21 is now ankylosed and its response to vitality testing remains positive, although delayed.

CONCLUSION

Due to the patient's young age the ankylosis of this tooth could lead to severe aesthetic challenges. The difference in gingival height between the central incisors will become more obvious with growth, therefore currently the decision to decoronate the 21 is being considered.

**OPD1.9 Paediatric dentists' choices of treatment modalities for children in Saudi Arabia:
A web-based survey**

H. S. Halawany*, T. Al Moharib, J. Al Harbi, F. Salama, N. Abraham

Dept. of Periodontics and Community Dentistry, College of Dentistry, King Saud University, Riyadh, Saudi Arabia

AIM

To investigate the treatment services provided by paediatric-dentists practicing in Saudi Arabia and to determine their most preferred treatment choices for various dental ailments in children.

METHODS

The study was approved by the College of Dentistry Research Center. A web-based survey was sent to all paediatric-dentists registered at the Saudi Commission for Health Specialties. Reminders were sent 7 and 14 days after first e-mail. The survey consisted of 23 pre-tested questions comprising of socio-demographic and practice characteristics and choices of various paediatric dental treatment modalities. The data downloaded after 3 months and descriptive statistics were performed using SPSS version 20.

RESULTS

112 of 308 paediatric dentists responded with 102 useable responses (33.1%). A majority of the sample (42%) was in the age group of 25–34 years, 50% were females, 50.9% had masters degree in paediatric dentistry and 31.8% worked as consultants. About 75% (n = 76) treated children under general anaesthesia and 71.6% (n = 73) did not use aesthetic paediatric crowns (preveneered or Zirconia) in their practice. About 81% (n = 70) and 73.8% (n = 62) used composite resin to restore vital carious primary anterior and posterior teeth, respectively. About 51% (n = 42) extracted non-vital carious primary anterior teeth whereas 48.1% (n = 39) performed pulpotomy on non-vital posterior teeth and placed stainless-steel crowns, on a daily/weekly basis.

CONCLUSIONS

The prevalence of use of composite resin to restore primary teeth was higher compared to glass ionomer cements and amalgam whereas a limited use of aesthetic paediatric crowns was found among the sample surveyed.

SESSION OPD2 – ORTHODONTICS

Date: Friday 6th June, **Time:** 14:00–15:00, **Hall:** VASCO DA GAMA

Chair: Camila Palma Portaro, Spain; Anne Skaare, Norway

OPD2.1 Early management of unilateral posterior crossbite with Plana's direct tracks: case series

C. Palma Portaro*¹, **R. Mayne**¹, **G. Redondo**², **X. Maristany**²

¹*Pediatric Dentistry Dept., University of Barcelona, Spain*

²*Private Practice, Spain*

INTRODUCTION

All posterior crossbites should be treated as early as possible in order to induce correct maxillary growth and to avoid more severe skeletal changes as years go by. However, due to uncooperative behaviour at an early age, orthodontists usually wait until the mixed dentition period to solve this malocclusion through different types of appliances.

BACKGROUND

Plana's direct tracks technique is one component of neuroocclusal rehabilitation treatments developed by Dr. Pedro Planas. It combines selective wears on interferences and direct composite tracks on the crossed side in order to correct the crossbite, improve masticatory function and prevent asymmetric growth.

CASE REPORT

A series of 10 children is presented with unilateral posterior crossbite who were successfully treated with direct tracks. Case selection included patients younger than 5 years old, whose maxillary-mandibular discrepancy did not exceed 4mm. Occlusal grindings were performed to reduce the occlusal interference and facilitate the construction of the tracks. After placing direct composite resins on the crossed side, the median line was centred and the patient was therefore forced to bite in a centric position. Patients were reevaluated at 1, 3 and 6 months post-operatively. At the 6-month recall visit, posterior crossbite was totally corrected in all patients. All patients were followed up for at least 18 months.

CONCLUSION

The paediatric dentist that is accustomed to treat young children can treat unilateral posterior crossbite at an early age with composite direct tracks in order to improve the shape of the maxilla, dental occlusion, masticatory function, reorientate growth and enhance normal craniofacial development.

OPD2.2 Unilateral maxillary molar distalization with the Pendulum appliance followed by fixed orthodontic treatment: a case report

Y. J. Cho*

School of Dentistry Chonnam National University, South Korea

INTRODUCTION

Treatment of Class II malocclusions, without extractions, frequently requires distalization of the maxillary molars into a Class I relationship by means of extra or intraoral forces. Most traditional approaches to molar distalization, including extraoral traction, removable spring appliances, and intermaxillary elastics, require considerable patient compliance to be successful.

BACKGROUND

The Pendulum appliance can achieve approximately 5 mm of distal molar movement in a 3–4-month period without patient cooperation.

CASE REPORT

In this case, patients had dental class II malocclusion with moderate arch length discrepancy in the unilateral maxilla. Since the facial profile indicated a straight profile, these patients were treated with Pendulum appliance, which rapidly distalized the molar, instead of two maxillary premolar extractions. After delivery, spring activation of the Pendulum appliance proceeded every 3 weeks. At the end of distalization, a Class I molar relationship is obtained, and fixed orthodontic therapy followed the conventional tooth leveling and aligning.

CONCLUSION

The Pendulum appliance efficiently distalized the maxillary molar teeth to a Class I relationship. However, this gain in distalization is at the expense of significant side effects including distal molar tipping and anchorage loss at the incisors. Consequently, these side-effects have to be corrected during the fixed appliance treatment phase.

OPD2.3 Multidisciplinary Treatment of Polidiastema: Case Series

E. Karaalioglu*, Z. Hatipoglu, S. E. Yoldas, N. Akal, N. Oztas

Dept. of Paediatric Dentistry, Gazi University Faculty of Dentistry, Turkey

INTRODUCTION

Aesthetic rehabilitation of patients with polydiastema may be achieved with orthodontic treatment. In some cases direct resin restorations in addition to orthodontic treatment may be required.

BACKGROUND

Closure of interdental spaces with using resin composite is considered to be practical and conservative. The purpose of this report is to present the treatment of 4 cases with polydiastema.

CASE REPORT

The patients were female aged between 13 and 15. For the 15 year old patient, the teeth were restored with direct composite resin restorations before orthodontic intervention. In the other 2 cases, restoration of the teeth was performed after orthodontics. Direct bonding technique and celluloid strip crowns were used for the restorations. Patients were followed up for 12 months.

CONCLUSION

For correction of polydiastema in anterior teeth a multidisciplinary approach may be indicated to achieve aesthetic results.

OPD2.4 Deep bite correction with a preformed appliance

G. Pellegrino*, G. del Vecchio, M. Federico

Dott. Pellegrino Office, Italy

INTRODUCTION

The presentation concerns the correction of deep bite and crowding in the late mixed dentition using a silicone preformed appliance (LM-Activator)

BACKGROUND

The correction of the deep bite can be achieved through the intrusion of the anterior teeth or by the extrusion of the posterior teeth. The posterior extrusion is particularly effective and stable during the eruption of the permanent teeth

CASE REPORT

A 9 year old boy presented with Class I malocclusion, mesofacial type, deep bite and moderate crowding whose posterior teeth are transitioning. A preformed appliance (LM Activator) was used. The preformed appliance was used during the night as well as for two hours in the afternoon, during the first 10 months of treatment. Thereafter, fixed appliances were used for 4 months in addition to night-time use of the preformed appliance, because of the anomalous position of 47. The fixed appliances were only used in the lower right segment. During the four latter months a good occlusion was achieved. The patient received 10 months of active treatment with a preformed appliance (LM Activator) for the correction of deep bite and crowding. The occlusal situation at the end of transition, about one year after the end of therapy, is shown by photographs showing the occlusal stability.

CONCLUSION

The case shows that a deep bite malocclusion and crowding can be corrected with a simple appliance with a short treatment time with a protocol of night-time use and 2 hours of daytime use. Co-operation is crucial for successful treatment.

OPD2.5 Management of a bilateral ectopic eruption of maxillary first permanent molar: a case report

G. Pimentel*, A. Lipari, S. Toledo, F. Figueroa

Paediatric Dentistry Unit, Faculty of Odontology, University of Chile, Chile

INTRODUCTION

Ectopic eruption of the first permanent molar is an alteration in the eruption trajectory where that tooth is positioned too far mesially. This may delay in the eruption, an impacted first permanent molar an irregular root resorption and even loss of the primary second molar. There is a 4% occurrence, 40% of those being bilateral.

BACKGROUND

Untreated correction (Jump) happens in 60% of the cases, and when this does not occur, it causes loss of arch length. This is why interceptive measures are essential following diagnosis.

CASE REPORT

A seven year and ten month old girl with mixed dentition, malocclusion, delay in the eruption and the 16 and 26 impacted was referred for treatment. The radiographic examination showed ectopic eruption and root resorption in the 55 and 65. The treatment consisted of grinding the distal surfaces of 55 and 65,, and then orthodontic elastomeric separators were placed between the contacts of 16 and 55, and 26 and 65. This corrected the impaction and allowed the eruption of both permanent first molars. There has been almost 2 years of clinical and radiological follow.

CONCLUSION

The early detection and correction of an ectopic eruption allows a simple and low cost solution for children.

OPD2.6 Cleft patients – implants insertion, full ceramic CAD CAM treatment and longitudinal 3-D dental models computer evaluation

T. Dostalova*¹, P. Kriz¹, M. Kasparova¹, J. Veleminska², M. Peterka³

¹Dept of Stomatology, 2nd Medical Faculty, Charles University in Prague, Czech Republic

²Dept of Anthropology and Human Genetics, Faculty of Science, Charles University in Prague, Czech Republic

³Dept of Experimental Medicine, Academy of Sciences CR, Prague, Czech Republic

AIM

This was to ascertain the influence of multidisciplinary treatment on the 3 D development of the dental arch and the palatal shape in cleft patients.

METHODS

Dental care of adult patients is not simple. New prosthodontic methods, including a zirconium bridge or implant insertion, can be instituted using multidisciplinary therapy by the surgeon, orthodontist, and prosthodontist. The alveolar cleft gap was bone grafted while the patients were in the mixed dentition stage, thus permitting the eruption into the dental arch of an impacted permanent tooth near the cleft site. A removable partial denture was used as a temporary form of tooth replacement. Subsequently, a implant insertion and full ceramic CAD-CAM fixed partial denture provided a more natural tooth replacement.

RESULTS

3-D models of dental casts (Finite Element Scaling Analysis) at various important timepoints of surgical, orthodontic and prosthodontic treatment were compared with the normal and pathological growth of patients dental arches with clefts.

CONCLUSIONS

Trends in cleft reconstruction are mainly surgical (craniofacial rehabilitation including implant insertion). However, a conventional fixed partial denture can also be used in many orofacial cleft patients, as demonstrated in our case reports. Our contribution demonstrated that using modern orthodontic therapy it is possible to increase the dimensions of the upper dental arch in patients with an orofacial cleft to normal values and in this way to create optimal conditions for prosthodontic treatment. This research has been supported by IGA 13351-4 MZCR and 00064203 (FN Motol).

SESSION OPD3 – PREVENTION

Date: Friday 6th June, **Time:** 15:30–17:30, **Hall:** VASCO DA GAMA

Chair: Elias Berdouses, Greece; Vesna Zivojinovic-Toumba, Serbia

OPD3.1 Case Report: Ultra-conservative Class II cavity preparations in children

O. O. Kuscu*, E. Caglar

Private Practice, Turkey

INTRODUCTION

Conservative and minimally invasive cavity preparations in primary/permanent molars provide not only hard tissue preservation but also possible pain reduction due to its less invasive, defect-related nature.

BACKGROUND

Box-only proximal cavity preparations, and Tunnel Cavity preparations have been developed for conservative approaches. However, in some paediatric cases direct access (without marginal ridge preparation) to proximal caries can be possible from an adjacent cavity with a proximal + occlusal caries. Such cases are generally restored as MO-DO restorations instead of M-DO or D-MO, without involving the sound occlusal surface and marginal ridge.

CASE REPORT

Three cases of two adjacent molar teeth (including both primary and permanent teeth) with M-OD and D-MO ultra-conservative Class II restorations, which were treated with different combinations of restorative materials (reinforced GIC, packable GIC and Polyacid modified composite resin and composite resin) are presented and 2 years success and advantages/disadvantages are discussed.

CONCLUSION

Beyond preservation of dental hard tissues, the psychological advantage of ultra-conservative cavity preparations, due to its less invasive, defect-related nature, should also be taken into consideration in children.

OPD3.2 Effectiveness of fissure sealants on questionable occlusal surfaces of permanent molars: 2 years follow-up

C. J. Oulis¹, E. D. Berdouses*¹, N. Lygidakis², K. Tsinidou¹, A. Vlachou¹

¹Paediatric Dentistry Dept, University of Athens Dental School, Greece

²Community Dental Center for Children, Athens, Greece

AIM

The of this prospective study was to evaluate the retention and effectiveness of fissure sealants (FS) use on questionable pit and fissure occlusal surfaces of children in a clinical practice setting.

METHODS

6,986 pit and fissure occlusal surfaces were randomly sealed with clear or opaque FSs on 1,743 children (861 boys, 882 girls) from 5 calibrated paediatric dentists in 5 private dental offices, followed for up to four years. The mean age of the sample at initial FS placement was 9.5 (\pm 2.9) years. The median (IQR, range) follow-up time was 17.9 (8.7–28.6) months. 5,828 FS were placed on sound and 1,158 on questionable surfaces, 5,273 on fissures and 1,713 on pits while 3,508 were clear and 3,478 opaque FS. Uni and multivariable Cox and Kaplan-Maier survival analysis were used to estimate the probability of sealant success and test the relationship of sealant failures to different variables.

RESULTS

66 surfaces were restored and in 477 FS was reapplied. Cox model showed that FS on questionable surfaces (codes 1 and 2 according to ICDAS II criteria) showed statistically significant higher probability to receive reapplication of FS or restoration, compared with sound surfaces (code 0). The same statistically significant higher probability to failures was found for opaque FS compared to clear and for pits compared to fissures.

CONCLUSIONS

Retention of fissure sealants on questionable surfaces of posterior permanent molars seems to be problematic and need to be closely monitored to increase sealant effectiveness.

OPD3.3 Parents and oral health information

E. Ronning-Naess, K. A. Moan, N. J. Wang, T. I. Wigen*

University of Oslo, Institute of Clinical Dentistry, Department of Paediatric Dentistry and Behavioural Science, Norway

AIM

To explore information that parents of children below age 4 years had received about children's oral health, and how they had obtained the information.

METHODS

A total of 110 parents with children below 4 years of age in a day care centre in Oslo answered a questionnaire. The questionnaire included information about parental background, oral health behaviour in children and how parents had acquired information about child oral health. Results were reported using frequencies and percentages, and tested with chi-square statistics.

RESULTS

Most parents, 77%, reported need for information about children's teeth and dental care before the child age 3 years, and more than 50% of the parents had actively sought information. Most parents, 63%, had received information about children's oral health from public health nurses, 43% by the internet, and 28% from family or friends. From the public health nurses, most parents received information concerning tooth brushing (60%), tooth eruption (46%) and sugary drinks at night (38%), while 21% of parents reported not having received information about oral health from the public health nurse. Most parents were satisfied with the information received and reported to have sufficient knowledge. Of parents that reported sufficient knowledge, 62% brushed the children's teeth twice daily.

CONCLUSIONS

Although most parents were satisfied with the information they had received and the knowledge they had about children's oral care, the study showed that some parents did not follow the Norwegian guidelines, which recommend parents to brush children's teeth twice a day.

OPD3.4 Relationship between dental fluorosis and fluoride content in urine of schoolchildren from high and low fluorotic regions

Z. Mandinic¹, E. Antonijevic², M. Curcic², B. Antonijevic², M. Ivanovic*²

¹Clinic for Paediatric and Preventive Dentistry, School of Dental Medicine, University of Belgrade, Serbia

²Institute of Toxicology, Faculty of Pharmacy, University of Belgrade, Serbia

AIM

To investigate fluoride content in urine samples of schoolchildren from two Serbian regions, i.e. with high (Ritopek district) and low (Zlatibor district) naturally occurring fluoride, and to correlate fluoride content in urine with dental fluorosis.

METHODS

A total of 52 schoolchildren, aged 6–15 years, (29 boys and 23 girls), from Ritopek were participated in the study. In the control Zlatibor district, a total of 5375 children, aged 6–15 years, (2634 boys and 2741 girls) were included in the national program of preventive dental care from 2009 to 2015. The teeth of the schoolchildren were assessed for fluorosis, according to the WHO guidelines. For the fluoride measurement, urine samples were collected from 48 children from Ritopek and 36 urine samples from schoolchildren from Zlatibor district as a control. Fluoride levels were determined using ion-selective electrode. Study was approved by Ethical Committee of School of Dental Medicine, Belgrade University (No. 36/25; 2011).

RESULTS

Fluoride contents in drinking water in these two regions are 0.59 and 0.14 in Ritopek and Zlatibor district respectively, while levels in urine in the the same regions were 0.44 and 0.17, respectively. In the endemic fluorotic region of Ritopek, statistically significant relationships between fluoride in water and fluoride in urine ($R = 0.924$), fluoride in water and dental fluorosis prevalence ($R = 0.785$) and between levels of fluoride in urine and dental fluorosis prevalence ($R = 0.874$) were established.

CONCLUSIONS

This pilot study suggests that fluoride concentrations in urine samples could be used as biomarkers of chronic fluoride exposure. Project No. III46009.

OPD3.5 Oral health services among hospitalized children – a public responsibility that does not work?

M. A. Kehl*, A. B. Skaare, I. Espelid, H. J. Bangstad

Dept of Paediatric Dentistry and Behavioural Science, Institute of Clinical Dentistry, University of Oslo, Norway

AIM

In Norway, dental health services are a legal public responsibility children aged 0–18 years including hospitalized children. It was hypothesized that there were no organized routines for oral health care service for severely diseased children at the largest university hospital in Norway.

METHODS

An anonymous paper based questionnaire was distributed to the paediatricians in charge of these children (n = 37). The questionnaire comprised questions on the paediatricians' assessment of the importance of oral health in severely diseased children, routines, need for increased knowledge and whether there was cooperation between the hospital and the Public Dental Services. Data were analysed using frequency distribution.

RESULTS

Response rate was 95% and nearly all (94%) agreed that poor oral health might influence the child's illness. More than 80% recorded importance of oral hygiene for hospitalized children, but less than 10% contacted the child's dentist routinely or asked about their last visit. Being faced with an oral health problem during the child's stay 1/3 would try to solve the problem themselves. Nearly 70% did agree on the need for increased communication with the dentist and 97% expressed that these children would benefit from interdisciplinary collaboration. Approximately 80% stated that an available dentist could be helpful in the daily management of oral problems, wanted more knowledge and recorded that there is insufficient oral health competence at the hospital.

CONCLUSIONS

The current practice does not fulfill the obligations of oral health care for hospitalized children and the paediatricians should give oral health more priority.

OPD3.6 Public health nurses' opinions on collaboration between public health centres and dental services

S. Y. Loeken*, T. I. Wigen, N. J. Wang

Dept of Paediatric Dentistry and Behavioural Science, Institute of Clinical Dentistry, University of Oslo, Norway

AIM

The purpose of the study was to explore opinions of public health nurses regarding collaboration between the public health centres and the public dental services.

METHODS

Public health nurses working with children in public health centres in five counties answered an electronic questionnaire. In total, 163 of 296 nurses (55%) reported demographics, routines of referral, contact and satisfaction with the collaboration with the public dental services. Data were reported using frequencies and percentages, and analysed using bi- and multivariable logistic regression.

RESULTS

Most public health nurses (83%) reported that routines of referral to the public dental services were established. The most important reasons for referral of children were caries (52%), discoloration (38%) and dental trauma (34%). Most public health nurses (69%) stated they seldomly referred children. The majority of the public health nurses (82%) reported to have contact with the public dental services more seldom than monthly. Nearly all (98%) reported satisfaction regarding the collaboration with the public dental services. Multivariable analysis showed that proportion of immigrants in the public health centres was associated with frequency of referral, and that nurses' satisfaction with the collaboration was associated with number of children in the public health centres.

CONCLUSIONS

The majority of public health nurses referred children less than monthly to the public dental services, despite established routines. Only a minority of the public health nurses had frequent contact with the public dental services, yet nearly all were satisfied with the collaboration.

OPD3.7 The influence of ozone, sealants and fluoride varnish on occlusal caries development in 12 months period

J. Kalnina*, R. Care, A. Brinkmane, J. Gudkina

Department of Therapeutic Dentistry, Riga Stradins University, Latvia

AIM

To detect influence of ozone (OZ), fissure sealants (FS) and fluoride varnish (FC) on occlusal caries development in 12 months period in Riga's children.

METHODS

107 patients at the mean age of 10 were examined using dmft/DMFT at a baseline and in 6 months with a follow up period of 12 months. OZ (Prozone, W&H, Austria), FS (Clinpro™ Sealant, 3M ESPE, USA), and FV (Fluocal solute, Septodont, France) were provided to 457 healthy and fully erupted premolars at a baseline and in 6 months with a follow-up period of 12 months. All measures were applied according to the instruction. All examined premolars were divided in to 4 groups depending on the provided preventive measure: group 1 (n = 173) – control; group 2 (n = 103) – OZ; group 3 (n = 78) – FS; group 4 (n = 103) – FV. Each tooth was considered as the unit of the analysis. Data were analyzed using t-test and the chi-square tests.

RESULTS

Occlusal caries was developed in: group 1–3.5% (n = 6), group 2–2.9%, (n = 3), group 3 and group 4–0% (n = 0). The changes in occlusal caries incidence between all groups were not statistically significant.

CONCLUSIONS

The results suggested that all these preventive measures should be used in the prevention of occlusal caries in Riga's children.

OPD3.8 Dental morbidity among early childhood children left without parents' care in Moscow

K. Miloserdova*, L. Kiselnikova, K. Fedotov, O. Zaytseva, L. Shavlokhova

*Paediatric Dentistry Dept. Moscow State University of Medicine and Dentistry
named after Prof. A. I. Evdokimov, Russia*

AIM

To evaluate dynamics of caries incidence among the children who were left without parental care.

METHODS

Clinical investigation of 217 children who lived without parental care in special institution was carried out in Moscow. Decayed, missing and filling (DMFT) were employed. Criteria for caries recording followed WHO standards. Groups of 15, 42, 76, 64 and 20 children aged 1, 2, 3, 4 and 5 years, respectively, were investigated.

RESULTS

The prevalence of dental caries among children aged 2 year was 23.8%; among children aged 3 year 51.3%; among children aged 4 year 39%; among children aged 5 year 25%. The average DMFT index among children aged 2 year was 0.7; among children aged 3 year 2.6; among children aged 4 year 2.5; among children aged 5 year 2.4.

CONCLUSIONS

The prevalence of dental caries and the average DMFT index among children who live without parental care is a 41% and 2.7, and shows a high requirement for dental treatment. It is necessary to develop a technique of dental rehabilitation of children who live without parental care.

OPD3.9 Toothbrushing frequency and post-brushing rinsing habits of 10 to 12-year-olds from Southeast Slovenia

T. Ris Koler*¹, R. Kosem²

¹Community Health Centre Brezice, Slovenia

²Dept. of Paediatric and Preventive Dentistry, University Medical Centre, Ljubljana, Slovenia

AIM

User-related factors have the potential to affect the anti-caries effectiveness of fluoridated toothpaste. The aim of the study was to assess relevant oral hygiene habits in a group of 10 to 12-year-old children.

METHODS

Fifth and 6th graders from two primary schools in the Southeastern Slovenia (N = 169; 84 girls, 85 boys) completed questionnaires on oral hygiene practices individually, in order to avoid possible peer group influences. To present the data dealing particularly with toothbrushing frequency and method of post-brushing rinsing, frequency distributions were used. Gender differences were tested for statistical significance using the chi-square test.

RESULTS

Mean age of participating children was 11.3 ± 0.7 years. More than 75% of children stated that they brushed their teeth at least twice a day, with significantly higher proportion of girls than boys (83.3% vs. 68.2%; $\chi^2 = 5.2$, $p = 0.022$). The majority of respondents (93.5%) reportedly rinsed their mouth with water after brushing their teeth (girls and boys in 91.7% and 95.3%, respectively): to transfer water to the mouth, they used wet toothbrush (4.7%), put mouth under the tap (8.9%), and used cupped hands (35.5%) or a beaker (44.4%). For the use of a beaker for post-brushing rinsing, significant gender differences were revealed (52.4% of girls vs. 36.5% of boys; $\chi^2 = 4.3$, $p = 0.037$).

CONCLUSIONS

Very few 10- to 12-year-old study participants reported no post-brushing rinsing with water. Gender differences in toothbrushing frequency and in use of a beaker for post-brushing rinsing might be important when designing recommendations for effective use of fluoridated toothpaste.

OPD3.10 Assessment of the effectiveness of fissure sealants placed on permanent first molars

H. Fellagh, S. Guner*, N. Sandalli

Dept. Paediatric Dentistry, Yeditepe University Faculty of Dentistry, Istanbul, Turkey

AIM

Fissure sealants (FS) are highly effective in preventing dental caries in pits and fissures. The purpose of this study was to evaluate the retention and effectiveness of FS placed on the permanent first molars, in a sample of children regularly attending to recall visits, stratified according to their caries risk status.

METHODS

Data were collected from the dental records of 320 children (6 to 9 years old) whose dental treatments were carried out at Yeditepe University Department of Paediatric Dentistry and 697 FS applied to first permanent molars of were evaluated. Data were analyzed by Chi-square test, t-test and Fisher Exact test.

RESULTS

Of the 697 sealed surfaces, 546 (78.3%) needed no intervention 92 (13.1%) needed only resealing and 59 (8.17%) developed caries. Of 59 carious surfaces, 43 (21.29%) were from the high caries risk children, with 10 (8.47%) from the moderate risk group. The placement of FS and its replacement was significantly higher in the lower first permanent molars than the maxillary first permanent molars. Other variables such as age, sex and socioeconomic status did not show a significant effect on FS failure and caries development.

CONCLUSIONS

Children of high caries risk status are prone to develop occlusal caries following fissure sealant loss compared with those of moderate risk caries. All sealed surfaces should be monitored at regular intervals.

OPD3.11 Microleakage of hydrophilic sealant after different enamel etching techniques ES

Z. A. Guclu*¹, N. Donmez², T. Tuzuner³, M. E. Odabas⁴

¹*Trakya University Faculty of Dentistry Dept. of Paediatric Dentistry, Turkey*

²*Bezmialem Vakif University Faculty of Dentistry Dept. of Operative Dentistry, Turkey*

³*KTU Faculty of Dentistry Dept. of Paediatric Dentistry, Turkey*

⁴*Gazi University Faculty of Dentistry, Department of Paediatric Dentistry, Turkey*

AIM

The purpose of this study was to investigate the microleakage of hydrophilic fissure sealants (FS) in acid-etched and Erbium:Yttrium Aluminium Garnet (Er:YAG)-treated enamel.

METHODS

30 sound extracted human molars were selected and randomly divided into three groups; Group I, acid-etching (n = 10); Group II, Er:YAG laser; Group III, Er:YAG laser + acid-etching was used to treat occlusal surface. The surfaces were sealed with the same hydrophilic FS (UltraSeal XT® hydro). Then, all teeth were subjected to a thermocycling process, immersed into 0.5% basic fuchsin solution, sectioned in a bucco-lingual direction to obtain three slices of each tooth. Every sample was examined for dye penetration under stereomicroscope. The Kruksal-Wallis, Mann Whitney-U test with Bonferroni correction were used for comparing the groups.

RESULTS

Er:YAG laser + acid etch group (Group III) showed significantly lower microleakage scores compared to the acid-etching (Group I) and Er:YAG laser (Group II) ($p < 0.001$). No significant differences were found between the acid-etch and laser groups ($p > 0.05$).

CONCLUSIONS

The results of the present study would suggest that Er:YAG laser irradiation with a subsequent acid-conditioning showed better efficiency with hydrophilic fissure sealant.

OPD3.12 Prevalence of oral habits in children treated in hospital and its relation with the caretaker's attitude

A. Lipari*, A. Vera, G. De La Fuente, A. Munoz, G. Pimentel

Paediatric Dentistry Unit, Faculty of Odontology, University of Chile, Chile

AIM

To relate oral habits in children less than 48 months served in Calvo Mackenna's Hospital (HLCM) and its relation to the caregiver's attitude.

METHODS

Medical records from 156 patients served in Calvo Mackenna's Hospital (HLCM) in Chile between 2005 and 2012 were analyzed, assessing patients' oral habits and relating them to the caregiver's attitude. The attitude was determined by the treating dentist, regarding how the caregiver followed punctuality, attendance at appointments and the following of instructions, classifying that caregiver as cooperative, fairly cooperative or uncooperative.

RESULTS

From a sample of 156 children, 129 (82%) showed at least one habit, and 66% more than one: the most frequent was milk bottle sucking (75%), which is to be expected for this age. 23% had finger sucking, pacifier 19%, and 13% of tonguethrust. 39% of children used the bottle after 24 months. The caregivers' attitude towards treatment was assessed as: cooperative (84%), fairly cooperative (13%) and uncooperative (3%). The presence of oral habits was not significantly associated with any of the attitude categories.

CONCLUSIONS

The presence of oral habits was not related to the attitude of responsible adults in the study sample.

OPD3.13 Peripheral dentinogenic ghost cell tumor in an 8-year-old boy



H. E. Kim*, K. R. Kang, H. K. Hyun, S. H. Lee, K. T. Jang

Seoul National University Dental Hospital, Seoul, South Korea

INTRODUCTION

The dentinogenic ghost cell tumour (DGCT) is a locally invasive neoplasm characterized by ameloblastoma-like islands in a mature connective tissue stroma associated with the presence of aberrant keratinization in the form of ghost cells and varying amounts of dysplastic dentin.

BACKGROUND

In DGCT, two variants have been recognized: intraosseous (central) and extraosseous (peripheral). Peripheral DGCT shows a wide age range, however, most patients are usually older than 50 years. Of reported cases, the youngest patient is a 13-year-old boy by Abrams and Howell in 1968. In this report, a rare case of peripheral DGCT in an 8-year-old boy is presented with clinical, radiographic and histological findings.

CASE REPORT

An 8-year-old boy was referred to the Department of Pediatric Dentistry of Seoul National University Dental Hospital, Seoul, Korea, for the evaluation of reddish and nodular swelling on interdental papilla between the left mandibular central incisor and lateral incisor. Radiographically, no bone involvement was detected. Under local analgesia, excisional biopsy was performed and the excised mass was submitted for histologic examination. The lesion showed odontogenic epithelium, ghost cell and dentinoid material. The final microscopic diagnosis was a peripheral dentinogenic ghost cell tumor. Seven months of follow-up revealed no recurrence.

CONCLUSION

In paediatric dentistry, a peripheral DGCT is an extremely rare tumor, and only a few cases have been reported. The peripheral lesion can be easily confused with other gingival lesions. Therefore, the definitive diagnosis depends on histology and a biopsy with a microscopic examination is mandatory.

OPD3.14 Colour stability of composite resin with different polishing methods

J. Ryu*, K. T. Jang

Seoul National University Dental Hospital, South Korea

AIM

This was to monitor the changes of surface condition on the composite resin caused by polishing and ageing treatment, and also to evaluate the effect on the colour of the composite resin by the above mentioned changes.

METHODS

A total of 120 discs were prepared from microhybrid resin by using acrylic plate mold. Resin was filled into the mould, covered by mylar strip, compressed by slide glass, and then light cured. The samples were divided into four groups, according to the polishing method, and by degree of ageing treatment (brushing). Field Emission-Scanning Electron Microscopy was used to observe the surface condition, and Spectrophotometry was used to evaluate colour stability.

RESULTS

The colour change by curry solution was greatest in Group I (polished, 400 brushing cycles), followed by Group IV (non-polished, 5000 brushing cycles), Group II (polished, 5000 brushing cycles), and Group III (non-polished, 400 brushing cycles), in decreasing order. Colour change between Group IV and Group II was not statistically significant. The colour change after soaking in distilled water was greater on the polished samples but not greater than the acceptance ($\Delta ab > 3.37$). Once brushing was applied, the organic matrix was disappeared first, and then the exposed fillers were abraded later. Flat surfaces became more uneven after the brushing but the edge of exposed fillers became more soft and round.

CONCLUSIONS

The surface conditions and the colour stability of polished and non-polished samples were significantly different before the brushing, but the difference had been decreased as the abrasion develops.

SESSION OPD4 – CARIOLOGY

Date: Saturday 7th June, **Time:** 11:30–13:00, **Hall:** VASCO DA GAMA
Chair: Goran Dahllof, Sweden; Romana Koberova-Ivanckova, Czech Republic

OPD4.1 Longevity of composite fillings in primary teeth placed chair-side

K. Buecher*, I. Metz, V. Pitchika, R. Hickel, J. Klus

Dept. of Conservative Dentistry/Paediatric Dentistry, Ludwig-Maximilians-University of Munich, Germany

AIM

The aim of this retrospective study was 1) to describe the type and extent of composite resin (CR) fillings placed chair-side in primary teeth and 2) to analyse survival in regarding gender, age, operator, filled surfaces, Black-classification, dental-dam, calcium-hydroxide-lining, adhesive and composite used.

METHODS

Out of 600 patients ($\approx 6.6y$, m:f = 1:1.4) treated with CR due to caries on primary teeth, 2146 restorations were included. A total-etch-adhesive system (Syntac®1) or self-etchant system (Clearfil™ SE Bond; Kuraray Noritake Dental Inc., Japan) in combination with flowable (Tetric Flow®; Ivoclar Vivadent, Schaan, Liechtenstein) and/or packable CR (Tetric Ceram®) was used. Fillings were followed up to 8 years. Failures were evaluated according to FDI-criteria (Hickel et al. 2010). “Excel” and “R” were used for descriptive and Kaplan-Meier-analysis. The study was funded by institutional sources with no conflict of interest. A vote by the ethics committee of the medical faculty of the Ludwig-Maximilians-University was obtained (project-no. 030-13).

RESULTS

The mean annual failure rate was 2.9% over six years with a total loss of 17.14%. In 52% of the cases fillings failed due to secondary caries and 48% to other reasons. In total, 9.1% canines, 10.9% incisors and 80% molars were filled. A significantly lower longevity was found for younger age, high number of surfaces, high Black-classification, incisors, non-use dental-dam, total-etch-system and flowable (Logrank test; $p < 0.05$).

CONCLUSIONS

- 1) Composite resin fillings are a lasting, high-quality treatment option to restore carious primary teeth chair-side.
- 2) A strict caries prevention regimen should be followed to minimize loss of restorations due to secondary caries.

OPD4.2 The Use of Near Infra-Red Imaging for Caries Diagnosis in Children

O. Melnikova*¹, M. Duggal²

¹Dental Fantasy, Private Dental Clinic, Moscow, Russia

²Paediatric Dentistry Dept, Leeds Dental Institute, UK

INTRODUCTION

The aim of this paper is to present some clinical cases where both near-infrared imaging with Diagnocam (Kavo, Germany) and bitewings radiographs were done in children in private practice to show the additional diagnostic yields obtained with imaging combined with x-rays compared with using radiographs alone for diagnosis.

BACKGROUND

The diagnosis of subsurface non-cavitated lesions in the primary and young permanent dentition can be a challenge. Some of the reasons could be a non-cooperative child, or radiograph that is not of a diagnostic quality. The use of Near Infrared imaging method with such a group of patients makes diagnosis more accurate.

COMMENTS

The procedure for the examinations involved an initial professional tooth cleaning followed by visual examination of the full dentition and bitewing radiographs. For the NIR imaging every tooth was dried and camera positioned over the alveolar bone to get an image. Four cases are presented where it can be clearly seen that Diagnocam gave considerable additional diagnostic yields compared with bite wing radiographs. One case where NIR imaging and x-ray have the same picture and at least one case that highlights some pitfalls of using Diagnocam are also presented.

CONCLUSION

Although NIR is an excellent non-invasive addition to the repertoire of a paediatric dentist and sometimes can replace radiographs, dentists should be trained adequately in the use and interpretation of the images and should be aware of the pitfalls that imaging pose.

OPD4.3 Acceptability of three different caries treatment methods for primary molars among Lithuanian children

J. Narbutaite*¹, V. Machiulskiene¹, C. H. Splieth², N. P. T. Innes³, R. Santamaria²

¹*Faculty of Odontology, Lithuanian University of Health Sciences, Lithuania*

²*Dept of Preventive and Paediatric Dentistry University of Greifswald, Germany*

³*University of Dundee Dental School, Dundee, UK*

AIM

This study is part of an ongoing multi-centre trial testing three different approaches to caries management in primary molars. The aim was to evaluate acceptability of complete caries removal following conventional restorations (CR), sealing in caries with stainless steel crowns (Hall Technique, HT), and opening up a cavity + applying fluoride (NRCT), in a group of Lithuanian children.

METHODS

A total of 59 3-8-year-olds with one cavitated class II primary molar were treated by three dentists following random allocation to treatment. Treatment perceptions were assessed for children, parents, and dentists based on 5-point Likert scales, Visual Analogue Scale of Faces (child's pain perception) and Frankl scale (child's behaviour).

RESULTS

There was no difference in children behaviour with respect to different treatment modalities, the majority (> 86%) exhibited positive and definitely positive behaviour. In most cases (95%) dentists rated all treatment methods as equally easy to perform. However, CR procedure was reported as significantly longer, compared to NRCT and HT ($p = 0.004$, CI [0.002; 0.005]). Significant difference, with respect to different treatment types, was observed when assessing patient discomfort: less reports of no apparent discomfort were registered in HT group ($p = 0.032$, CI [0.029; 0.038]). Child's pain perception was mostly rated as low (84-95%), with no differences between groups. Most parents (86%) indicated all treatment procedures as comfortable, with only two cases rated as unpleasant in CR, and two cases moderate in HT groups, respectively.

CONCLUSIONS

Acceptability of CR, HT and NRCT techniques under conditions of this study was generally good when evaluated by children, their parents and dentists.

OPD4.4 Study of dentine mineralization intensity of primary and permanent teeth in case of caries in children

M. Shevchenko*, L. Kiselnikova, D. Lezhnev, L. Sangaeva, S. Tihonova

Paediatric Dentistry Department, Moscow State University of Medicine and Dentistry named after Prof. A.I. Evdokimov, Russia

AIM

To study dentine mineralization intensity of primary and permanent teeth in children.

METHODS

32 children, aged 4–14, were examined and treated for dentine caries of primary and permanent molars with different mineralization intensity. The patients were divided into two groups: Group 1 comprised 15 children (25 teeth), aged 6–14, with caries of permanent teeth and unfinished mineralization processes, Group 2 was 17 children (25 teeth), aged 4–6, with caries of primary teeth. In both groups the fluorescence analysis of mineralization levels was conducted by Kavo-diagnodent before and after removal demineralized dentine. The measurements were taken in conditional units (c.u.).

RESULTS

In Group 1 the data of the fluorescence analysis were: 32.12 ± 17.01 prior to the demineralized dentine removal and 29.25 ± 15.7 ($p \leq 0.001$) after removal of the demineralized dentine; the degree of the dentine mineralization increased by 9% after treatment. In Group 2 the dentine mineralization was to 30.52 ± 2.0 prior to treatment and 13.08 ± 1.96 ($p \leq 0.001$) afterwards. The increase of the dentine mineralization degree in Group 2 was 57%.

CONCLUSIONS

The study showed that mineralization intensity of hard tissues of primary teeth with fcomplete mineralization processes after mechanic and pharmaceutical treatment was 55% higher than that in permanent teeth with incomplete mineralization processes. This fact should be taken into account a strategy in treatment planning.

OPD4.5 Hidden caries misdiagnosed as pre-cancer

A. Gera*, U. Zilberman

Paediatric Dental Clinic, Barzilai Medical Center, Ashkelon, Israel

INTRODUCTION

In the 1980's a new type of carious lesion was added to the lexicon of dentistry, "Hidden caries". It is a dentinal carious lesion near the occlusal surface of the tooth, visible on a radiograph, while clinically the occlusal enamel is intact or minimally perforated. It presents dentists with challenges in diagnosis and treatment planning.

CASE REPORT

A 3 year old child was reported to the paediatric dental Unit at Barzilai Medical Center, Ashkelon, with a chief complaint of pain associated with an extra oral swelling on the right side of the mandible for 3 months, which regressed after antibiotic therapy but then reappeared. She attended several dentists for diagnosis, and was misdiagnosed as a pre-cancerous lesion. On extra oral examination, a well-defined, tender, hard swelling was noticed on the right side of the body of the mandible. Intraoral examination revealed intact teeth with buccal cortical plate expansion on the right side. Panoramic x-ray revealed that tooth 85 had 3 large roots bucco-lingually, and a peri-apical radiolucency. CT scan revealed bone resorption of the buccal cortical bone near tooth 85 and a radio-lucent area in the dentin under the MB cusp. The tooth was extracted. Penetration through the occlusal enamel was observed with a #8 endodontic file, reaching the pulp.

FOLLOW-UP

At follow up visits after 1 week, and 6 months later, no pain and no swelling were observed.

CONCLUSION

Hidden caries should be considered whenever a "non-caries" tooth results in a regional swelling.

OPD4.6 Minimal invasive treatment of white spot lesions – a case report

S. Hrvatin*¹, I. Cukovic-Bagic², J. Jelacic³, M. Vuletic⁴, H. Juric²

¹Dept. of Paediatric Dentistry and Orthodontics, Dept. of Dental Medicine, Faculty of Medicine, University of Rijeka, Croatia

²Dept. of Paediatric and Preventive Dentistry, School of Dental Medicine, University of Zagreb, Croatia

³Health Center East, Zagreb, Croatia

⁴Private Practice, Croatia

INTRODUCTION

The earliest evidence of caries lesions on smooth enamel surface are "white spot lesions", commonly seen after orthodontic brackets removal. These areas lose their transparency because of subsurface porosity and mineral loss, while the surface maintains its integrity.

BACKGROUND

White spot lesions are suitable for remineralization and arrest, otherwise the progression of caries leads to cavitation. Treating incipient caries implies both, prevention of caries progression and improving aesthetics. Good oral hygiene and application of remineralization agents are prerequisite for success. Microabrasion and enamel infiltration are the most used techniques for treatment of early enamel lesions.

CASE REPORT

A 17-year-old boy presented to our Department with clinical signs of white spots on smooth surfaces located on upper and lower incisors and canines after debonding of fixed orthodontic appliance. The lesions had score 3 by White Spot Lesions index. A remineralization agent of ACP-CPP was recommended for 3 weeks. After this treatment, lesions on the lower teeth were less visible and had significantly better appearance. The upper teeth were treated with microabrasion and infiltration (Icon, DMG, Germany). After microabrasion with microabrasive slurry (whiteness RM, FGM, Brazil), lesions were etched with 15% hydrochloric acid, rinsed with water and ethanol is applied. Finally, the low-viscosity infiltration resin was applied twice and light cured. Improvement in aesthetics was achieved immediately. One year after, treated surfaces showed very good aesthetics without caries progression.

CONCLUSION

The combination of microabrasion and infiltration ensures a successful treatment of early enamel lesions and preserves sound hard dental tissue.

OPD4.7 Use of the ICDAS system and a fluorescence intraoral camera in examining occlusal surfaces

A. Theocharopoulou*, M. D. Lagerweij, A. J. P. van Strijp

Department of Cariology Endodontology Pedodontology, Academic Centre for Dentistry Amsterdam (ACTA), Amsterdam, Netherlands

AIM

To investigate the reliability of the use of the ICDAS system and a fluorescence intraoral camera in examining occlusal surfaces of primary and permanent teeth from photographs.

METHODS

White light and fluorescent photos of 37 occlusal surfaces of posterior primary and permanent teeth of children were taken with an intraoral camera. Five experienced dentists with different backgrounds, who only received a short online training programme in the use of the ICDAS system (ICDAS.org), scored the white light images. The examiners were trained for the scoring of caries on the fluorescent images with example images. The surfaces on the fluorescent images were scored as sound, enamel lesions and dentine lesions.

RESULTS

On white light images the examiners found 32 enamel lesions and 5 dentine lesions. On the fluorescent images 23 enamel lesions, 9 dentine lesions and 5 caries free surfaces were observed. The inter-examiner reliability (ICC) using the ICDAS system on white light photographs on average measures was 0.72 and for single measures 0.37, and for the fluorescence measurements it was 0.74 and 0.37, respectively. The correlation of white light ICDAS with fluorescence at cut-off level dentine lesions was 0.4 and, at cut-off level enamel lesions, it was 0.5 (Spearman rank, $p < 0.01$).

CONCLUSIONS

A short training of dentists in the use the ICDAS system results in poor inter-examiner reliability for the analysis of occlusal lesions on white light images. Fluorescence image observations and scorings were statistically significantly correlated with the white light observations and scorings.

OPD4.8 Influence of operator experience on the performance of resin infiltration in proximal caries lesions

E. Diab*¹, D. Hesse, C. Bonifacio

¹Department of Pediatric Dentistry, ACTA, Amsterdam, Netherlands

AIM

This retrospective study was carried out to investigate whether the operator experience influences the performance of resin infiltration for treating proximal carious lesions in permanent and primary teeth.

METHODS

Data from 59 patients (4–16 years old) treated between 2010 and 2013 at the Academic Centre for Dentistry Amsterdam (ACTA) were obtained. Teeth with visually non-cavitated caries lesions in enamel or outer third of dentine treated with resin infiltrant (Icon, DMG, Hamburg) were included if baseline and follow-up bitewing radiographs were present. The operators were an expert professional trained for resin infiltrant technique, non-trained dental students supervised by clinical instructors or non-trained graduated dentists. Bitewings were randomized and caries lesion depth was evaluated in a blind way by two calibrated evaluators (kappa inter-value 0.87) based on a 5-point classification system. Chi-square test was applied to investigate differences between operators and logistic regression analysis was used to test for variables association with caries progression ($\alpha = 5\%$).

RESULTS

43 patients fulfilled the inclusion criteria and 130 surfaces in 115 teeth were evaluated. The mean interval between baseline and evaluation radiographs was 15.6 months. The mean overall success rate was 69.2%. Treatments performed by graduated dentists presented 2-fold more likely to have caries progression than those treated by supervised students ($p = .015$) and by the expert professional ($p = .008$). Logistic regression showed that primary teeth were 70% more likely to present caries progression than permanent teeth.

CONCLUSIONS

The operator's clinical experience does not influence the performance of a resin infiltrant.

OPD4.9 Comparison of some salivary proteins by Gel Electrophoresis in caries and caries-free children

M. Bakkal*¹, B. Kargul², Timucin Ari³, S. Hatibovic Kofman³, W. L. Siqueira⁴

¹Dept. of Paediatric Dentistry, Bezmialem Vakif University, Turkey

²Dept. of Paediatric Dentistry, Marmara University, Turkey

³Dept. of Paediatric Dentistry, Western University, Canada

⁴Dept. of Biochemistry, Western University, Canada

AIM

Saliva contains a wide spectrum of proteins such as Histatins and Statherin which have biological functions concerning dental caries. In the present study we aimed to analyze the composition of these specific salivary proteins in caries-free and caries-active subjects by Sodium Dodecyl Sulfate-Polyacrylamide Gel Electrophoresis (SDS-PAGE), Discontinuous Native-PAGE and Basic gels.

METHODS

18 children aged 3–5 years old were included in this study: 8 children had active dental caries and 10 were caries-free. All samples were collected in the morning between 9:00 and 11:00 to avoid the circadian rhythm effects on saliva composition. The supernatant was used to determine the total protein concentration of whole saliva supernatant by bicinchoninic acid (BCA) assay. 30 µl of samples were subjected to SDS-PAGE, Discontinuous Native-PAGE and Basic Gels by using BioRad-Precision Plus Protein All Blue Standards, Statherin and Histatins, respectively.

RESULTS

Salivary proteins were identified according to their relative mobility in gel and stain patterns. The number of bands present for each subject was counted on the gels. Based on SDS-PAGE, there was no difference on protein separation among both groups. According to the stain intensity as absent and present, Statherin bands were scored in 60% of caries-free samples and Histatin1 were present in 30% of them.

CONCLUSIONS

There is a trend for Statherin and Histatin1 in Discontinuous Native-PAGE and Basic gels. These proteins are known as the precursor proteins of acquired enamel pellicle, which regulates mineralization/demineralization processes.

OPD4.10 Microbiological and clinical investigations in infants with cleft lip and palate: 3 years follow-up

M. A. Durhan*, G. Kulekci, N. Topcuoglu, I. Tanboga

Paediatric Dentistry, Marmara University, Dental School, Turkey

AIM

This was to determine the microbiological effects of primary tooth eruption on oral flora in newborns and infants with cleft lip-palate and secondly to evaluate three years clinical follow-up findings.

METHODS

21 cleft lip and palate and 13 healthy babies were included the study. Intra-oral samples were taken by using sterile cotton swabs immediately after birth, after eruption of first primary tooth completely, then finally third samples were collected when the first primary molars erupted. MS, LB, CA and S.aureus colonies were calculated as CFU/mL with the aid of stereoscopic microscopy than classified into two groups according to the determined reference values for each microorganism colonies. The babies were clinically examined, and dft indices were noted.

RESULTS

The number of babies hwith Lactobacilli was statistically significantly higher in cleft lip-palate group after birth and after eruption of first milk tooth ($p = 0.029$, $p = 0.030$). Although there was no significant difference in other microorganisms between the groups, the number of cleft lip and palate babies who were determined to have Mutans streptococci, Candida Albicans and S.aureus was higher than in healthy infants. There were no statistically significant differences in dft scores between the groups. Initial caries was found in 20% of children with an oral cleft compared to 0% of controls after first primary incisors had totally erupted.

CONCLUSIONS

Detection of caries-pathogenic microorganisms in infants with CL/P showed significant differences over three years. The caries rates for CL/P patients over three years was similar to that of cleft-free babies.

OPD4.11 Gene expression analyses of gtf, dex and lacG from Streptococcus mutans between Glucan biofilm and planktonic culture

H. Nishimata, K. Sato, Y. Kamasaki, T. Hoshino, T. Fujiwara*

Dept. of Pediatric Dentistry, Nagasaki University Graduate School of Biomedical Sciences, Japan

AIM

To re-evaluate a relation between nursing bottle caries and Streptococcus mutans by comparison of the gene expression of glucosyltransferase(gtf), dextranase(dexA) and beta-galactosidase(lacG) between in the glucan biofilm and planktonic culture.

METHODS

(1)-1. Preparation of S. mutans floating in culture solution. S. mutans MT8148 were grown in brain heart infusion (BHI) broth (Difco) at 37°C in an anaerobic condition for 16 hours. The planktonic cells were separated from culture solution by centrifugation. (1)-2. Preparation of S. mutans in glucan biofilm. S. mutans MT8148 were cultured in BHI broth with 1% sucrose at 37°C in an anaerobic condition at a 30° angle for 16 hours. The S. mutans cells contained in the glucan biofilm on the glass tubes were mechanically removed by a sterilized scraper. (2) Extraction and purification of total RNA was performed by Cury JAFs method (2007). The gene expression of gtf, dex, and lacG gene was carried out by using real time RT-PCR based on the comparative Ct method.

RESULTS

In the biofilm condition, the gene expression of 3 gtf's (gtfB, gtfC, and gtfD) and lacG genes were suppressed and dexA was up-regulated.

CONCLUSIONS

These results indicated that S. mutans in the biofilm would intake fermentable carbohydrate by the hydrolysis of the surrounding glucan rather than from the outside of the biofilm. In conclusion, it was hypothesized that nursing bottle caries was affected not by the S. mutans adhered on tooth surface but by the organic acid derived from some other bacteria in saliva.

OPD4.12 Clinical evaluation of the success of posterior preformed zirconia crowns: a pilot study

S. Lopez Cazaux*, I. Hyon, T. Prud'homme, C. Lussion, S. Dajeau Trutaud

Faculty of Dental Surgery, CHU Nantes, France

AIM

This was to assess the clinical performance and success of preformed zirconia crown (ZC) on primary molars in a pilot study.

METHODS

10 ZC (EZ-Pedo®) were placed in 9 children with a mean age of 7 years. Crown preparation followed the clinical procedure detailed by the manufacturers. The crowns were evaluated clinically at 1, 3, 6, 12 and 18 months, and the following parameters were assessed: occlusion, retention, gingival health, attrition of the antagonist and aesthetic.

RESULTS

The tooth reduction was more extensive compared to preformed metal crowns, to allow for correct occlusion. All crowns were retained after 18 months, and were intact. It was observed that there was a very good integration of ZC. The structures around the crown were preserved. The tooth preparation could be a little aggressive for the gingiva. But, the long-term follow-up showed a good healthy periodontal tissues. No unusual or accelerated attrition of the opposite tooth was observed. The aesthetics were restored and child and parental satisfaction were excellent.

CONCLUSIONS

ZC are a good solution to restore decayed primary molars. They provide sustainable functional restoration. They also restore tooth natural appearance and provide an aesthetic option.

SESSION OPD5 – SPECIAL NEEDS PATIENTS

Date: Saturday 7th June, **Time:** 14:00–15:30, **Hall:** COLUMBUS C

Chair: Rok Kosem, Slovenia; Chris Deery, UK

OPD5.1 A survey of referrals to the Paediatric Dentistry department at the University Medical Centre (Slovenia)

M. Cilensek, J. Jozef, T. Tomazevic, R. Kosem*

Dept. of Paediatric and Preventive Dentistry, University Medical Centre, Ljubljana, Slovenia



AIM

In Slovenia, specialists in paediatric and preventive dentistry are accessed predominantly through referral from primary dental care providers (gate-keepers), and from paediatricians or other specialists. Specialist services are provided by regionally distributed specialists and by the Department of Paediatric and Preventive Dentistry, University Medical Centre Ljubljana (DPPD-UMCL). The principle aims of our survey were to evaluate trends and to elucidate the main reasons for referrals to DPPD-UMCL.

METHODS

To determine the annual rates, DPPD-UMCL's records of referrals for the past 9-year period were examined. Referral forms of all patients, newly admitted to DPPD-UMCL in 2012, were thoroughly reviewed; the main reason for each referral was classified into one of twelve categories, according to the classification developed by the Swedish Society of Paediatric Dentistry.

RESULTS

In the period 2004–2010, the number of referrals to DPPD-UMCL remained stable, with 213.1 ± 13.2 new admissions/year on average; in 2011 and 2012 it increased by 23% and 89%, respectively. Four percent of referral forms for 2012 were excluded from further analysis as the reason for referral was not clearly stated; among the rest, the main reason for referral was dental anxiety/behaviour management problems (42%), followed by medical conditions/disability (22%) and traumatic injuries (18%).

CONCLUSIONS

As no formal changes occurred in the Slovenian dental health-care system recently, the steep increase in number of referrals to DPPD-UMCL is surprising and merits further analysis. Targeting the most frequent reason for referral, improvement of care for children with dental anxiety/behaviour management problems through continuing education for general dental personnel should be emphasised.

OPD5.2 Oral health-related quality of life among children after dental general anaesthesia treatment

B. Jankauskiene*¹, J. I. Virtanen², J. Narbutaite¹, R. Kubilius¹

¹Faculty of Odontology, Lithuanian University of Health Sciences, Lithuania

²Institute of Dentistry, University of Oulu, Finland

AIM

This was to analyse the impact of dental general anaesthesia (DGA) treatment and its determinants for young children's oral health-related quality of life (OHRQoL) in Lithuania.

METHODS

This was a prospective clinical follow-up study on OHRQoL among all young Lithuanian child patients receiving DGA treatment at the Lithuanian University of Health Sciences Hospital during 2010–2012. The study comprised of the under school-aged patients' (n = 144) clinical dental examinations, data extracted from the patient files and an OHRQoL survey among the parents prior to the treatment. A follow-up OHRQoL survey was performed one month after the DGA treatment. The Early Childhood Oral Health Impact Scale (ECOHIS) was used to evaluate children's OHRQoL and Wilcoxon signed-rank test served for statistical analyses.

RESULTS

Complete baseline and follow-up data were obtained for 140 and 122 participants respectively (84.7% follow-up rate). Pain and eating problems for children, and parents feeling upset and guilty, were the most frequently reported impacts at baseline. The ECOHIS scores were found to be associated with children's gender, age and parent's education level. The ECOHIS score decreased significantly (69.5%, $p < 0.001$) after the DGA treatment, showing a large effect size for the child and family sections of the ECOHIS.

CONCLUSIONS

Young Lithuanian children in need for DGA treatment have an impaired OHRQoL, however it improves significantly after DGA treatment and has a positive impact for their families.

OPD5.3 Twenty-five years of planned dental care for handicapped children at the Center Dobrna

M. Tome*, M. Skapin

Community Health Center, Celje, Slovenia

AIM

Additional care for special biological and social category of the patients is needed to establish the optimal status of care and health and follow the WHO goal: health for all. The dental team and professional organizations have both moral and ethical responsibilities to follow the ethical codex and declarations with handicapped child dental patients.

METHODS

The Qualify, Work and Guardianship Center in Dobrna (Slovenia), takes care of children and adolescents with moderate, and severe disabilities. A special dental care program has been running for 25 years at the Center to prevent oral and teeth diseases. The staff at the Center has an important role, because on a daily basis it ensures good dietary habits, helps with teeth cleaning, preparing and motivating patients for visiting the dentist, assisting in the dental office, informing the parents about the dentist plan and doing myofunctional exercising. The dental team takes care of: planning and providing the preventive and curative processes, educating the parents and caregivers, preparing the children for restoration under general anaesthesia and maintaining dental health after it, educating the staff at the Center.

RESULTS

We evaluated our programme in the last ten years and compared the results with the initial ten years (HI-square). DMF index, curative needs and needs for the restoration under general anaesthesia have decreased. Emergency treatment is rarely needed, and the number of caries free children has been doubled.

CONCLUSIONS

Planned dental care for handicapped children is needed, to ensure better oral health and higher quality of life.

OPD5.4 In-school fluoride varnish application for children with learning difficulties: 7-year evaluation

J. C Harris*¹, A. R Vora¹, D. Worsley², Z. Marshman²

¹Sheffield Salaried Primary Dental Care Service, Sheffield Teaching Hospitals NHS Foundation Trust, UK

²School of Clinical Dentistry, University of Sheffield, UK

AIM

To evaluate a topical fluoride varnish application (FV) programme in special schools for children and young people (CYP) with severe learning difficulties and complex needs (SLDCN).

METHODS

Dental screening was offered at all state-funded special schools for CYP with SLDCN in Sheffield. FV was dentist-prescribed in accordance with national evidence-based guidelines and applied in school by a trained team of dentists, dental therapists and dental nurses working to an agreed protocol. Summary data were extracted annually from records kept using a standard proforma for routine service monitoring completed prospectively during 7 consecutive school years (2006/07 to 2012/13). Data included number of CYP per year offered screening, consented to screening and to FV, and those who received FV.

RESULTS

The mean number of CYP offered screening per year was 158 (range 147-170) for primary school-aged children (3–11 years; pCYP) and 138 (range 131–150) for secondary school-aged CYP (11–19 years; sCYP). Mean proportions consenting to screening were 87.9%/91.4% for pCYP/sCYP. At baseline in 2006/7, 12.9% (19/147) of pCYP and 2.2% (3/136) of sCYP received two or more FV applications, increasing to 61.2% (104/170) and 69.3% (104/150) respectively in 2012/13. These increases were statistically significant for both pCYP and sCYP ($p < 0.001$, chi-squared test).

CONCLUSIONS

Following implementation of evidence-based guidelines the proportion of CYP with SLDCN receiving two or more yearly applications of FV increased significantly over a 7-year period. There remains potential for further improvement.

OPD5.5 Case Reports of Three Siblings with Epidermolysis Bullosa

A. T. Tanyeri*, M. Koruyucu, F. Seymen

Department of Pediatric Dentistry, Faculty of Dentistry, Istanbul University, Turkey

INTRODUCTION

Epidermolysis bullosa (EB) is a group of genetic disorders involving tissues of ectodermal origin such as skin, mucous membranes, and tooth abnormalities. It is characterized by mechanical fragility, blisters and erosions of skin and mucosa. EB is classified into three clinical types; simplex, junctional, and dystrophic.

BACKGROUND

Epidermolysis bullosa simplex (EBS) is characterized by formation of intra-epidermal blisters secondary to trauma; the level of clinical blisters is mild and generally heals without scarring. It is associated with hand and nail abnormalities, and oral findings such as hypoplastic enamel. The aim of this presentation is to report cases of three siblings with EBS.

CASE REPORT

Three siblings with EBS were referred to the Dept. of Paediatric Dentistry. They were 10, 8 and 4 years of age. The 10-year old boy had more serious skin problems and oral findings than the others. His teeth had developmental defects and pits; small blisters were formed in the oral mucosa. He had also nail, hand and foot disorders. The 8-year-old sibling had enamel hypoplasia as well, and his left kidney was congenitally missing. The 4-year-old had skin abnormalities and mild dental disorders.

CONCLUSION

All of the siblings had dental abnormalities, and hand and nail disorders. Specific oral manifestations were seen in these cases and dental treatment should be carried out carefully to avoid blister-formation in the oral mucosa. For successful teamwork, orthodontics, genetics and dermatology consultations should be made regularly.

OPD5.6 Oral health status in children with intellectual disabilities living in orphan institutions in Moscow

Y. Pakhomova*, O. Avraamova, M. Korolenkova

Central Research Institute of Dentistry and Maxillofacial Surgery, Moscow, Russian Federation

AIM

To assess the oral health status of children with intellectual disabilities living in Orphan Institution For Children with Special Needs #15, Moscow, Russia in order to provide better preventive dental care and dental treatment.

METHODS

Tooth decay incidence, DMF and OHI-S index were evaluated in 71 children (32 males and 39 females). Children were divided in two groups according to their age: 21 patients aged 12 years and 50 patients aged 15 years.

RESULTS

Among 12-years and 15-years old children tooth decay incidence was 23.8% and 50%, DMF 1.23 and 3.6, respectively. In 42 of the 71 (59.2%) poor oral hygiene index was observed.

CONCLUSIONS

The results showed age-related tooth decay incidence and DMF growth in adolescents with intellectual disabilities living in orphan institution. Oral hygiene was unsatisfactory in more than half of the children. Oral care in such children is usually complicated because of behavioural and mental disorders dictating the need for dental treatment under general anaesthesia. Meticulous preventive care and special dental rehabilitation program are crucial. There is a strong need for dental hygienist to be included in the staff of orphan institutions for children with intellectual disabilities.

OPD5.7 Oral status and oral hygiene habits of Romanian Special Olympics athletes

A. Vinereanu*¹, A. M. Bratu², R. Ghiran³, M. Mesaros³, A. Balan⁴

¹*Special Olympics Romania, Romania*

²*Carol Davila University of Medicine and Pharmacy, Romania*

³*Iuliu Hatieganu University of Medicine and Pharmacy, Romania*

⁴*Gr. T. Popa University of Medicine and Pharmacy, Romania*

AIM

To evaluate the oral status and oral hygiene habits of 231 self-selected Romanian Special Olympics athletes (136 male, age 8-61 years, mean 21.7).

METHODS

Athletes were screened in field conditions, by trained volunteers, during SO National Games 2013. The dental and periodontal status of the athletes were recorded, as well as their home oral hygiene habits. Plaque was scored using Silness & Loe Index (PI). Data was digitally recorded (as part of SO Healthy Communities Project) and analyzed using IBM SPSS 20. Supervised toothbrushing training was provided by dental students and kindly supported by Colgate-Palmolive.

RESULTS

Mean DMF-T was 8.65 (with a "D" component of 4.79). 38.5% of the screened athletes had at least one missing molar. Most subjects had poor oral hygiene. Mean PI was 1.52, 82.3% of the athletes had gingivitis and 48.1% had calculus. 88.3% brushed their own teeth. 87.9% used manual toothbrush exclusively, 4.3% used an electrical brush and 6.1% used both manual and electrical brushes. Only 3.9% currently used dental floss and 8.7% used fluoride gel/mouthrinse. 36.8% had regular dental check-ups. Down-syndrome athletes (DS) had fewer decayed teeth (ss, $p < 0.05$) and were more likely to have sealants (ss, $p < 0.01$) than non-Down subjects. DS also had less calculus and more access to dental check-ups (ss, $p < 0.01$).

CONCLUSIONS

Romanian SO athletes have relatively poor oral hygiene and periodontal status, limited access to dental care and high unmet treatment needs. Oral hygiene and caries prevention programs focussed on this category are needed.

OPD5.8 Oral health status in children with special needs in Latvia (pilot study)

V. Tupcijenko*, I. Viduskalne, I. Bazarova

Dept. of Conservative Dentistry of Riga Stradins University, Riga, Latvia

AIM

To determine the oral health status for children with special needs.

METHODS

Study was carried out in boarding elementary school for children with special needs No.1 in Riga (in the morning). The study involved children with mental and physical disabilities between 6 and 18 years old. For all children who participated in the study caries level was detected with DMFT index; oral hygiene was evaluated with simplified Green-Vermillion index (teeth were coloured with erythrosine solution). All data was statistically analysed.

RESULTS

98 children participated in the study. 25.5% – girls ($n = 25$) and 74.5% – boys ($n = 73$). 55 (56%) pupils were 7–12 years, 43 (44%) – 13–18 years. DMFT index in mixed dentition was 6.71 (SD = 2.86) and in permanent occlusion – 6.29 (SD = 3.47). There are no significant difference between girls and boys – 7.50 (SD = 2.71) and 6.17 (SD = 3.21) respectively ($p > 0.05$). Oral hygiene index was 2.37 (SD = 0.49) for 7–12 years old and 2.23 (SD = 0.63) for 13–18 years old children. For girls oral hygiene index was 2.39 (SD = 0.42), for boys – 2.28 (SD = 0.62). After supervised tooth brushing the oral hygiene index was 0.85 (SD = 0.47) for 7–12 years old, and 0.89 (SD = 0.46) for 13–18 years old participants ($p < 0.0001$).

CONCLUSIONS

All participants had a high DMFT index and poor oral hygiene. Supervised brushing significantly reduced the amount of plaque in children with special needs.

OPD5.9 Oral health in children with Down syndrome: Parents' views on dental care in Belgium

I. Descamps*¹, L. Marks¹, R. Leroy²

¹*Centre of Special Care in Dentistry, Ghent University Hospital, Belgium*

²*Previously Centre of Special Care in Dentistry, Ghent University Hospital, Belgium*

AIM

To evaluate the views and knowledge regarding dental care, of parents who have a child with Down's syndrome (DS).

METHODS

Parents of children with DS were invited to fill in a questionnaire. They were recruited by the Flemish Organization for DS in schools for children with special needs and by four multidisciplinary medical DS teams at 4 University Hospitals. Chi-square tests were used to test the correlation between different variables. Results were assessed in 95% confidence interval with $p < 0.05$ level.

RESULTS

Mean age of the children was 10.1 years old (SD: 5.3). Oral health was indicated as rather good by 53% of the parents. Of the children, 66% had been to a dentist within the last six months. Most of the children (64%) received a dental examination. In 53% of the cases, parents decided to visit the same dentist for their child with DS and their other child (ren) without DS. 83% of the parents were pleased with their dentist. They expected the dentist to be kind and reassuring. Children aged 10 years or younger obtained significantly more help with tooth brushing (79%) than children older than 10 years (36%). However 20% of the parents had never received any oral hygiene instructions for their child with DS.

CONCLUSIONS

Prevention was the most frequent act that was done by the dentist. Parents seemed to be pleased with the dentist who treated their child with DS.

OPD5.10 Dental trauma in permanent incisors among Special Olympics athletes from Europe and Eurasia

C. Fernandez*¹, I. Kaschke², S. Perlman, B. Koehler, L. Marks¹

¹*Dental School, Centre of Special Care in Dentistry, Ghent University, Belgium*

²*Special Olympics Germany, Healthy Athletes, Berlin, Germany*

AIM

Special Olympics athletes, as part of the population with intellectual disabilities, are reported to be more vulnerable to dental injuries due to poor lip closure, slow response to environmental obstacles, oral pathologic reflexes or dental features. The aim of this study was to assess the prevalence of traumatized permanent incisors among athletes from Europe and Eurasia.

METHODS

A retrospective longitudinal study was performed with data collected through standardized screening forms and procedures from consenting 15,941 athletes from the annual Special Olympics held in 49 countries, from Europe and Eurasia, between 2007 and 2012. The presence of dental injury considered only central and lateral permanent incisors that were either absent, fractured or discoloured indicating loss of vitality. The data was split in three age groups, children adolescents and adults, in order to be analysed with One-Way ANOVA test. The level of significance was predetermined at a p value < 0.05 .

RESULTS

A total of 2190 athletes presented dental injury (13.02%) with a std. deviation. of 5.02%, and there were no significant differences ($p = 0,136$) in mean dental injury between age groups.

CONCLUSIONS

The present data suggest that dental trauma is an actual problem among individuals with special needs. Its distribution among the different countries had a remarkable variability, but it is evident that a relatively high proportion of this population is in need preventive programs and oral health care.

OPD5.11 Dental management of a paediatric patient with mastocytosis under local anaesthesia:

A Case Report

Y. Akdemir*, A. Olmez, G. Kip

Dept. of Paediatric Dentistry, Gazi University Faculty of Dentistry, Turkey

INTRODUCTION

Mastocytosis is a large and heterogeneous group of diseases that is characterized by abnormal accumulation of mast cells in various tissues such as liver, spleen, lymph nodes, bone marrow, lung, gastrointestinal tract and particularly the skin.

BACKGROUND

Patients with mastocytosis are at risk of anaphylaxis during anaesthesia due to an increased number of mast cells. In this case report, dental treatment of a patient with mastocytosis under local analgesia, and treatment points to be considered, are described.

CASE REPORT

A 10-year old boy with mastocytosis was admitted to the Department of Paediatric Dentistry with a complaint of dental caries. Following intraoral and radiographic examination, fillings and extractions under local anaesthesia were planned. The patient's paediatrician recommended that dental treatment might be performed by using preservative-free amide group local anaesthetic in the presence of an anaesthetist who could intubate the patient. It was also recommended by the paediatrician that adrenaline, intravenous antihistamines and ventolin could be given if necessary in case of emergency. It was decided to use Safecaine (3% mepivacaine hydrochloride) as a preservative-free amide group local anaesthetic. Dental treatment was completed without any complication. To the best of our knowledge the use of Safecaine in these patients has not previously been reported.

CONCLUSION

Choice of dental local anaesthetics is important in patients with mastocytosis due to the risk of anaphylaxis. Use of Safecaine, a preservative-free amide group local anaesthetic, can be a suitable alternative in such cases.

OPD5.12 Effect of oral diseases and disorders on quality of life of children with cerebral palsy

E. Alvarez-Vidigal*, J. Abanto, A. L. Ciamponi, F. Medeiros Mendes, M. Bonecker

University of Sao Paulo, Brazil

AIM

This was to investigate the effect of oral diseases and disorders on the oral-health-related quality of life (OHRQoL) of children with CP, adjusting this to allow for socioeconomic factors.

METHODS

Data were collected from 60 pairs of parents–children with CP. Parents answered the child oral health quality of life questionnaire (parental caregivers perception questionnaire and family impact scale) and a socio-economic questionnaire. Dental caries experience, traumatic dental injuries, malocclusions, bruxism, and dental fluorosis were also evaluated.

RESULTS

The multivariate adjusted model showed that dental caries experience ($p < 0.001$) and the presence of bruxism had a negative impact ($p = 0.046$) on the OHRQoL. A greater family income had a positive impact on it ($p < 0.001$).

CONCLUSIONS

Dental caries experience and bruxism are conditions strongly associated with a negative impact on OHRQoL of children with CP and their parents, but a higher family income can improve this negative impact.

OPD5.13 Evaluation of the treatment under general anaesthesia of healthy and special needs patients

M. Kasparova*, M. Buckova, T. Dostalova

Dept. of Stomatology, 2nd Faculty of Medicine, Charles University in Prague and Motol University Hospital, Czech Republic

AIM

This study evaluates results obtained from the documentation of patients, who underwent treatment under general anaesthesia at the Department of Stomatology, 2nd medical faculty of Charles University, Prague in years 2009–2012. Index dmft (decayed – missing – filled teeth) was used for comparison

METHODS

The study group consisted of 2,274 children (1,123 boys and 713 girls. These patients were divided into two groups. Group one – patients who underwent general anaesthesia under protocol of day-surgery, and group two – patients who were admitted for over night stay. Average age, sex and dmft were counted. Five-year old children were chosen based on the WHO guidelines for the setting of the oral health status. A descriptive statistical analysis of the mean standard deviation was conducted with a focus on three factors; sex, age and year.

RESULTS

The dmft of the patient was as follows: special needs patients' dmft 9.86, healthy children 9.49. The average age of healthy patients was 4.77. The average age of special needs patients was 7.69. Boys were the majority of treated children. Descriptive statistics with mean standard deviation were computed. Significant differences between groups were calculated.

CONCLUSIONS

The use of general anaesthesia in paediatric dentistry has a wide effect and application. The oral health status of special needs patients was significantly worse than the healthy patients.

OPD5.14 Dental erosion in 5-yr-old children with congenital heart defects (CHD) in western Norway

T. B. Sivertsen*¹, A. Halle¹, A. N. Astrom¹, G. Greve², M. S. Skeie¹

¹Department of Clinical Dentistry, University of Bergen, Norway

²Department of Clinical Medicine, University of Bergen. Department of Heart Disease, Haukeland University Hospital, Norway

AIM

To estimate prevalence and severity of dental erosion in a group of 5-yr-olds in need of life-long follow-up due to CHD.

METHODS

This was a cross-sectional survey in which 106 children with CHD in western Norway were invited to participate. A total of 72 children (38 girls and 34 boys) were included in the study. Eight individuals could not cooperate optimally for erosion registration, and were registered as missing. Erosion was registered by two trained and calibrated dentists on buccal and lingual surfaces of maxillary anterior teeth and on surfaces with molar cuppings. The erosion diagnostic system used was detailed (4-graded). Clinical photos were taken when possible. Erosions were defined as severe when involving the dentin layer.

RESULTS

Cohen's kappa scores for inter-examiner tests were estimated to 0.87 for maxillary anterior teeth and to 0.88 for molar cuppings. The prevalence of erosion was 54.7% (n = 35/64). Affected children with severe erosion on one or more maxillary anterior teeth/molars was found to be 20.3% (n = 13/64), boys (22.6%) and girls (18.2%). The most common teeth affected by erosion were the maxillary anteriors.

CONCLUSIONS

Erosion was found to be 54.7% among children with CHD when all grades of erosion lesions were registered. Among the children affected by erosion 20.3% suffered from severe erosion.

OPD5.15 Management of a crowded dentition in a nine-year old boy with Fibrodysplasia Ossificans Progressiva

L. Bryce, J. Kirby, N. O'Murchu*, C. Campbell, G. Wright
Oral Health Directorate, Greater Glasgow and Clyde, Scotland, UK

INTRODUCTION

Fibrodysplasia Ossificans Progressiva (FOP) is a rare autosomal dominant disorder (1 in 2 million) characterised by progressive post-natal heterotopic ossification (HO) of soft tissues.

BACKGROUND

FOP is the most disabling condition of extra-skeletal ossification known in humans, causing immobility through progressive metamorphosis of skeletal muscles and soft connective tissue into a second skeleton of heterotopic bones. High-dose corticosteroids are used in the early stages of flare-ups to reduce intense inflammation. Surgical attempts to remove heterotopic bone commonly lead to episodes of explosive new bone formation.

CASE REPORT

A nine-year-old boy with FOP attended the Paediatric Department at the Royal Hospital for Sick Children, Glasgow for orthodontic assessment. On examination, severe crowding with insufficient space for all canines and second premolars was evident. A treatment plan of four permanent unit extractions was proposed. The risks of extraction under local anaesthetic are HO of the masticatory muscles and ankylosis of the TMJs. Intraligamentary injections are preferred, and any general anaesthetics should be via nasal fibre-optic intubation to minimise retropharyngeal ossification. Dental treatment options for FOP patients include routine dental care, orthodontic treatment in normal- to almost-normal mouth opening, and extractions using a buccal approach if required.

CONCLUSION

The patient's parents were adamant that they did not want extractions undertaken given the risks of treatment. An enhanced preventive regime was instigated and he is currently caries free. To conclude, special precautions should be taken to minimise exacerbation of disease processes in FOP. Preventive measures should commence early and be regular in these patients to avoid the need for dental treatment.

OPD5.16 Surgical Assisted Rapid Palatal Expansion in the Treatment of Maxillary Hypoplasia: A Case Report

M. Sencymen, E. Arat Maden, G. Guven Polat*, E. Yildirim
Pedodontics, Gulhane Military Medical Academy, Ankara, Turkey

INTRODUCTION

Surgically assisted rapid palatal expansion (SARPE) has gradually gained popularity as a treatment option to correct maxillary transverse deficiency (MTD). The aim of this paper is to report our experience in the surgical treatment of a 17 years old patient treated with surgically assisted rapid palatal expansion (SARPE) for midfacial retrusion and significant transverse deficiency.

CASE REPORT

A 17-year-old male patient presented for orthodontic treatment with a complaint of eating difficulty and aesthetics problem. Intraoral examination revealed significant bilateral posterior maxillary crossbite. He presented with bilateral Class II molar relationship in centric occlusion, bilateral Class II canine relationship on the left side, class III canine relationship on the right side. Because of lack of space in the upper jaw, the left upper lateral incisor was palatally displaced. The four first premolar teeth were extracted to obtain space in the upper and lower dental arch. Because of the age of the patient and skeletal maturity had been reached it was too late to begin orthodontic treatment for palatal expansion and it was decided to use SARPE.

FOLLOW-UP

SARPE was completed at 6 months. After that, orthodontic treatment of the patient was continued.

CONCLUSION

SARPE has gradually gained popularity as a treatment option to correct maxillary transverse deficiency. It allows clinicians to achieve effective maxillary expansion in a skeletally mature patient. The use of SARPE to treat maxillary transverse deficiency decreases unwanted effects of orthopedic or orthodontic expansion.

SESSION OPD6 – ENDODONTICS

Date: Saturday 7th June, **Time:** 14:00–15:30, **Hall:** COLUMBUS D

Chair: Luc Martens, Belgium; Rita Cauwels, Belgium

OPD6.1 Biodentine® Application in a variety of indications in young children

L. C Martens*, S. Rajasekharan, R. Cauwels

Dept. Paediatric Dentistry – Paecomedis Research Group Ghent University, Belgium

INTRODUCTION

Endodontics in first permanent molars is a challenging treatment for both patient and practitioner. Vital pulpotomy in immature incisors is a common therapy after trauma

BACKGROUND

Biodentine® as a pure tricalcium silicate cement has been shown to be biocompatible and looks very promising in pulp regeneration with some advantages compared to MTA.

CASE REPORT

A series of cases: The use of Biodentine™ as capping or pulpotomy agent in young permanent molars as well as the application in a traumatized non-luxated incisor will be illustrated. Finally some cases with pulp necrosis, abscess, and/or fistula will be presented using a combination of calcium hydroxide, Ledermix™ (Lederle-Pharmaceuticals Germany) and Biodentine™ (Septodont-France). The tricalcium silicate powder was mixed with calcium chloride resulting in a hydrated silicate gel which was applied as a paste. All patients were seen at 3 monthly intervals. Vitality tests and a radiographic control were performed. In all six molars treated, a healing process could be noticed accompanied with further maturation of the roots. In case of pulpotomy, apexogenesis was seen. In the infectious cases, healing and further growth was found.

CONCLUSION

The clinical use of a pure tricalcium silicate cement performed well in cappings and pulpotomies in first permanent molars. In a case of pulpotomy in an immature traumatized central incisor, vitality and further apexogenesis were established after 3-years follow-up. The same was found in two cases with infection after trauma. Biodentine™ application has great potential in dental traumatology and seems advantageous to calcium hydroxide and competitive to MTA.

OPD6.2 Regenerative endodontic treatment with Biodentine (tm) in necrotic immature permanent teeth

R. G. Cauwels*, S. Rajasekharan, L. C Martens

Dept. Paediatric Dentistry, Paecomedis research, Ghent University & University Hospital, Ghent, Belgium

INTRODUCTION

Pulp tissue in immature teeth has a rich blood supply and apically contains stem cells that possess a great potential in response to damage.

BACKGROUND

Biodentine™, a pure tricalcium silicate cement, has been shown to be biocompatible and bioactive, resulting in regeneration by stimulating apexogenesis in partial and complete necrotic immature permanent teeth.

CASE REPORT

A series of Cases: Biodentine™ was used as a regenerative endodontic cement in order to induce a specific type of regenerative endodontic therapy. In all cases, teeth showed symptoms and/or signs of infection. Clinically pulp necrosis was diagnosed. Radiographically an open apex was obvious and often a radiolucent apical lesion was apparent. In the interest of the immature apical tissue and eventual vital pulprests, a conservative approach was performed without any endodontic instrumentation. After the treatment, symptoms and signs of infection disappeared. Radiographically there was evidence of continued root development and regression of the apical radiolucent lesion. The follow-up period was at least 6 months after the completion of treatment. For all teeth, a conservative regenerative endodontic protocol was used, based on suggestions from the current literature.

CONCLUSION

It was seen that immature teeth with pulp necrosis and apical pathosis can still achieve continued root development after proper regenerative endodontic treatment with Biodentine™. However, a standardised protocol is not yet available for treating necrotic immature teeth. The procedure used confirmed the expected success as suggested in the literature.

OPD6.3 Separately growing root tips following dental trauma or infection: case reports

B. Ozgur*, Z. Cehreli

Private Practice Pentadent, Turkey



INTRODUCTION

In a developing tooth, the presence of endodontic infection or physical trauma may result in unusual development of the root structure, characterized by continued development of the root separated from the main root.

BACKGROUND

The aim of this paper to present three cases of separately growing root tips following trauma or endodontic infection.



CASE REPORT

Two cases involve traumatized maxillary central incisors. In the first case, the tooth was treated by a regenerative endodontic protocol, while in the second case, the tooth was endodontically treated with a mineral trioxide aggregate (MTA) apical plug and gutta-percha+sealer backfilling. In the third case, a non-vital maxillary lateral incisor with dens invaginatus was also treated by regenerative endodontics. In cases 1 and 3, a separate root tip was observed apically to the main root end but the main root did not gain root thickness or length. In the second case, a newly-formed root apex was seen apically to the side of the MTA plug.



CONCLUSION

The cases presented demonstrate that formation of the root apex is possible in the absence of pulp regeneration, particularly in traumatized anterior teeth where HERS and SCAP can be separated from the main structure by an external force and thus grow into a separate root tip.

OPD6.4 Regenerative Endodontic Therapy (RET), protocol of a groupwise anecdotal procedure

M. E. Elfrink*¹, K. L. Weerheijm²

¹PREP, Mondzorgcentrum Nijverdal, Nijverdal, The Netherlands

²PREP, Kindertand, Amsterdam, The Netherlands

AIM

To collect data on Regenerative Endodontic Therapy (RET) with dentists collaborating in the Pediatric Research Project (PREP). They work along comparable methodological lines in different clinics in order to avoid the problem of anecdotal evidence. In this way the number of cases that can be included in the research increases without loss of reliability.

METHODS

Seven dentists, working in five different secondary dental care clinics located in the west, middle and east of the Netherlands collected cases indicated for RET. The dentists met 2–3 times per year and additionally discussed cases and problems per e-mail. After discussing the treatment protocol and way of data collection, children were included and RET treatments started. The treatment protocol of Leeds University is followed. Pain complaints, apical problems, fistulae, resorption or fracture are considered as failure of treatment.

RESULTS

The collaboration between the dentists was good, everyone adhered to the protocol. The data are comparable and data collection is considered reliable. The number of cases treated by the group is rather high; 25 teeth were treated. Two teeth were excluded because no bleeding was achieved and three teeth were excluded because the follow-up was less than 3 months. The remaining 20 teeth have a mean follow up time of 18.75 months.

CONCLUSIONS

Data collection in different clinics on RET can be combined if the protocol is followed and monitored carefully and this type of research should be encouraged. In this way, the level of evidence is raised from “case study” to “case series”.

OPD6.5 Regenerative Endodontic Therapy (RET), report of two cases

J. Heijdra*¹, J. Veerkamp²

¹PUNTGAFF, Amsterdam, Netherlands

²KINDERTAND, Amsterdam, Netherlands

INTRODUCTION

The consequences of dental trauma with pulp involvement are one of the greatest causes of loss of permanent front teeth in (young) adolescents. Therapy mainly focuses on stabilization of the damaged root. Long-term consequences (open apex, thin root walls, large coronal preparation) create a largely weakened tooth easily leading to early root fractures, or possible apical inflammation. In adulthood often a prosthodontic solution needs to be decided upon.

BACKGROUND

Since 2004 an alternative therapy has created a possible treatment solution. The regenerative endodontic therapy focuses on continuation of the root growth by revitalization of the pulp tissue. Since then literature have given a progressive insight on the process of RET.

CASE REPORT

Two children (both 9.6 yrs) were treated with paste according to a fixed protocol, as used by the Pediatric REsearch Project (PREP) and followed 9 and 18 months respectively. Treatment was necessary after dental trauma involving the 11 and 42 respectively. Both cases were initiated more than a year after trauma and had a reduced root length and apical inflammation at the start of the treatment. The intraoral photographs and x-rays are presented and clearly show the healing process, continuation of root lengthening and root wall thickening.

CONCLUSION

These cases underline the successful possibilities of this therapy. For further assessment of clinical success, randomized studies are needed, although these types of well documented cases reports as in PREP can attribute to the development and fine tuning of a clinical procedure.

OPD6.6 Comparison of the Root Canal Length Measurement Methods in Primary Teeth

F. Seymen*, P. Barlak, M. Koruyucu

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

AIM

The purpose of this study was to compare of conventional radiography, intra oral digital radiovisiography (RVG) and apex locator (EMS Swissendo, Switzerland) in determining the working length of root canals in primary teeth and to compare the results with scanning electron microscopy (SEM).

METHODS

This study was conducted on 50 primary molar teeth (116 root canal) which were indicated for extraction (dental mobility, orthodontic treatment, retained teeth or nonrestorable) of the patients in between 5–10 years old. The teeth which needs pulpectomy treatment, systemic disease, primary teeth with calcified root canals or with 2/3 root resorption were excluded. Before extraction, standard endodontic access cavity preparations were prepared and the actual length was calculated by calibrated investigators. Working lengths were determined by using conventional radiography, RVG and apex locator in a total of 116 root canals. After the extraction of the teeth, each canal length will be determined by using SEM (under $\times 50$ magnifications). Data were analysed statistically by using Oneway Anova, Tukey HDS, Student t test and Bonferroni tests.

RESULTS

The mean root length measurement for apex locator, conventional radiography, RVG and SEM were found 12.96 ± 1.86 , 13.58 ± 1.68 , 12.91 ± 1.88 and 12.82 ± 1.96 , respectively. The mean root length measurements with conventional radiography were significantly higher than apex locator, RVG and SEM ($p < 0.01$). There is no statistically significant differences between mean root length measurement for apex locator, RVG and SEM ($p > 0.05$).

CONCLUSIONS

The apex locator and RVG were more accurate than conventional radiography in determining the working length in primary teeth.

OPD6.7 Regenerative Endodontic Treatment (Revascularization) of Immature Necrotic Premolar:

A Case report

G. Inan*, T. Ulusu

Dept. of Paediatric Dentistry, Gazi University Faculty of Dentistry, Ankara, Turkey

INTRODUCTION

The occurrence of pulpal necrosis in the permanent, immature tooth presents a challenging clinical situation because the thin and often short roots increase the risk of subsequent fracture. Revascularization procedures have the potential to heal a partially necrotic pulp, which can be beneficial for the continued root development of immature teeth.

CASE REPORT

A 10-year-old boy referred to the Department of Pediatric Dentistry, University of Gazi, with pain in his left mandibular second premolar (35). Clinical examination revealed deep caries in tooth 35 and the tooth did not respond to electric pulp vitality test. A radiolucent lesion on the periradicular tissues of tooth 35 was visible radiographically. Regenerative endodontic treatment was planned and the revascularization protocol included irrigant (NaOCl), a triple antibiotic paste (including metranidazol, siprofloksasin, minosiklin) and a coronal seal of mineral trioxide aggregate and composite.

CONCLUSION

This case report describes the regenerative endodontic procedure which was used to enhance the probability of pulp revascularization in an immature necrotic permanent tooth. A 15 month follow-up period showed resolution of periapical radiolucencies, and continued root development.

OPD6.8 Root resorption of primary molar teeth: The location of the biological apex in a relation to the radiographic apex

M. Malul*

Barzilai Medical Center, Pediatric Dentistry Unit, Israel

AIM

Root canal treatment of primary molar may be complicated due to the location of the biological apex, since the resorption of the root is not horizontal. The radiological examination of the molar does not reflect the true apex. The aim of the study is to evaluate clinically and radiographically, the effect of resorption on the location of the biological apex.

METHODS

20 molar primary teeth, extracted due to orthodontics reasons, were radiographed after marking the biological apex, and the distance between the biological and the radiographic apex was measured.

RESULTS

As the resorption of the root progressed, the distance between the biological and radiographic apices increased.

CONCLUSIONS

The degree of resorption affects the location of the biological apex. When undertake root canal treatment is undertaken in primary molars we have to take into consideration must be given that need to measure the length of the canals be measured using an apex locator, and not to simply rely on the radiographic image.

OPD6.9 Regenerative endodontic therapy of a non-vital immature permanent tooth: A case report

S. E. Yoldas, H. M. Gorcek*, H. Bodur

Gazi University Faculty of Dentistry, Dept. of Paediatric Dentistry, Turkey

INTRODUCTION

Traditional apexification techniques for non-vital immature permanent teeth have several disadvantages such as the necessity for treatment for a long period of time and the fact that there is no expectation for root canal walls to be strengthened.

BACKGROUND

This case report describes rehabilitation of a 10 year old patient with non-vital immature permanent central incisor.

CASE REPORT

A patient was referred to the clinic with a fistula in the vestibular mucosa of tooth #21 that was sensitive to percussion. A radiolucent lesion of the periapical tissues was apparent. Regenerative endodontic therapy was planned to stimulate apexogenesis. An access cavity was prepared and irrigated with 5.25% sodium hypochlorite subsequent to saline solutions. Triple antibiotic paste including metronidazole, ciprofloxacin and doxycycline was applied. Ten days later the fistula seemed to be healed. A blood clot was stimulated with a sterile file and impermeability was provided with bioaggregate. The patient was followed up for 15 months. Radiographic evaluation showed that the periapical lesion was healed, and continued root development was achieved. The tooth responded as vital to electric vitality pulp test.

CONCLUSION

Regenerative endodontic therapy could be a good alternative for devital immature permanent teeth considering that desired apexogenesis could be achieved by this procedure.

OPD6.10 Atypical root development following revascularization of immature necrotic permanent teeth

H. J. Tong*¹, J. J. Ng², V. Yu¹

¹Faculty of Dentistry, National University of Singapore, Singapore

²Private Practice, Singapore

INTRODUCTION

Revascularization is a valuable treatment in immature necrotic teeth that facilitates the continuation of root development. Three cases of atypical root development following revascularization procedures are presented.

BACKGROUND

Standardized revascularization procedures were carried out under aseptic conditions. Canals were disinfected with 1% sodium hypochlorite, followed by placement of intracanal medicament of Amoxicillin-Metronidazole-Minocycline paste. After 2–6 weeks, resolution of clinical signs and symptoms were seen. The canals were then lightly filed and irrigated, followed by establishment of a blood clot and sealing with glass ionomer and composite resin barrier. Patients were recalled periodically after treatment.

CASE REPORT

Case 1: An 11 year old female presented with symptomatic apical periodontitis of 44. The patient was followed up for 1.5 years. In growth of radiopaque structure into the root canal was noted. Case 2: A 12 year old male presented with symptomatic apical periodontitis of 45. The patient was followed up for 1 year. The root apex developed in a mesial angulated direction which appeared slightly disjointed from the main root. Case 3: A 13 year old male presented with acute apical abscess of 45. Inflammatory root resorption of the apical root was noted preoperatively. The patient was followed up for 2 years. Blunting of the apex and deposition of radiopaque structure intracanal and apically was noted.

CONCLUSION

Although revascularization procedures appear to demonstrate success via continued root development with thickening of dentinal walls and apical closure, atypical root growth is a possible outcome. Patients should be recalled long term for monitoring of root development.

OPD6.11 Reversible pulpitis in the second permanent premolar

A. Getsman*

Department of Pediatric Dentistry, Dental Fantasy, Russian Federation

INTRODUCTION

There are many cases with early involvement of the first permanent molars. The most difficult task is to choose the correct method of the treatment of the pulpitis in immature teeth. Vital pulp therapy in carious-exposed pulps is controversial, it is universally accepted that it should be performed on immature teeth.

CASE REPORT

A 9 year old patient presented with tooth decay, but no pain. Tooth 45 – had a deep carious cavity and an immature root apex. Following the local analgesia using «Ultracain D-S» and rubber dam isolation, caries was removed with a diamond bur and high-speed handpiece with coolant. The roof of the pulp chamber was removed and the pulp was amputated to the root orifice using a carbide round bur. Haemostasis was achieved by gentle placement of a saline-moistened cotton pellet over the amputated pulp for 4 minutes. A 3 mm-thick layer of MTA was placed over the amputated pulp and was adapted using a cotton pellet. The glass ionomer cement was placed immediately. After 9.5 months the tooth was prepared for an indirect ceramic overlay. Impressions were taken using a silicone material. One week later the overlay was cemented.

FOLLOW-UP

An intra-oral radiograph taken 19 months later showed a normal no periapical pathology, with complete apical closure.

CONCLUSION

Pulpotomy is a successful method for the pulp treatment of immature teeth.

OPD6.12 The use of laser doppler flowmetry in pulp vitality testing of immature permanent teeth

H. Nazzal*¹, J. Kang², M. S. Duggal¹

¹Paediatric Dentistry Dept, School of Dentistry, University of Leeds, UK

²Oral Biology Dept, School of Dentistry, University of Leeds, UK

AIM

To determine the accuracy of laser doppler flowmetry (LDF) in assessing pulp vitality of immature permanent teeth in comparison to ethyl chloride thermal test (EC) and electric pulp testing (EPT).

METHODS

Pulp tests were performed on a pair of teeth (non-vital endodontically treated and the contralateral vital immature teeth) in 15 children (mean age=8.8 years). Vitality testing was performed using LDF, EC and EPT. The ability of the LDF in assessing pulp vitality was tested, by comparing the mean pulp blood flow (Flux) measurement of the non-vital teeth in comparison to the vital teeth. A paired sample t-test was used to compare the Flux of these two groups. The accuracy of each of the tests in identifying non vital teeth was compared using Z-test.

RESULTS

A statistical significant difference was found when comparing Flux between the non-vital (mean Flux = 2.4) and vital teeth (mean Flux = 5.6) (p value = 0, CI = 4.0–2.1). The sensitivity of the LDF, EI and EPT were 86.7%, 86.7%, and 66.7% respectively. There was no significant difference between the three tests in identifying non-vital teeth, however, the results of the EC and EPT were considered clinically unreliable based on patient response in 66.6% of the participants.

CONCLUSIONS

LDF is as reliable as EC and EPT in assessing tooth pulp vitality. However, when patient response to other sensibility testing is deemed unreliable, the use of the LDF is recommended.

OPD6.13 Transplantation of a tooth with dentigerous cyst

G. Erbas Unverdi*, A. Aktas, Z. Cehreli

Hacettepe University Faculty of Dentistry, Ankara, Turkey

INTRODUCTION

Dentigerous cyst is a developmental odontogenic lesion which develops by accumulation of fluid between enamel epithelium and the crown of an unerupted tooth. In general, dentigerous cysts are surgically managed by either marsupialization or enucleation.

BACKGROUND

This case report presents the management of an immature mandibular permanent premolar with a large dentigerous cyst.

CASE REPORT

An 11-year-old boy was referred to the Pediatric Dentistry clinic with a complaint of a painless swelling in his left mandibular posterior region. Clinical examination revealed buccal expansion of the alveolar bone around the primary second molar region. Radiographic findings revealed the presence of a well-defined radiolucent lesion surrounding the crown of the unerupted mandibular left second premolar. Following temporary surgical removal of the second premolar, the cyst was removed from the bone and root surface, and the premolar was transplanted into the surgical cavity, and secured to the neighboring posterior teeth with a semi-rigid wire-composite splint. After two months, the splint was removed. Initiation of osseous healing was observed after 3 months. The transplanted premolar has been in function for two years. During the follow-up period, a separate root tip growing apically to the root of the transplanted premolar was observed by radiography.

CONCLUSION

Transplantation of unerupted permanent teeth with large dentigerous cysts can be a viable treatment option to restore function.

OPD6.14 The periodontal pathogens in the saliva of one-year-old infants delivered with very low birthweights

V. Merglova*¹, R. Koberova Ivancakova¹, Z. Broukal², J. Dort³

¹Dept. of Dentistry, Faculty of Medicine in Pilsen, Charles University in Prague, Czech Republic

²Institute of Clinical and Experimental Dentistry, Prague, Czech Republic

³Department of Neonatology, Faculty Hospital, Pilsen, Czech Republic

AIM

To identify the presence of the main periodontal pathogens in the oral cavity of 12-month-old infants and compared the occurrence of these microbes between a cohort of very low birthweight infants and a control cohort.

METHODS

The research cohort was composed of 69 one-year-old infants, 24 of whom were born prematurely with very low birthweights and 45 who were carried full-term. At 12 months of age, both groups of infants were examined, and unstimulated saliva samples from the dorsum of the tongue and dental plaque samples were collected. The periodontal pathogens *Aggregatibacter actinomycetemcomitans*, *Porphyromonas gingivalis*, *Tannerella forsythensis*, *Treponema denticola*, *Peptostreptococcus micros*, *Prevotella intermedia* and *Fusobacterium nucleatum* were identified using a PCR-based method. Chi-square and Fisher's factorial tests were used for the statistical evaluation.

RESULTS

Periodontal pathogens were present in 83% of the pre-term infants and 96% of full-term infants. *Aggregatibacter actinomycetemcomitans* was the most commonly present periodontal pathogen found in the oral cavities of the infants enrolled in our study. No statistically significant differences between the pre-term infants and the full-term infants were found regarding the presence of periodontal pathogens.

CONCLUSIONS

The study confirmed the early transmission of periodontal pathogens to the oral cavity of one-year-old infants. Future research should focus on establishing the clinical importance of periodontal pathogens in the saliva of infants. The study was supported by grant IGA of Ministry of Health Czech Republic, NT 14336-3.

OPD6.15 Effect of severe dental caries on oral health-related quality of life of preschool children

A. Ciganovica*, I. Viduskalne, B. Pulkstene

Dept. of Conservative Dentistry of Riga Stradins University, Riga, Latvia

AIM

This pilot study assessed the internal reliability of the parental perceptions of children's oral health: The Early Childhood Oral Health Impact Scale-Reduced (ECOHIS SF-17) to measure the OHRQoL of preschool children and their families.

METHODS

Parents of 84 children 2–6 years of age (divided in two groups according to dmft index) answered the Early Childhood Oral Health Impact Scale (ECOHIS) on their perception of the children's OHRQoL and socioeconomic conditions. One dentist examined the severity of ECC, and children were categorized into: dmft 0 = caries free and dmft ≤ 2 = low severity in the first group and dmft ≥ 6 = high caries severity group. New index PUFA/pufa were assessed. OHRQoL was measured through ECOHIS domain mean scores and the prevalence of impacts.

RESULTS

Mean age of participants were 3.9 (SD = 0.9) in both groups. Mean dmft in caries-free and low severity group were dmft = 0.3 (SD = 0.6) and mean pufa = 0. In high severity mean dmft were 10.21 (SD = 2.9) and mean pufa = 6.3. The reduced questionnaire of (ECOHIS SF-17) consisted of 17 items (internal reliability is $\alpha = 0.93$). In each domain and overall ECOHIS scores, the severity of ECC showed a negative impact on OHRQoL (p range from $p < 0.01$ – $p < 0.0001$).

CONCLUSIONS

The severity of ECC had a negative impact on the OHRQoL of preschool children and their patients. Reliability testing demonstrated that the ECOHIS-SF 17 profile is a sound instrument to with which to measure oral health-related quality of life in preschool children.

OPD6.16 Inflammatory mediators in gingival crevicular fluid before and during puberty

B. N. Dogan*¹, L. Kuru², S. Akyuz¹, A. Yarat³

¹Marmara University Department of Paediatric Dentistry, Turkey

²Marmara University Department of Periodontology, Turkey

³Marmara University Department of Biochemistry, Turkey

AIM

The aim of this study was to investigate the levels of inflammatory biomarkers prostaglandin E2 (PGE2), tumor necrosis factor- α (TNF- α) and interleukin 1- β (IL1- β) in gingival crevicular fluid (GCF), and the periodontal status of children during pre-puberty and puberty periods.

METHODS

The study group consisted of 80 children age 6–14 years, referred to the Paediatric Dentistry Department of Marmara University. They were divided into 4 groups ($n = 20$) as periodontally healthy in pre-puberty period (PPH), periodontally healthy in puberty period (PH), gingivitis in pre-puberty period (GPP), gingivitis in puberty period (GP). Whole mouth plaque and gingival indices, and community periodontal index were recorded. GCF samples were collected with paper strips and analysed using ELISA. Statistical analyses were performed using SPSS.

RESULTS

Plaque index, gingival index and community periodontal index in the GPP and GP groups were found to be statistically higher than the PPH and PH groups, as expected ($p < 0.01$). A significant difference was found in PGE2 concentration levels among 4 groups ($p < 0.01$). GCF PGE2 levels of the PH and GP groups were significantly higher than those of the PPH and GPP groups ($p < 0.01$). However no significant differences were found in GCF IL-1 β and TNF- α levels among the groups ($p > 0.05$).

CONCLUSIONS

In conclusion, GCF PGE2 level increased during puberty whereas GCF TNF- α and IL-1 β levels did not show any alterations.

OPD6.17 Investigation of the in vitro antibacterial effects of different toothpastes and fluoride gels

M. Koruyucu*¹, N. Topcuoglu², F. Seymen¹, G. Kulekci²

¹Dept. of Pedodontics, Istanbul University, Faculty of Dentistry, Turkey

²Dept. of Microbiology, Istanbul University, Faculty of Dentistry, Turkey

AIM

Anti-plaque agents are capable of preventing bacterial adhesion, colonization and metabolism, and thus affect the bacterial growth. This in vitro study investigated the antibacterial effects of fluoride gels, and toothpastes with fluoride and without fluoride.

METHODS

Six toothpastes for children (3 nonfluoride and 3 fluoride) (Oxyfresh fluoride and nonfluoride, Sensodyne pronamel, Colgate, R.O.C.S baby, Nenedent) were tested for their antibacterial activity against five oral pathogens; *Streptococcus mutans* (ATCC 25175), *Streptococcus sobrinus* (ATCC 33478), *Lactobacillus casei* (ATCC 4646), *Actinomyces naeslundii* (ATCC 19039) and *Candida albicans* (ATCC 10231) by agar well diffusion assay and two fluoride gels (Oxyfresh zinc fluoride and Sodium fluoride gel) were also tested by disc diffusion assay. Data were analysed statistically by using Kruskal Wallis and Mann Whitney U tests.

RESULTS

Oxyfresh nonfluoride toothpaste was found statistically effective against *S.mutans*, *S.sobrinus*, *L.casei* and *A.naeslundii* ($p < 0.05$). R.O.C.S nonfluoride toothpaste was found ineffective against all tested oral pathogens ($p > 0.05$). Nenedent nonfluoride toothpaste was found statistically effective against *C.albicans*, *S.sobrinus*, *L.casei* ($p < 0.01$). Colgate and Oxyfresh fluoride toothpastes were found statistically effective against all tested oral pathogens ($p < 0.05$). Sensodyne pronamel fluoride toothpaste was found statistically effective against only *C.albicans* ($p < 0.01$). Sodium fluoride gel was found less effective *C.albicans* and *S.sobrinus* ($p < 0.05$). But Oxyfresh zinc fluoride gel was found statistically ineffective against all tested oral pathogens ($p > 0.05$).

CONCLUSIONS

Despite gels being ineffective in this in vitro study, they give more positive results in clinical usage and in vivo studies. In vivo studies should be performed to investigate antibacterial effects of toothpastes and fluoride gels.

SESSION OPD7 – DENTAL ANOMALIES

Date: Saturday 7th June, **Time:** 14:00–15:30, **Hall:** VASCO DA GAMA

Chair: Esber Calgar, Turkey; Heikki Alapulli, Finland

OPD7.1 Prevalence of peg-shaped laterals in a group of Istanbul children

E. Caglar*, O. O. Kuscu

Private Practice, Turkey

AIM

The most common form of microdontia affects only one or possibly two teeth. Permanent lateral incisors are mostly affected where an alternative terminology names this specific condition as “peg-shaped laterals”. The presence of peg-shaped laterals in child patient is correlated with the need of aesthetic dental solutions including orthodontic and prosthodontic consultations. The present study was carried out to determine the prevalence of peg-shaped laterals in permanent teeth of healthy Istanbulian children where a European perspective of data is missing.

METHODS

A total of 324 Istanbul children were investigated, who were examined in a private paediatric dental service setting during one year period. The age group of the examined sample ranged from 8 years to 14 years (mean age 10 ± 2) where children had their permanent laterals fully erupted. Clinical and radiographic examinations were also performed.

RESULTS

Four children (1.23%) exhibited a total of five peg-shaped maxillary lateral incisors. Children having peg-shaped laterals (2 female, 2 male) all exhibited a class I occlusion, and hypodontia was not observed, both in siblings and their parents.

CONCLUSIONS

Peg-shaped laterals should be guided as soon as they erupt for a healthy and aesthetic occlusion.

OPD7.2 Inverted impaction of mandibular second premolar: A case report

J. Sabbarini*¹, M. Al-Hijawi²

¹Private practice, Jordan

²Ministry of Health (MOH), Jordan

INTRODUCTION

Dental impaction is one of the most common developmental disorders that affect mankind, and is defined as cessation of eruption of a tooth caused by a clinically or radiographically detectable barrier in eruption path or due to abnormal position of the tooth.

BACKGROUND

Impaction can take any direction; horizontal, vertical, mesioangular, distoangular or inverted, of which inversion is very rare. While inverted impaction of supernumeraries is well known, inverted impaction of other teeth (usually 3rd molars) is seen, and there have been very few case reports of inverted impaction of premolars.

CASE REPORT

This case report describes a 10-years old male with inversion and impaction of mandibular left second premolar. A history of extracted mandibular left primary second molar at 5-years old due to severe abscess was suggestive of inversion resulting from either the abscess itself or even iatrogenic force during primary molar extraction. Intraoral examination showed badly decayed mandibular primary left first molar with mesial drifting of the first permanent molar to an extent that occupied more than one third of the eruption space of the second premolar. In this case we decided that extraction of the tooth would be the most appropriate treatment. After 4 years the mandibular teeth were successfully positioned and aligned.

CONCLUSION

The tendency is toward considering all impacted teeth for extraction or reimplantation unless there is a major systemic or local contraindication.

OPD7.3 Microabrasion using 37% phosphoric acid for successful aesthetic treatment of hypo-maturation AI

A. Alawami*, M. Duggal

Paediatric Dentistry Dept, Leeds Dental Institute, UK

INTRODUCTION

Microabrasion with 18% HCl for aesthetic improvement of discoloured enamel is a well established procedure since the mid 1980s. However, this technique is potentially destructive to enamel and soft tissues, and must be used with caution.

BACKGROUND

Routine etching agent used for composite resins, 37% phosphoric acid, can be used for effective results in the microabrasion technique. It requires isolation with dry dam, application of the acid etchant for 2 min. followed by abrading the surface for one minute. The process can be repeated three times in each visit for a maximum of three visits. A clear fluoride solution is then applied at the end at each visit promotes remineralisation of the abraded surface.

CASE REPORT

CASE REPORTS: Three cases are presented that were treated using this technique. Two sisters aged 7 & 10 yrs, were concerned about the colour of their teeth. A girl aged 14 yrs was concerned about the appearance of generalised chalky cusps and yellow spots in her teeth. All three were diagnosed as having hypomaturation AI. TREATMENT: For all the three cases we opted to use microabrasion using phosphoric acid with the technique described above. An excellent aesthetic outcome was delivered after two cycles of microabrasion only. FOLLOW-UP: Over a period of 1 yr, a satisfactory aesthetic result had been maintained.

CONCLUSION

Microabrasion using 37% phosphoric acid is a less aggressive and effective technique, gives excellent aesthetic outcomes for treatment of discoloured enamel in young children and adolescents.

OPD7.4 Dens Invaginatus in a 11 year old girl

F. Parree*

UMCG-CTM, Dentistry, Netherlands

INTRODUCTION

Dens invaginatus (DI), also known as dens in dente, is a malformation of teeth where the outer surface folds inward. Teeth most affected are maxillary lateral incisors.

BACKGROUND

An 11 year-old girl was referred due to delayed eruption of the 22 and 12. She also had pain at the 22 with hot and cold drinks/food. The OPT and CT showed that both the 12 and the 22 were cone teeth and a large radiolucency was seen in the crown of the 22. This was diagnosed as a DI. Intra-orally, a small entrance to the DI was observed at the top of the 22.

FOLLOW-UP

In the control visit after 2 month it was observed and tested that the 22 was no longer vital. Because of an orthodontic Angle Class II-1 situation, a poor long-term prognosis of the 22 and the fact that the 12 was also a cone tooth, it was decided that both the 12 and 22 should be extracted. The 13 and 23 are due to be orthodontically moved by fixed appliances adjacent to 11 and 21, and reshaping of the crowns will be performed in the future by judicial reshaping and building up with composite restorations. No expensive implants are needed.

CONCLUSION

It is of outmost importance to diagnose DI early. Relevant for the general dentist is a timely referral to the paediatric dentist and orthodontist for long-term decision making.

OPD7.5 Management of rootless tooth eruption: A case presentation

S. Sara Eryuruk*, Z. Cehreli

Hacettepe University Faculty of Dentistry Ankara, Turkey

INTRODUCTION

Eruption of a tooth with little or no root development is a rare condition, which deserves special attention to prevent effects of occlusion trauma on root development.

BACKGROUND

This report presents a rare case of rootless eruption of a maxillary permanent premolar and the outcome of preventive appliance therapy.

CASE REPORT

A 8-year-old boy was referred to the paediatric clinic for routine examination. Periapical radiographs revealed an erupting maxillary left premolar with no root formation. A custom removable appliance was fabricated to prevent exposure of the tooth to traumatic occlusal forces. After 18-month of clinical use, radiographic follow-up confirmed continued root formation in the absence of clinical symptoms.

CONCLUSION

Traumatic injury to a permanent tooth in eruption phase may affect its root development. Custom removable appliances may minimize or prevent occlusal trauma to the developing tooth and promote continuing root formation.

OPD7.6 Comprehensive dental management of a patient with autoimmune polyendocrinopathy-candidiasis-ectodermal dystrophy (APECED)

A. Pavlic*¹, L. Hocevar¹, M. Ovsenik²

¹Dept of Pediatric and Preventive Dentistry, Faculty of Medicine, University of Ljubljana, Slovenia

²Dept of Orthodontics, Faculty of Medicine, University of Ljubljana, Slovenia

INTRODUCTION

Autoimmune polyendocrinopathy-candidiasis-ectodermal dystrophy (APECED) or autoimmune polyglandular syndrome type I (APS 1) causes multiple endocrine deficiencies, chronic muco-cutaneous candidiasis, and various forms of ectodermal dystrophy.

BACKGROUND

In this rare hereditary disease enamel hypoplasia prevails among oral manifestations. An interdisciplinary approach in dental treatment planning of a patient with APECED syndrome is presented, with combined restorative and orthodontic rehabilitation. **CASE REPORT:** A 9-yrs-old girl was referred to University Dental Clinic due to severe dental hypoplasia. She was diagnosed with the APECED syndrome: hypoparathyroidism was diagnosed at the age of 4.8, hypoadrenocorticism at 5 and muco-cutaneous candidiasis at 5.2 years. Upon eruption insufficient enamel thickness of permanent incisors and canines, and first permanent molars was observed. In addition, a deep bite in the mixed dentition was diagnosed, and orthodontic malocclusion deteriorated progressively. Therefore, hypoplastic teeth were restored with composites as soon as they erupted sufficiently and fixed orthodontic treatment was carried out at once.

COMMENTS

Orthodontic treatment was carried out with brackets bonded directly on composite covering the hypoplastic teeth and appropriate space conditions between teeth are maintained in order to allow follow-up of rehabilitation.

CONCLUSION

In patients with enamel hypoplasia and malocclusion an interdisciplinary approach ensures protection of hypoplastic teeth and provides proper placement of teeth in the dental arch leading to a successful fixed prosthetic rehabilitation of the patient.

OPD7.7 Primary triple tooth in mandible: A rare case report

I. Mergen*, S. Uysal, S. Dural, M. D. Turgut, M. Tekcicek

Hacettepe University, Turkey

INTRODUCTION

Triplication is defined as the fusion of three teeth. The etiologic factors include trauma, pressure of associated tissue, evolution, heredity, local factors, environmental influences, vitamin deficiency and lack of space in the dental arch. Triplication is an uncommon dental anomaly with the prevalence of 0.02%. Although triplication of the maxillary teeth has been reported in a few cases, the anomaly is very rare in mandibular teeth.

BACKGROUND

The aim of this case report is to present a rare triplication case involving mandibular primary teeth.

CASE REPORT

A five-year-old healthy girl was referred to the paediatric dentistry clinic. In the intraoral examination triplication of the two primary teeth, 81 and 82 along with a supernumerary tooth was detected. A periapical radiograph, panoramic radiograph and cone-beam tomography of the patient revealed separate pulp chambers combined in the cervical area and continued as one pulp canal in the root. In order to prevent the triple tooth from caries, pit and fissure sealant was applied. The patient was recalled for regular follow-up appointments.

CONCLUSION

The diagnosis of triplication normally is based on accurate clinical and radiographic examinations. The cases require close follow-up to evaluate the over-retention of the triple teeth.

OPD7.8 X-shaped primary tooth in a patient with cleft lip and palate

C. Ozsin*, G. Erbas Unverdi, M. D. Turgut, M. Tekcicek

Paediatric Dentistry, Hacettepe University, Turkey

INTRODUCTION

Cleft lip and palate (CLP) is a common craniofacial abnormality. Dental anomalies in number, size, shape, and timing of formation, eruption and enamel dysplasia are frequently associated on the cleft side of the maxilla in children with CLP. Although various tooth shape abnormalities have been reported, there has been no case defining an X-shaped tooth in CLP.

BACKGROUND

This case report presents an X-shaped maxillary primary tooth in a child with unilateral CLP.

CASE REPORT

A 3-year-old patient with operated unilateral CLP was referred to a paediatric dentistry clinic for dental examination. The child had a healthy twin sister, without any craniofacial abnormality. Intraoral examination revealed a maxillary supernumerary tooth on the unaffected left side. In clinical and radiographic examinations, an x-shaped tooth on the affected maxillary right side was identified. The patient was in the primary dentition stage, caries-free. Fluoride varnish was applied to the teeth every 3 months. After 30 months, dental caries was detected in one fissure of the occlusal surface involved in the X-shape of the tooth. Following removal of caries, the cavity was restored with a polyacid-modified composite resin. The patient has been scheduled for regular control appointments.

CONCLUSION

Patients with CLP need more periodic dental visits as they may have more dental anomalies than other patients.

OPD7.9 Effect of antibiotics in mineralization degree of enamel in molars and incisors of mice

C. Serna Munoz*¹, A. Perez Silva¹, C. Finke², A. J. Ortiz Ruiz¹

¹Paediatric Dentist, Spain

²Paediatric Dentist, Germany

AIM

To determinate mineralization degree of molars and incisors enamel of mice medicated with amoxicillin, amoxicillin + clavulanic acid and erythromycin.

METHODS

Experimental groups: control group, without medication; amoxicillin group (5 mg/day); amoxicillin/clavulanic acid group (2.5/0.31 mg/day); erythromycin group (5 mg/day). The doses administrated were chosen as equivalent to the normal daily doses given to children normalized per body weight. Medication was orally given to just-weaned mice for 30 days. Samples were sputter-coated with carbon and examined with a JSM-6100 JEOL SEM operating at 15 kV and 15–20 mm working distance. Calcium and phosphate were detected by EDX and calculated as the relative amount of the total element content (100%) in weight percent. The counting was conducted on all cusps of molars, and the incisal, middle and cervical third of incisors. The statistical analysis performed was the Kruskal-Wallis One Way Analysis of Variance on Ranks and Mann-Whitney Rank Sum Test.

RESULTS

The calcium and phosphate concentration were significantly higher in molars than incisors ($p < 0.05$). The calcium and phosphate concentration (%) in molar were as follow: control group: Ca 47.72 ± 0.89 ; P 22.02 ± 0.46 . Amoxicillin group: Ca 44.95 ± 1.15 ; P 21.69 ± 0.54 . Amoxicillin/clavulanic acid group: Ca 47.77 ± 0.97 ; P 22.71 ± 0.48 . Erythromycin group: Ca 46.25 ± 0.91 ; P 21.37 ± 0.39 . The concentrations (%) in incisors were as follow: control group: Ca 39.83 ± 0.869 ; P 20.15 ± 0.36 . Amoxicillin group: Ca 40.47 ± 1.15 ; P 19.80 ± 0.25 . Amoxicillin/clavulanic acid group: Ca 41.75 ± 1.26 ; P 18.70 ± 0.52 . Erythromycin group: Ca 41.94 ± 1.39 ; P 19.76 ± 0.21 . There were no significant differences between groups.

CONCLUSIONS

Antibiotics did not produce hypomineralisation in molar and incisor enamel of mice.

OPD7.10 A novel approach to the management of a dilacerated incisor with associated supernumeraries in a child

C. Marron*, A. O'Connell

Dublin Dental University Hospital, Ireland

INTRODUCTION

The co-existence of supernumerary teeth and a dilacerated tooth in the anterior maxilla is a rare occurrence and complicates treatment options.

CASE REPORT

Clinical and radiographic examination of a 6 year old boy showed retained primary teeth, a severely dilacerated unerupted permanent central incisor, one erupted supernumerary tooth and one unerupted supernumerary tooth in a complex relationship. A cone beam CT scan was used to determine the angle and extent of the curvature of the dilacerated tooth and its relationship to the supernumerary teeth. The treatment planned was to retain the central incisor. During surgery, the upper primary incisors and the erupted supernumerary were removed. The upper left central incisor was inverted and rotated 180 degrees apically. The clinical decision was made that retention of this tooth using transplantation or orthodontic traction was not feasible and therefore it was removed. The second supernumerary tooth was located high and palatally to the extraction site, with normal enamel and root development. The decision was made to bond a gold chain to allow orthodontic traction and bony development into the extraction site.

COMMENTS

Orthodontic treatment is ongoing to extrude the supernumerary tooth into the central incisor position. Determination as to whether this tooth is usable as an interim restorative solution to his missing central incisor has yet to be made.

CONCLUSION

A supernumerary tooth can be useful in the interim management of a complex situation.

OPD7.11 Therapeutic management of Oligodontia: A case report

M. A. Petrou*¹, A. Spassov², C. H. Splieth³

¹*Dept. of Operative Dentistry, Periodontology and Preventive Dentistry, Rheinisch-Westfälisch-Technische Hochschule (RWTH) University of Aachen, Germany*

²*Dept. of Orthodontics, Ernst Moritz Arndt University of Greifswald, Germany*

³*Dept. of Preventive and Paediatric Dentistry, Ernst Moritz Arndt University of Greifswald, Germany*

INTRODUCTION

Oligodontia is a rare craniofacial malformation (0.08–0.7%) characterized by the agenesis of six or more permanent teeth (excluding third molars).

BACKGROUND

The therapeutic approach to oligodontia depends on the number and type of missing teeth. A multidisciplinary cooperation of paediatric dentist, orthodontist and prosthodontist, as well as an awareness of the potential cost of the treatment, is essential.

CASE REPORT

An 11-year-old boy attended the Dept. for Preventive/Paediatric Dentistry at Greifswald University for a regular dental review. Clinical and radiological examination revealed the agenesis of twelve permanent teeth (12, 22, 31–41, 35, 44 and third molars) as well as space loss for tooth 25 and multiple caries (dmft = 5; DMFT = 1). The boy had a normal medical history, but the family history revealed a potential hereditary cause for his dental condition. After caries treatment and improvement of oral hygiene, a two-phase oligodontia's multidisciplinary therapeutic approach was taken. During the first phase (11–16 y) the space for 25 was regained and maintained until its eruption. The maxillary canines were aesthetically remodelled to resemble lateral incisors, and a prosthesis preserved the space for the 32–42. The second phase of treatment (16–18J.) is orthodontics for to optimize the dental condition of the patient (space closure of 35 and 44 and to regain the space for missing mandibular incisors. for implantation or partial denture depending upon the family's current financial situation. A 3-year-follow-up period, indicated the fulfillment of first-phase-treatment' goals.

CONCLUSION

This conservative treatment approach of oligodontia offered a cost-effective future restoration and improved patient's self-esteem.

OPD7.12 Combination of severely malformed and supernumerary lateral incisor with major clinical implications

K. Van Dromme*¹, J. JR Wyatt¹, A. Mavridou², D. Declerck¹

¹*Paediatric Dentistry and Special Dental Care, Department of Oral Health Sciences, KU Leuven and Dentistry, University Hospitals Leuven, Belgium*

²*Endodontology, Department of Oral Health Sciences, KU Leuven and Dentistry, University Hospitals Leuven, Belgium*

INTRODUCTION

"Dens evaginatus" (also talon cusp) is a rare developmental anomaly with cusp-like structures projecting from the cemento-enamel junction of an anterior tooth.

BACKGROUND

This case shows multiple talon cusps on a lateral incisor in combination with a supernumerary tooth.

CASE REPORT

A 15 year-old boy attended the dental clinic (University Hospitals Leuven). He was referred with pain in the area of the maxillary lateral incisor. Clinical examination showed several distinct talon cusps. The surrounding tissues were painful upon palpation and this was accompanied by discharge of fluid from between the different talon cusps, suggesting the presence of infection. Radiographs confirmed the abnormal structure of the incisor, the presence of an apical radiolucency and the presence of a supernumerary lateral incisor, situated between the lateral incisor and the impacted canine. ConebeamCT revealed multiple malformations on the lateral incisor (both evaginations and invaginations) with an apical cyst perforating the palatal bone plate. Using local anaesthesia, both the lateral incisor and supernumerary tooth were removed. The malformed tooth was examined using micro-CT. Emergence of the canine was followed-up and the patient was referred for orthodontic treatment planning.

CONCLUSION

This case demonstrates the importance of early and detailed diagnosis of abnormalities in dental morphology and/or delayed or asymmetrical emergence.

OPD7.13 The confidence and effectiveness of medical research nurses taking intra-oral photographs

M. Kalkani*¹, J. Baird², R. Balmer¹, J. Hammond², P. Day¹

¹Dept. of Paediatric Dentistry, Leeds Dental Institute, UK

²MRC Lifecourse Epidemiology Unit, University of Southampton, UK

AIM

To explore medical research nurses' confidence and effectiveness in taking intra-oral photographs for the assessment of MIH.

METHODS

Children aged 10 already participating in the Southampton Women's Survey prospective birth cohort had intra-oral photographs taken by research nurses to enable diagnosis of Molar Incisor Hypomineralisation (MIH). Training in intra-oral photography was provided at the start of the study. Photographs for the first 23 patients were assessed for MIH. Feedback was provided and an anonymous questionnaire with closed and open-ended questions was used to assess the nurses' confidence in taking photographs. Following additional training, a further 19 patients' photographs were assessed together with the completion of a second identical questionnaire. Each set of photographs was deemed appropriate for clinical assessment of MIH when labial surfaces of upper and lower incisors as well as buccal and occlusal surfaces of all first permanent molars were clearly visible.

RESULTS

Although the nurses felt the recall training was helpful, their self-reported confidence in taking photographs remained low to moderate. Following additional training marked improvement was seen, with the diagnostic quality of the photographs improving from 22% to 42%. According to the nurses, mirror shots remained the most difficult to take, however, the number of diagnostically acceptable images increased by 12% after the recall training.

CONCLUSIONS

Appropriate support and training can make it feasible to train nurses, with no prior experience, to carry out intra-oral photographs in order to assess MIH.

OPD7.14 A diagnostic challenge: pronounced tooth root hypoplasia of all first permanent molars in three ten-year old children

G. Vansteenkiste*¹, K. Van Dromme¹, A. Verdonck², D. Declerck¹

¹Paediatric Dentistry and Special Dental Care, Department of Oral Health Sciences, KU Leuven and Dentistry, University Hospitals Leuven, Belgium

²Orthodontics, Department of Oral Health Sciences, KU Leuven and Dentistry, University Hospitals Leuven, Belgium

INTRODUCTION

Normal root formation is crucial for the physiological function of the tooth. The aetiology of aberrant root development is complicated and includes local insults (e.g. trauma), autosomal dominant inherited diseases (e.g. Singleton-Merten syndrome, dentinogenesis imperfecta) and systemic conditions (e.g. hypophosphatasia). Isolated hypoplasia of the roots of all first permanent molars is an extremely rare condition.

CASE REPORT

Three children (same year of birth, now 10 years old) attended the dental clinic (University Hospitals Leuven) upon referral by a private practitioner. Clinical examination showed no abnormalities. Radiographical examination revealed severe root hypoplasia of all four first permanent molars and second primary molars. First and second premolars and second permanent molars were unaffected. The teeth showed sharp conical short roots. Similarities were discovered accidentally at the occasion of a patient discussion session. The rarity of this clinical finding and the fact that all were born in the same year, triggered our attention. There was no history of trauma or other known reasons. Medical history revealed that all patients experienced a medical intervention in the early postnatal period (first days), for completely different reasons.

COMMENTS

Because of accompanying complaints and/or poor prognosis, the teeth will need to be removed, resulting in a challenging orthodontic treatment plan.

CONCLUSION

These cases demonstrate the importance of a thorough clinical and radiographical examination in young children. The clustering of several cases in a short time span underline the need for further investigation of possible aetiological factors.

OPD7.15 Management of oligodontia and infraocclusion of primary molars in a cleft lip and palate patient

S. Selvi-Kuvvetli*¹, N. Capa², D. Germec-Cakan³, N. Sandalli¹

¹Dept. of Paediatric Dentistry, Turkey

²Dept. of Prosthetic Dentistry, Turkey

³Dept. of Orthodontics, Yeditepe University Faculty of Dentistry, Turkey

INTRODUCTION

Congenitally missing permanent teeth are a common problem in cleft lip and palate patients. Oligodontia may be accompanied by infraocclusion of primary molars.

BACKGROUND

A long-term treatment with a multidisciplinary approach is essential.

CASE REPORT

A 7 year old girl with a complete unilateral cleft lip and palate referred to Yeditepe University Faculty of Dentistry. In the intraoral examination, the cleft on the alveolus and palate was seen on the left side and deep dentine caries in the maxillary right second primary molar. In the radiographic examination the patient was diagnosed as oligodontia with 9 congenitally missing permanent teeth. Root canal therapy and a preformed metal crown were applied to the carious tooth. After the eruption of the maxillary permanent central incisors commenced, a first phase of orthodontic treatment was carried out. 3 years later, infraocclusion of the maxillary primary molars was apparent. In order to improve the resulting malocclusion and aesthetic problems, an overdenture prosthesis was constructed. The mandibular primary molars were reshaped with composite resin in order that they resembled premolars, and to obtain functional occlusion. The overdenture prosthesis was replaced 12 months later. The patient is now 14 years, old and under periodical follow-up. When growth is complete, distraction osteogenesis of the left posterior segment will be carried out to correct the vertical discrepancy.

CONCLUSION

The treatment of cleft lip and palate patients with missing permanent teeth should be multidisciplinary and provide oral rehabilitation in terms of occlusion, function and aesthetics.

OPD7.16 Epidemiologic survey of Molar Incisor Hypomineralisation among adolescents in Yangsan City

T. H. Noh*, Y. E. Bae, S. Kim, T. S. Jung, J. Y. Kim

Department of Pediatric Dentistry, School of Dentistry, Pusan National University, South Korea

AIM

To investigate the prevalence and distribution of enamel hypomineralisation including molar incisor hypomineralisation (MIH) among adolescents and assess their correlation with aesthetic satisfaction.

METHODS

A standardised investigator-based cross-sectional survey was conducted on 1,371 adolescents (765 boys, 606 girls) aged 13–15 years, in Yangsan city, South Korea. Enamel hypomineralisation including MIH were evaluated using European Academy of Paediatric Dentistry (EAPD) criteria. A parallel survey was conducted on aesthetic satisfaction of their anterior teeth, and its correlation with incisor enamel hypomineralisation was analyzed. Chi-square test and t-test were used for statistical analyses.

RESULTS

The number of MIH-affected adolescents was 189 (98 boys, 91 girls) with prevalence of 13.8% (12.8% boys, 15.0% girls). Cases of hypomineralisation in any permanent tooth were 318 (23.2%), showing a substantially higher rate than that of the overall MIH standard. The prevalence was highest in the mandibular first molar, followed by maxillary central incisor and mandibular second molar. For anterior teeth, the most frequent affected site was the incisal edge of maxillary central incisor. Severe hypomineralisation in anterior teeth was associated with an increased demand for aesthetic treatment.

CONCLUSIONS

The prevalence of MIH in this study was relatively higher than that in previous studies. The prevalence of hypomineralisation in the whole permanent dentition was much higher than that of MIH. The presence of enamel defects in anterior teeth showed significant relationship with aesthetic satisfaction.

OPD7.17 Dental rehabilitation of a child with Desmoplastic fibroma: A case report

H. M. Uyan*, R. Bozatlioglou, A. P. Munevveroglu

Paediatric Dentistry, Medipol University Faculty of Dentistry, Turkey

INTRODUCTION

Desmoplastic fibroma is a benign but locally aggressive neoplasm of the bones and it is very rare in the mandible as with other intraoral tumours.

BACKGROUND

The prevalence of Desmoplastic fibroma is unknown; about 76 cases of Desmoplastic fibroma in the jaw area have been published to date. Radiologic findings are unspecific and extend from mono- to polycystic appearance with a partially sharp or diffuse borderline.

CASE REPORT

A 9-year-old boy with Desmoplastic fibroma was referred to Medipol University Faculty of Dentistry, Department of Pedodontics complaining of dental caries. Intra-oral examination revealed the presence of permanent teeth numbered 16, 12, 11, 26, 24, 22, 21, 36, 32, 31 and primary teeth numbered 55, 54, 53, 65, 64, 63, 74 and 73. Clinical and radiographic examination revealed carious lesions at 16, 55, 54, 53, 26, 65, 64, 36, 74. Teeth 46, 45, 44, 43, 42 were missing. Pulp therapy was completed and composite restoration was performed to 74 and composite restoration was placed to 16, 53, 26, 36 and 55, 54, 65, 64 were extracted. A prosthetic opinion was sought. The patient and his parents were instructed about the nature of the required prosthetic treatment.

CONCLUSION

The patient was rescheduled to visit every three months because of high caries risk. After three months of follow-up, a good oral hygiene was recorded. In addition, the patient was scheduled to visit every six weeks for the prosthetic control and guidance of eruption.

SESSION OPD8 – DENTAL TRAUMA

Date: Saturday 7th June, **Time:** 16:00–18:00, **Hall:** COLUMBUS B

Chair: Rodica Luca, Romania; Ewa Nadolska-Gazda, Poland

OPD8.1 Dental trauma in two organized sports communities from Bucharest, Romania

C. Farcasiu¹, A. Munteanu¹, A. T. Farcasiu², R. Luca*²

¹"Carol Davila" University, Pediatric Dentistry Dept, Bucharest, Romania

²"Carol Davila" University, Removable Prosthodontics Dept, Bucharest, Romania

AIM

Children and adolescents present a high risk of dental injury during sports activities. The aim of the study was to gather and compare epidemiological data about crown dental trauma in schoolchildren who practice organized football and swimming.

METHODS

Two samples of children referred to the Sportsmen Ambulatory in Bucharest for the annual general check-up were examined: sample A – footballers (n=153, mean-age = 10.18 ± 2.14 years, 98.7% boys) and sample B – swimmers (n=159, mean-age = 9.88 ± 0.94 years, 66% boys). The children did not wear mouthguards during sports activities. Prevalence and distribution of crown dental trauma were assessed. Data were statistically analysed using Anova and Pearson tests ($p < 0.05$).

RESULTS

Prevalence of dental trauma: sample A – 20.26%; sample B – 11.32%. The mean ages of injury occurrence were significantly different (A = 10.49 ± 1.54 years, B = 9.36 ± 1.07 years, $p = 0.001$), the mean-ages of the two samples were close ($p = 0.122$). Number of affected teeth/children: sample A – 1.3 teeth; sample B – 1.5 teeth (NS, $p = 0.348$). Footballers traumatized their teeth more frequently during sporting activities (83.3%). The most common type of dental injury was the enamel fracture in footballers (56.9%) and dentin-enamel fracture in swimmers (51.8%) ($p = 0.0001$). The maxillary central incisors were the most commonly affected for both sports.

CONCLUSIONS

High prevalence of sports related dental trauma was found in both samples, but there were differences regarding the age of injury occurrence and the type of dental injury. Physical development, technical ability and sport type are important circumstantial factors for dental trauma.

OPD8.2 The Prevalence of Traumatic Injuries In Children

B. Karabulut*

Dept of Paedodontics Gulane Military Medical Academy, Istanbul, Turkey

AIM

The purpose of this study was to evaluate the type and prevalence of dental injuries referred to Gülane Military Medical Academy, Istanbul, Department of Paedodontics, Turkey.

METHODS

273 patients with 387 traumatized teeth presented during 36-month interval. Of the 273 patients, 159 were boys and 114 were girls.

RESULTS

Central incisors were found to be the most commonly affected teeth in both primary and permanent dentition injuries. The maxillary arch is involved in a higher percentage of trauma cases. The most common causes of injuries are falls. In the primary dentition, the most common type of injury is extrusive luxation and in the permanent dentition, it is fracture of enamel-dentin without pulpal involvement. Out of 273 patients, only 142 presented to our clinic within 1 h and 10 days after the injury time.

CONCLUSIONS

Most of the parents are not aware of the importance of immediate treatment after dental trauma. The teaching of injury epidemiology and injury prevention to health care workers and to the parents should be improved and multidisciplinary approach would be the most effective way.

OPD8.3 Treatment procedures and complications after avulsion – knowledge of dental general practitioners

M. Goworowska-Truchan*, K. Emerich, E. Nadolska-Gazda
Dept. of Paediatric Dentistry, Medical University of Gdańsk, Poland

AIM

To assess dentists' knowledge of correct treatment procedures after avulsion with regard to complications such as ankylosis and root resorption.

METHODS

The study was based on anonymous questionnaire conducted on 83 dentists of various specialties, during 4th Łódź Dental Meetings. Questions were focused on the duration of tooth splinting after replantation, proper transport medium for an avulsed tooth and management in case of ankylosis.

RESULTS

None of the doctors indicated dry environment and/or hydrogen peroxide as appropriate transport medium, but 28.92% (n = 24) identified milk, sodium chloride and saliva as such. There was no correlation between the respondent's length of professional experience and their choice of the correct answers. Only 2.41% of the surveyed dentists (n = 2) knew the correct procedure in cases of progressive infraocclusion over 2 mm. As many as 67.47% of the respondents (n = 56) decided that the condition did not require an intervention, 14.46% (n = 12) recommended an orthodontic treatment and 6.02% (n = 5) would extract the tooth.

CONCLUSIONS

This research has shown that Polish dentists have a very low level of knowledge regarding treatment after tooth avulsion and in case of root ankylosis, which makes it very difficult for them to conduct proper procedures in the above cases.

OPD8.4 Avulsion of 3 permanent teeth. Novel temporary root filling for teeth with clinical dry time over one hour

R. Steffen*

Paediatric Dentistry Dept, Center of Dental Medicine Zurich, Switzerland

INTRODUCTION

Tooth avulsion represents 0.5–15% of traumatic injuries. The most frequently injured teeth are maxillary central incisors. Multiple avulsion is rare however, and much more difficult to treat.

BACKGROUND

Treatment of avulsed teeth with closed apex and extra-oral dry time exceeding 60 minutes, do have a high risk of ankylosis and inflammatory resorption. Single antibiotic corticosteroid paste as immediate temporary root filling (Ledermix) may inhibit resorption and ankylosis but may also result in discolorations.

CASE REPORT

This case report concerns a 14-year-old girl who suffered avulsion of three upper front teeth. Two of them were placed immediately in milk but one could have only be found with delay and remained dry for over 90 minutes. All teeth were replanted following Association of Dental Traumatology guidelines. Instead of the normally recommended immediate temporary root filling Ledermix, a novel designed acute trauma root filling paste was used. This paste consists of corticosteroid (doxycycline) in precise concentration as in the Ledermix. But Ledermix cream base was substituted by a high-performance penetration medium and no antibiotic proportion was added. After 8 days this filling was substituted through 3-AB mixture. Follow up: 6 month after final root filling no signs of ankylosis, root resorption or discolouration could be found.

CONCLUSION

Substituting Ledermix temporary root filling through a novel highly diffusing corticosteroid temporary filling appears to enable a better saturation of traumatically harmed root dentin and desmodontal fibres with corticosteroid and also avoids discolouration from tetracycline. This approach may improve prognosis of dry stored avulsed teeth.

OPD8.5 Dental trauma management and rehabilitation following a road traffic accident

K. Parker*, S. Parekh

Paediatric Dentistry Dept, Great Ormond Street Hospital, London, UK

INTRODUCTION

This case presents the immediate, medium and long-term management of dental trauma sustained during a road traffic accident.

CASE REPORT

An 11-year old boy was admitted to Great Ormond Street Hospital following a road traffic accident where he sustained head trauma, multiple fractures and dental trauma. The patient was admitted to intensive care where he was sedated and his acute medical conditions managed. His dental trauma was initially managed on the ward and then in the dental department as an outpatient. The patient presented with multiple avulsed upper teeth and multiple fractured lower teeth. Both lower central incisors were horizontally fractured (enamel-dentine), the lower right lateral incisor was obliquely fractured below the gingival margin (enamel-dentine) and the lower left lateral incisor was horizontally fractured at gingival level (enamel-dentine-pulp). Immediate management was carried out on the ward whilst the patient was sedated, intubated and in orthopaedic traction. The lower incisors were dressed to prevent symptoms, bacterial ingress and infection and to maintain vitality. When the patient was able to attend the dental department longer term management included pulp therapy to the lower left lateral incisor, composite build ups of all lower incisors and the replacement of the avulsed teeth with a denture until the patient is old enough to be assessed for implants. At regular reviews all teeth have maintained vitality and remain symptom free.

CONCLUSION

Following significant trauma this patient has had full dental rehabilitation and made a full medical recovery.

OPD8.6 How do dentists estimate their own competence regarding treatment of avulsion and root fracture injuries?

A. A. Pawlowski*, I. Espelid, A. L. Maseng Aas, A. B. Skaare

Dept of Paediatric Dentistry and Behavioural Science, Institute of Clinical Dentistry, University of Oslo, Norway

AIM

This was to evaluate the knowledge of Norwegian dentists on diagnosis and treatment of avulsion and root fracture injuries.

METHODS

An electronic questionnaire (QuestBack) was in 2012 sent to all dentists (n = 255) employed in the Public Dental Health Service (PDHS) in three counties of Norway. The dentists were asked to state if they had sufficient competence themselves to treat these injuries on a short- and long-term basis. Consensus for correct treatment was achieved among the authors. Based on two cases the clinicians were divided between a "sufficient competence" (SC) group and "not sufficient competence" (NSC) group. The data were evaluated by descriptive statistics and Chi-square bivariate analysis.

RESULTS

The response rate was 64%, 95 dentists (62%) in the SC group, and 58 (38%) in the NSC. The treatment of choice (reposition and splinting) for a one day old fracture in the middle third of the root with luxation of the coronal fragment was chosen more often by the (SC) group compared with the (NSC) group (p = 0.03). In a case with a previous avulsion injury and obvious signs of pulp necrosis the majority (n = 97, 63%) would choose treatment with Ca(OH)₂ dressing, but less than half of the clinicians (40%) diagnosed the external infection related root resorption which was visible on a radiograph. This finding was more frequently reported in the SC group compared with the NSC group, but not statistically significant (p = 0.81).

CONCLUSIONS

Clinicians who estimated their competence as sufficient more often chose correct treatment and diagnoses for avulsion and root fracture injuries.

OPD8.7 Stabilization of Luxated Teeth in Children with a Vacuum-formed Splint

Y. K. Han*, K. U. Song, S. E. Lee, J. H. Park

Dept of Paediatric Dentistry, School of Dentistry, Kyung Hee University, Seoul, Korea

INTRODUCTION

The present case describes a simplified method for splinting of luxated primary tooth using a vacuum-formed splint and follow-up evaluation.

BACKGROUND

Wire-composite splint is most common method for stabilization of luxated teeth when adequate anchorage is available. However, when the adjacent tooth gaps are wide or only minimal anchorage is available from the adjacent teeth, it is difficult to adequately fix the luxated tooth into the original position. In such cases, especially mixed dentition and primary dentition, the vacuum-formed splint may be a useful alternative to arch wire in managing traumatic injuries.

CASE REPORT

A one-year and three-month old boy came to the department of pediatric dentistry at Kyung Hee University Dental Hospital for the management of traumatically luxated tooth. Clinical and radiographic examination revealed labial displacement of lower right primary lateral incisor. The tooth was then splinted to the adjacent incisors using wire-composite splint technique. But due to absence of distal teeth, it was difficult to get adequate anchorage. The splint had fallen off 8 days after the accident and so a vacuum-formed splint was made on a plaster model where the position of luxated tooth had been corrected. This was used for immobilization for three weeks. Six months after removing the splint, the teeth and the surrounding tissues were clinically and radiographically asymptomatic.

CONCLUSION

The vacuum-formed splint may be a useful conservative alternative to wire-composite splint in managing traumatic dental injury especially in primary or mixed dentition where luxated teeth do not get adequate anchorage from adjacent teeth, and in uncooperative or handicapped patients.

OPD8.8 Replantation of an avulsed maxillary incisor with an open apex: 23 year follow-up

A. Goudakou*¹, V. Kaitsas², K. Arapostathis³

¹Private Practice, Greece

²Dept of Restorative Dentistry, University of Genova, Italy

³Dept of Paediatric Dentistry, Aristotle University of Thessaloniki, Greece

INTRODUCTION

Prevalence of tooth avulsion is 0.5–16% of all reported traumatic injuries in permanent dentition.

BACKGROUND

The most important factors that influence the outcome of the replantation are the time and method of extraoral storage and the stage of the apex conformation. The most common complications after replantation of an immature incisor are inflammatory and replacement resorption and eventually tooth loss.

CASE REPORT

On December 1990, a healthy 7-year-old boy reported for treatment of an avulsed tooth 40 minutes after the dental trauma. The tooth had been preserved in milk. Under local anesthesia the socket was gently curetted to remove coagulum and was thoroughly debrided with physiologic saline solution. The tooth was also rinsed with physiologic saline solution, gently replanted with digital pressure and a wire splint was attached to the adjacent teeth. A 5-day course of Amoxicillin was administered to the patient to prevent infection, oral hygiene instructions were given and a soft diet was suggested. The splint was removed after 3 weeks and the patient was followed up clinically and radiographically at 1, 3, 6, 12, 24 month intervals and up to 23 years. Pulp obliteration was detected 1 year following the trauma. Throughout the years, the clinical and radiographic findings revealed absence of root resorption, ankylosis without infraposition and the tooth remains asymptomatic.

CONCLUSION

This case highlights the fact that in cases of replantation following dental trauma, even if ankylosis has occurred, it is possible to maintain the tooth functional for more than 23 years.

OPD8.9 A Quantitative Analysis of Low Level Diode Laser on PDL cell survival

S. Peker*¹, A. Durhan¹, P. Kulan¹, R. Pisiriciler², B. Kargul¹

¹Dept. of Paediatric Dentistry, Dental School, Marmara University, Istanbul, Turkey

²Dept. of Histology, Dental School, Marmara University, Istanbul, Turkey

AIM

Replantation is an acceptable option for treatment of an avulsed permanent tooth. Low-level laser therapy is a tool employed in the management of post-operative inflammation process. The aim of the present in vitro study was to evaluate the number of viable PDL cells of avulsed teeth treated by low level diode laser therapy.

METHODS

Twenty-one freshly extracted single-rooted human teeth with closed apices were divided into three experimental groups: 2 control groups and a laser group, consisting of seven samples each. The experimental teeth were dried for 30 min. and then root surfaces were irradiated with 810 nm diode laser (Gigaa laser, China). The ablation was done with 0.3 W power and Low level therapy handpiece. The number of viable protective least significant difference PDL cells were counted under a light microscope with a hemocytometer at 20× magnification and analyzed.

RESULTS

The results showed that positive control was a significantly more effective storage media than other groups ($p = 0.000$). There were no statistically significant differences between other storage media ($p > 0.05$). Within the parameters of this study, it appears that low level diode laser is an equally viable alternative for avulsed teeth.

CONCLUSIONS

Root surface treatments with low-level diode laser irradiation prior to delayed replantation may be a better alternative to no treatment in terms of maintaining PDL cell viability after avulsion.

OPD8.10 Decoronation for the management of avulsed young permanent teeth: A case report

A. C. Santillan Torres*, S. Yuste Bielsa, F. Guinot Jimeno, C. Cuadros Fernandez, A. I. Lorente Rodriguez

International University of Catalunya, Barcelona, Spain

INTRODUCTION

Avulsed teeth comprise 1–16% of all traumatic injuries to permanent dentition. These injuries most often occur between 8–12 years, when the growth of the jaws and the alveolar process is active.

BACKGROUND

A frequent consequence of dental avulsion is ankylosis. Extraction of ankylosed teeth is one option, although this procedure usually leads to bone loss. In 1984, Malmgren et al. developed the concept of decoronation, with the idea that by maintaining the resorbing root the labial contours of the socket could be preserved, allowing more optimal conditions for a subsequent implant insertion.

CASE REPORT

A 9 year-old female suffered an avulsion in a swimming pool in May 2011. The trauma consisted on of the loss of teeth 1.1, 1.2 and 2.1, which were reimplanted immediately after the avulsion. In 2012, she was attended at the Universitat Internacional de Catalunya (UIC) presenting replacement resorption in the avulsed teeth, therefore a decoronation procedure was carried out in the upper central incisors.

CONCLUSION

Reimplanted teeth with closed apices after avulsion and trauma injury have an unclear prognosis. In case of failure, decoronation may provide an alternative treatment that could allow the maintenance of bone level, and guide bone growth. Such cases, due their poor prognosis and high complexity, should be treated in a multidisciplinary way.

OPD8.11 Surgical repositioning of a displaced tooth germ. A case report

A. Spoerri*, C. Moret, H. van Waes

University of Zurich, Switzerland

INTRODUCTION

Traumatic injuries to the primary dentition are relatively common. Due to the proximity, the root of the primary tooth can cause damage to the germ of the permanent successor. As a clinical consequence a dilaceration with root deformation, malpositioning and disturbances of eruption can occur.

BACKGROUND

Surgical repositioning of a dislocated crown of a developing maxillary permanent central incisor is a treatment option that is described below.

CASE REPORT

A four year old girl was referred because of a mobile upper primary central incisor and a radiographically visible displaced tooth germ. Her history revealed a traumatic dental injury at an unknown time. Radiologic examination confirmed a inflammatory root resorption on tooth 61 and a massive dislocation of tooth germ 21. In order to avoid further displacement due to the inflammation, 61 was extracted at the first appointment. A radiographic image 7 months later showed no improvement in the malposition of tooth 21. Therefore tooth 21 was surgically repositioned into its correct position under local anaesthesia and nitrous oxide sedation. 8 weeks later 21 erupted spontaneously. Follow-up over 3 years confirmed continued root development and a full eruption of 21 in its correct position. Sensitivity, mobility and percussion testing were similar to the contralateral incisor.

CONCLUSION

Early diagnosis and early treatment of a dislocated permanent tooth germ is essential to allow a favourable outcome. Surgical repositioning is a fast and economic treatment method and can be successful in avoiding later malpositioning of the permanent teeth.

OPD8.12 A quantitative analysis of a new storage medium for avulsed teeth

E. Caglar¹, S. Peker², A. Durhan², P. Kulan², B. Kargul*²

¹Private practice

²Dept. of Pediatric Dentistry, Dental School, Marmara University, Istanbul, Turkey

AIM

The storage media maintains the viability of the periodontal ligament cells and thus may permit longer extra-alveolar periods prior to replantation. The aim of the present in vitro study was to investigate the potential of a storage medium, probiotic yogurt(*Bifidobacterium animalis* DN 173010) (Danone Activia®Lüleburgaz, Turkey) in comparison with, Hank's Balanced Salt Solution(HBSS), saline and milk in maintaining viable periodontal ligament(PDL) cells on simulated avulsed teeth.

METHODS

42 freshly extracted single-rooted human teeth with closed apices were divided into six experimental groups(n = 7). The positive and negative controls corresponded to 0 minutes and an 8-hour dry time, respectively. After extraction, the positive control teeth were immediately treated with dispase and collagenase. The negative control teeth were bench-dried for 8 h, with no follow-up storage solution time, and then placed in the dispase and collagenase. The number of viable protective least significant difference PDL cells were counted under a light microscope with a hemocytometer at 20x magnification and analyzed.

RESULTS

Positive control was found to be significantly better than the others, there was statistically significant differences between positive control and other test groups(p = 0.000). The teeth stored in positive control demonstrated the highest number of viable PDL cells followed in order by probiotic yogurt, HBSS, saline and milk.

CONCLUSIONS

Probiotic yogurt seems to be an alternative for the temporary storage of avulsed teeth, due to high number of viable PDL cells. Probiotics may be suitable transport media for avulsed teeth, but further research is warranted using the commercially available products.

OPD8.13 Fracture resistance of simulated immature teeth restored with different reinforcement materials

I. Aydintug*, A. Alacam

Paediatric Dentistry, Gazi University Faculty of Dentistry, Ankara, Turkey

AIM

The aim of this study was to evaluate the fracture resistance of immature maxillary anterior teeth restored with four different reinforcement materials after simulated apexification with Frank method.

METHODS

60 extracted maxillary anterior teeth, which were standardized by cutting off the coronal and apical portion to achieve 13 ± 1 mm samples. Instrumentation of root canals was performed with K-files and Peezo reamers until Peezo no 6 was 1mm from the apex in order to simulate immature root. For simulation of apexification with Frank method, the calcium hydroxide (CaOH_2) was renewed after 1 week and 1 month. After 3 months the 4 mm apical portion was filled with MTA. These teeth were then randomly divided into four groups. Group 1: backfilled with thermoplastisized gutta-percha (Calamus Dual Dentsply). Group 2: polyethylene fibers (Ribbond) were luted using with dual cure resin cement (Panavia F). Group 3: glass fiber posts (Snow Post) were cemented using dual cure resin cement. Group 4: quartz fiber post (DT Light post Bisco) were luted with dual cure resin cement. Instron Universal Testing Machine was used to apply load to each specimen. The peak load of fracture was analyzed with one-way ANOVA test.

RESULTS

The mean fracture resistances were 749.46, 774.58, 756.74, 820.16 Newtons, respectively. No statistically significant difference was noted between the groups.

CONCLUSIONS

With the limitation of this in vitro study we can conclude that all reinforcement systems strengthen the roots of immature teeth after 3 months CaOH_2 therapy.

OPD8.14 Five years survival of two Regenerative Endodontic Therapy (RET) cases

W. H. Kouwenberg-Bruring*¹, H. C. Kouwenberg², J. B. Krikken³

¹Mondmaatjes, Netherlands

²Kouwenberg-Bruring, Netherlands

³Kindertand-West, Netherlands

INTRODUCTION

Necrotic front teeth with an open apex can be treated using the apexification technique to induce a calcified apical barrier or with MTA to make an apical stop in the open apex. Both techniques are useful in creating sound apical tissue, but leave a fragile root with thin walls which are at risk of fracture.

BACKGROUND

Regenerative endodontic therapy (RET) is a relatively new treatment technique for necrotic teeth with an open apex. Young children that present with necrotic front teeth after dental trauma can be treated with RET to revitalize the pulp and stimulate root growth.

CASE REPORT

Two boys (both 6.8 years old) were treated with RET, as described in the treatment protocol by the Pediatric REsearch Project (PREP). The traumatized teeth were opened, rinsed with sodium hypochlorite, dried, and tri-paste was applied, followed by a temporary filling. After 1 week (case 1) or 5 weeks (case 2) the teeth were opened again, rinsed and dried. Bleeding was induced, which did not succeed in case 1. Both teeth were filled with an MTA stop and a composite restoration. Although no bleeding was achieved in case one, the tooth remained pain- and fistula free. Three months after treatment and then every six months x-rays of the tooth were made. Both cases had a follow up of 5 years now.

CONCLUSION

These two cases showed a good prognosis of the traumatized teeth 5 years after RET treatment.

OPD8.15 Prosthetic replacement after tooth loss due to dental trauma in disabled adolescents:

Report of two cases

J. Erb*¹, A. Fontolliet², A. Spoerri¹, H. van Waes¹

¹*Center of Dental Medicine, Clinic for Orthodontics and Paediatric Dentistry, Switzerland*

²*Center of Dental Medicine, Clinic for Fixed and Removable Prosthodontics, Switzerland*

INTRODUCTION

Traumatic loss of an incisor in the upper jaw is a common problem, especially in growing patients with a disability (e.g. cerebral palsy, epilepsy), the replacement options are limited. The insertion of implants or the use of conventional bridgework for tooth replacement is not possible until completion of maxillary growth. Removable partial dentures are often damaged or lost and may result in significant plaque accumulation and the risk for candida infections of the covered tissues, especially in patients with poor oral hygiene.

CASE REPORT

The two presented cases (female: 19 y, male: 20 y) share the same problem: Loss of an maxillary incisor due to a trauma. Both patients suffer from cerebral palsy and sufficient cooperation cannot be expected. Their removable prosthetic appliances were lost and damaged several times. Therefore it was decided to insert resin-bonded cobalt chromium-ceramic bridges. The success rates with survival of resin-bonded bridgework are proved to be good (up to 87.7% after 5 years). To improve the retention, the abutment teeth were prepared with proximal and palatal grooves. The bridgework was bonded with Panavia™. The treatments were performed under general anaesthesia.

COMMENTS

Management of tooth replacement in growing patients is always challenging. If the design and the fit of the restoration are adequate, good oral hygiene is easier to maintain.

CONCLUSION

The fixed prosthodontic appliances are well accepted by both patients. Therefore this form of prosthetic tooth replacement should be considered as valuable alternative to removable appliances in adolescents.

OPD8.16 Management of enamel-dentine fractures involving pulp exposure:

Presentation of two clinical cases

E. Birpou*¹, A. Tzouanaki², O. Panagopoulou², G. Vadiakas²

¹*Dept. of Oral Biology, Dental School, University of Athens, Greece*

²*Dept. of Pediatric Dentistry, Dental School, University of Athens, Greece*

INTRODUCTION

Enamel-dentine fractures involving pulp exposure cause loss of tooth substance, which is visible clinically and radiographically. Pulp healing prognosis for mature and immature teeth, treated with partial pulpotomy technique, is 94–96%.

BACKGROUND

Partial pulpotomy (also known as pulp curettage or Cvek), which involves the removal only of the outer layer of damaged and hyperaemic tissue in exposed pulp, is considered to be a procedure staged between pulp capping and complete pulpotomy indicated in mature and immature teeth.

CASE REPORT

Two girls (10 and 13 years old) were referred to the postgraduate clinic of Paediatric Dentistry, University of Athens, due to dental trauma. The clinical examination of the first patient revealed extrusion of 11 and enamel-dentine fracture with pulp involvement of 21. In the initial examination of the second patient, was also observed an enamel-dentine fracture with pulp exposure of 11. Radiographic examination showed that both traumatized teeth had closed apices. In both cases, after haemostasis, a pulpal medicament containing biologically available calcium hydroxide was applied. Additionally, exposed dentine was sealed with glass-ionomer cement followed by tooth fragment reattachment and composite resin restoration. The follow-up period lasted two years, for both cases, with one week, one month, three months and one year intervals of clinical and radiographical observation. The patients are still in an annual recall program for at least 3 more years.

CONCLUSION

Partial pulpotomy is an alternative, conservative clinical technique followed when pulp exposure occurs. This procedure preserves as much as possible, vital pulp and enables continued physiologic dentin deposition.

OPD8.17 Case report: Several traumatic injuries during childhood

I. M. Cardoso Martins*, N. Braz de Oliveira, R. Negrao, A. Coelho, P. F. Marques

Dept. of Paediatric Dentistry, Faculty of Dental Medicine, University of Lisbon, Portugal

INTRODUCTION

Traumatic dental injuries occur frequently in preschool and school age children. The maxillary central incisors are the most frequently affected. A large maxillary overjet and incomplete lip closure are the main predisposing factors.

BACKGROUND

This is a 10 year follow up case report of a boy who had several traumatic injuries in deciduous and permanent teeth.

CASE REPORT

A 5-year old boy was referred after avulsion of tooth 81 and crown fracture of 61. An anterior open bite was present. Tooth 61 was re-shaped and a control radiograph was taken. At the age of 8 years old he presented with a crown fracture without pulp exposure of 21. An indirect pulp capping with calcium hydroxide and a composite resin were placed with a stratification technique. Clinical and radiographic reviews were undertaken 2 months and 1 year later, with a favourable outcome. At the age of 11, this boy reappeared with a severe intrusion of 11. The tooth was repositioned surgically and stabilized with a flexible splint for 8 weeks. Clinical and radiographic reviews were undertaken 1, 2, 6 months and 1 year later and then yearly. Over a follow up period of 4 years, external and internal inflammatory root resorption were observed. The long-term treatment plan will consider the placement of an implant to replace 11 when jaw growth is complete.

CONCLUSION

Multiple traumatic injuries can continuously compromise oral health.

SESSION OPD9 – ORAL MEDICINE & PATHOLOGY

Date: Saturday 7th June, **Time:** 16:00–18:00, **Hall:** COLUMBUS D

Chair: Giuseppe Marzo, Italy; Angus Cameron, Australia

OPD9.1 (Odonto) hypophosphatasia, two cases of premature tooth loss

T. Brethouwer*, J. B. Krikken, K. A van Nes

Dept. of Paediatric Dentistry, ACTA, The Netherlands

INTRODUCTION

Hypophosphatasia is a rare metabolic bone disease with an unknown prevalence. This disease is caused by tissue non-specific alkaline phosphatase (TNSALP) deficiency in osteoblasts and chondrocytes, which impairs bone mineralization, leading to rickets or osteomalacia. Genetic inheritance is autosomal recessive or autosomal dominant. Odonto hypophosphatasia is a type of hypophosphatasia in which only biochemical and dental symptoms are seen. This type of the disease leads to periodontitis and premature tooth loss.

BACKGROUND

Spontaneous premature exfoliation of primary teeth in young children is a rare phenomenon. The differential diagnosis include juvenile periodontitis and odonto hypophosphatasia.

CASE REPORT

Two girls (not related), aged 2.5 years old were referred to a paediatric dentist because of increased tooth mobility. Both children had no relevant medical history and were judged healthy by their parents. Both girls lost their mandibular central incisors; after a period of increasing mobility due to spontaneous tooth loss (case 1) and extraction (case 2). X-rays showed severe bone loss around most primary teeth. Follow-up: The girls were referred to a paediatrician for genetic investigation. In case 1, a spontaneous genetic mutation was found. Here bone formation and mineralization were checked in the hospital annually, and she was seen by a paediatric dentist at some crucial dental development moments. After 7 years, she had a healthy dentition. In case 2, both parents had a gene mutation, leading to (odonto) hypophosphatasia in their child.

CONCLUSION

Dental symptoms might be an indication of an underlying medical problem.

OPD9.2 Amelogenesis imperfecta

J. Vaalas*, H. Yli-Urpo

Paediatric Dentistry, University Turku, Finland

INTRODUCTION

Amelogenesis imperfecta (AI) is a clinically and genetically heterogeneous disease and can appear both in primary and permanent dentition. AI is caused by mutations in the genes controlling the amelogenesis and autosomal dominant, autosomal recessive, X-linked and sporadic patterns of inheritance are seen. The prevalence varies from 1:700 to 1:14 000, according to the populations studied. AI has been classified on the basis of clinical, radiographic and histologic appearance of the enamel defect and the mode of inheritance of this feature. AI has been categorized as hypoplastic, hypocalcified, hypomaturation and hypoplastic-hypomaturation types.

BACKGROUND

The patient is a healthy 23-year-old Finnish man, who was clinically diagnosed as hypoplastic type I AI. There were no other AI cases in the family.

CASE REPORT

Case report: In childhood, the primary molars and the first permanent molars of the patient were restored with stainless steel crowns in order to maintain space and function in the mouth. Later in the permanent dentition, the patient had also laboratory made composite resin restorations in the buccal segments and for the upperanterior teeth, and composite resins in the loweranterior teeth. His molars have now been restored with ceramic crowns. Follow-up: The restorative treatments have partly been carried out and followed in the Central Hospital of Turku during the last 12 years.

CONCLUSION

Early diagnosis and long-term multidisciplinary, patient-centered treatment planning and follow-up are needed when treating AI patients. Keywords: amelogenesis imperfecta, treatment planning, prosthetic treatment

OPD9.3 Management of an Acute Facial swelling in a 13-month old child with Sickle Cell Disease

J. T. Mangan*¹, P. Fleming¹, K. Fitzgerald¹, Y. MacAuley¹, C. McMahon²

¹Dental Department, Our Lady's Children Hospital Crumlin, Dublin, Ireland

²Haematology Department, Our Lady's Children Hospital Crumlin, Dublin, Ireland

INTRODUCTION

SCD prevalence has increased greatly in Ireland over the last 20 years with immigration from African countries. Successful peri-operative management of SCD requires a multidisciplinary approach in order to prevent the occurrence of a sickle cell crisis. Multiple factors such as acidosis, hypotension, hypothermia, hypoxia and stress may induce or lead to a crisis in individuals with SCD.

CASE REPORT

A 13-month old child presented to the Emergency Department with a history of acute facial swelling. The differential diagnosis included a possible allergic response to peanuts that he consumed the previous evening. A dental opinion was sought to outrule any possible oral cause of the swelling. Following a dental history it was revealed that the child had sustained trauma to his maxillary primary central incisors six weeks previously. Clinical examination determined that there was a swelling of the maxillary labial sulcus and face in relation to 51 and there were oblique crown fractures of 51 and 61. With the father's assistance, a maxillary anterior occlusal radiograph was exposed and this showed periapical radiolucency associated with 51.

CONCLUSION

The orofacial swelling was judged to be due to a dental abscess in relation to the non-vital 51. The child was admitted to hospital and intravenous antibiotics and fluids were administered. Arrangements were made to undertake extraction of the 51 and 61 under general anaesthesia on the following day. The orofacial swelling rapidly resolved following this treatment and the child was discharged home to complete a course of oral antibiotics.

OPD9.4 Atypical periodontitis associated with Kindler Syndrome

M. L. Milvang-Noerregaard*

Section for Paediatric Dentistry, Department of Dentistry, Health, Aarhus University, Denmark

INTRODUCTION

Kindler syndrome (KS) is one of the four major types of epidermolysis bullosa (EB), a rare group of genodermatosis involving abnormal epithelial integrity. The prevalence of KS is unknown. Only a few hundred have been reported in the literature, and none from Denmark.

CASE REPORT

A 17-year old Danish boy in a Danish Municipal Dental Service presented with an atypical periodontitis with increasing clinically and radiographically horizontal bone loss. Microbiological tests were negative for the presence of *Aggregatibacter actinomycetemcomitans*. Initially, the clinical diagnosis by the dermatologist was EB dystrophica (DEB), inherited from his mother. Aim: To investigate the possibility of an association between the present skin disease and his periodontal status.

COMMENTS

As reported in literature, patients with DEB show an increased tissue fragility and blistering as the main oral complications. Concerning KS, the scarce literature available suggests a possible co-morbidity of atypical periodontitis. Electron microscopic imaging of biopsies taken from skin and oral mucosa showed a picture that morphologically was most compatible with KS. **ng of biopsies taken from skin and oral mucosa showed a picture that morphologically is most compatible with KS.**

CONCLUSION

Proper diagnosis is always important and makes it possible to give the patient the treatment needed and information about the prognosis. In the present case of KS, conservative periodontal therapy at 4-month intervals along with maintenance an adequate oral hygiene has been the treatment of choice. Furthermore, it is important to draw attention to the fact that patients with KS are prone to develop squamous cell carcinoma in chronically inflamed mucosae.

**OPD9.5 The total absence of teeth in a child of 6-years old
with anhidrotic ectodermal dysplasia syndrome**

O. Kovylin*

Paediatric Dentistry Dept, Moscow State University of Medicine and Dentistry, Russian Federation

INTRODUCTION

Ectodermal dysplasia – a hereditary disorder of ectodermal derivatives. Anhidrotic form – Christ-Siemens-Touraine Syndrome (ICD-10 Q82.4) has autosomal recessive inheritance. The disease is characterized by aplasia or hypoplasia of the sweat and lacrimal glands, hyperkeratosis, hypothermia, sparse hair growth or alopecia. In a mouth, there is a full or partial absence of primary and permanent teeth.

CASE REPORT

A 6-year-old boy was treated for complaints about the lack of primary and permanent teeth. Pregnancy and the postnatal period were without pathologies. Breastfeeding lasted 10 months. The main clinical symptoms identified during examination: reduced height of the lower third of the face, evidence of protuberances on the forehead, an increase in the size of the ears, dryness and skin folds in the face, palms, feet, thinning of hair, dry mouth, lack of primary teeth, and atrophy of the alveolar process of the mandible. Radiographic data: the total absence of follicles for permanent teeth. The diagnosis was made of Inherited Christ-Siemens-Touraine, anhidrotic ectodermal dysplasia syndrome, and confirmed by genetic examination of the patient.

TREATMENT

The following treatment was carried out: Professional oral hygiene. Whilst under general anesthesia the patient has had 3 mini-implants of teeth to the lower jaw, respectively 7.1 , 7.3 , 8.3 and fixed full denture. A full denture was made for the upper jaw.

CONCLUSION

Children suffering from Christ-Siemens-Touraine Syndrome should be treated symptomatically with a continuous follow-up control by dentists and dermatologists. Appropriate prostheses for rehabilitation and social integration are required.

OPD9.6 Dental implications for a patient with Simpson-Golabi-Behmel syndrome

H. Batley, H. J. Rogers*, M. S. Ali, C. Deery

Charles Clifford Dental Hospital, Sheffield, UK

INTRODUCTION

Type 1 Simpson-Golabi-Behmel Syndrome (SGBS) is a rare X-linked condition caused by mutation of the glypican-3 gene, which is involved in regulation of cell proliferation. SGBS is characterised by pre- and post-natal overgrowth, multiple congenital abnormalities and predisposition to tumour development.

CASE REPORT

A 13-year-old boy with SGBS was referred by his dentist regarding dental caries and toothache which had been affecting his sleep. He had a history of poor dental attendance owing to his needle-phobia. All previous dental care had been delivered under general anaesthesia. His inability to digest fat due to a benign pancreatic tumour led him to consume a high sugar diet.

COMMENTS

A liaison with the child's medical consultant and dietician ensured holistic care. The patient is under review to maintain his oral health. This case describes a rare disorder with multiple craniofacial features and the dental impact as a result of altered dietary requirements. It reinforces the need for holistic medical and dental care with a focus on prevention.

CONCLUSION

We liaised with his medical consultant and dietician to ensure holistic care. The patient is under review to maintain his oral health. This case describes a rare disorder with multiple craniofacial features and the dental impact as a result of altered dietary requirements. It reinforces the need for holistic medical and dental care with a focus on prevention.

OPD9.7 Papillon Lefevre Syndrome: A case report

D. Akay Kotan*, A. Alacam

Dept. of Paediatric Dentistry, Gazi University Faculty of Dentistry, Turkey

INTRODUCTION

Papillon Lefevre syndrome (PLS) is a rare autosomal recessive disorder characterized by the association of palmoplantar hyperkeratosis and premature loss of both primary and permanent teeth. The prevalence is estimated to be 1 per 4 million people.

BACKGROUND

This case report presents the treatment planning of a 7 year old female patient with PLS which was previously misdiagnosed.

CASE REPORT

The patient referred to the department of paediatric dentistry complaining of teeth mobility. Physical examination demonstrated that hyperkeratotic, scaly lesions were apparent on the soles of her feet. Radiographic examination showed bilateral alveolar bone loss. These findings were suggestive of PLS. A multidisciplinary approach is essential for the treatment of the condition. The skin lesions were treated with retinoid under a physician's supervision. The dental treatment was started with extraction of unsalvageable teeth. The carious teeth were restored. Periodontal treatment including scaling and root planing. Oral hygiene instruction was given and chlorhexidine mouth wash was also prescribed. The patient was followed up for 12 months.

CONCLUSION

Dentists can play an important role in diagnosing Papillon Lefevre syndrome. Appropriate treatment approaches may slow up the progression of the disease.

OPD9.8 Dental management in a child with deletion of chromosome 10q. A case report

C. R. Martinez*, F. G. Jimeno, A. A. Olivares, C. C. Fernandez, A. I. Lorente Rodriguez

International University of Catalunya, Spain

INTRODUCTION

Deletions of the long arm of chromosome 10 are infrequent. Lewandowski et al. described the first patient with partial deletion of the long arm of chromosome 10 in 1978.

BACKGROUND

The most common congenital abnormalities associated with partial monosomies reported are: congenital heart diseases, genital or urinary tract anomalies, limb abnormalities, psychomotor delay, mental disability and mild facial dysmorphism. It has been postulated that the severity of the clinical phenotype may be related to the extent of the deleted region.

CASE REPORT

A male of 13 years and 5 months of age, diagnosed with subtelomeric deletion of chromosome 10q, was referred for treatment to the Dept. of Paediatric Dentistry at the Universitat Internacional de Catalunya (UIC). The patient had congenital anomalies and was prescribed antipsychotic and psychostimulant medication. At first, the patient was uncooperative, but his behaviour improved after using behavioural techniques. The oral examination revealed decayed teeth, which were solved with composite resins, pulp therapy, and extraction of primary molars. Since 2009, after treatment completion, the patient attended every 6 months for regular examination and professional fluoride therapy, as well as emphasizing the preventive measures that he and his family should take.

CONCLUSION

Treatment must be adapted to the patients with special needs, who require more time to adapt to proper hygiene and dietary routines and regular follow-ups. Preventive treatment helps to improve the oral health of the patient and trust in dentistry, which leads to better collaboration and behaviour.

OPD9.9 Probiotics in complex therapy of chronic recurrent aphthous stomatitis (CRAS) in children

S. Strakhova, L. Drobotko*, K. A. Petrova

*Paediatric Dentistry Dept, Moscow State University of Medicine and Dentistry
named after A.I. Evdokimov, Russia*

AIM

CRAS occurs in children aged 6–15 years and develops usually along with somatic pathology. Research has shown that one of the main CRAS aetiological factors is gastrointestinal tract disease. The purpose of this study was to demonstrate that CRAS treatment success depends on cooperative actions of gastroenterologists and paediatric dentists.

METHODS

25 children aged 7–14 years diagnosed for CRAS were included in the study. The recurrent eruptions occurred 2–5 times a year, mainly in spring-autumn periods. The gastroenterological examination showed biliary sludge in 20% of cases, biliary dyskinesia in 50%, hepatomegaly in 30% and gallbladder wall thickening in 80%. These pathologies cause abnormal duodenum absorption, chronic intoxication, disorders of the nervous system and the connected organs. The “solidarity phenomenon” of the mucous membranes, while inflammation on the mucous membranes of one system manifests itself on other ones, was evident. In cooperation with gastroenterologists we included in the complex therapy the Acilakt probiotics containing the *Acidophilus lactobacteria* – pills for sucking 4–6 times a day for 2 weeks. The local therapy consisted of pain relief and applications with proteolytic enzymes and keratoplastic agents. Perriokin gel with Kingingival mouthwash was showed to be the best combination.

RESULTS

This CRAS treatment method decreased the disease severity shown by longer remission periods. Aphthous ulcers were present for shorter periods, were smaller in size and fewer in number.

CONCLUSIONS

This method may be recommended and the results are good both in terms of oral and general health.

OPD9.10 Giant Cell Granuloma: Case report of an incidental finding

A. Hollis*¹, L. Carter², A. High³, R. Bryan¹

¹Paediatric Dentistry, Leeds Dental Institute, UK

²Oral and Maxillofacial Surgery, Leeds Dental Institute, UK

³Pathologist (Head and Neck), University of Leeds, UK

INTRODUCTION

Central giant cell granuloma (CGCG) is a bone lesion accounting for approximately 7% of all benign tumours of the jaws. Females are more commonly affected and lesions tend to present before age 30. Mandibular lesions are more frequent than maxillary ones. CGCGs are usually asymptomatic but can result in swelling, bony expansion and tooth displacement.

CASE REPORT

A 7-year-old boy with a history of repaired Tetralogy of Fallot attended for comprehensive dental care under general anaesthesia (GA). No concerns were reported preoperatively. Clinical examination under GA revealed multiple carious primary teeth. An ulcerated, erythematous soft tissue swelling of the buccal mucosa adjacent to 65 and 26 [FDI notation] was noted. There was bony expansion of 65, although clinically caries-free, was grade II mobile. Radiographic examination revealed interradicular radiolucency and root resorption of 65. In addition to the management of the carious teeth, 65 was extracted and an incisional biopsy performed. Initial histopathological examination revealed features of giant cell granuloma (GCG). Biochemical testing of blood excluded hyperparathyroidism. The patient was referred to the Oral and Maxillofacial surgery team for enucleation of the GCG, curettage and removal of the teeth involved in the lesion (64, 24, 25 and 26). Further histopathological investigation confirmed the diagnosis of CGCG.

CONCLUSION

Close follow-up is indicated due to the risk of recurrence. CGCG can remain asymptomatic and may present as an incidental finding after significant bone expansion and destruction has taken place. The importance of further investigation to exclude systemic disease is highlighted.

OPD9.11 The dental implications and management of sarcoidosis in a paediatric patient

A. Wallace*, A. M. Hegarty, H. Zaitoun

Charles Clifford Dental Hospital and University of Sheffield School of Clinical Dentistry, UK

INTRODUCTION

Sarcoidosis is a systemic disease affecting multiple organs and characterised by non-caseating granulomas. Its presentation in children is rare. The aetiology is not well understood but is thought to be an immunological response to internal or external triggers.

CASE REPORT

A 6-year-old girl was referred by her general dental practitioner to the joint Paediatric Oral Medicine clinic regarding caries and xerostomia. She reported a 6-month duration of toothache and dry mouth. The patient had recently been diagnosed with sarcoidosis affecting her kidneys, eyes and salivary glands. Medications included: Prednisolone, Methotrexate, Enalapril, Glandosane and artificial tears. Extra-oral examination revealed no abnormalities. Intra-orally the soft tissues were healthy but dry, oral hygiene was suboptimal, all primary teeth were carious and there was a sinus associated with 84. Radiographs were not required and the patient was pre-cooperative for salivary flow testing. Diagnoses of caries and xerostomia were made. A variety of saliva substitutes were prescribed to alleviate her dry mouth. A thorough preventive regimen was prescribed and comprehensive dental care under general anaesthetic undertaken. The patient's toothache resolved and the therapeutic products helped manage her dry mouth. Subsequent clinical review revealed the soft tissues were moist and healthy. The patient will be reviewed regularly and prevention advice reinforced with an aim to fissure seal the first permanent molars.

CONCLUSION

Non-caseating granulomas can form in the salivary glands reducing salivary flow. Xerostomia significantly increases the risk of caries reinforcing the need for aggressive prevention and highlighting the role of multidisciplinary management.

OPD9.12 Three case reports of primary canine agenesis

A. R. Tavares*¹, R. E. Gomes², C. Palma³

¹Faculty of Dentistry, University of Lisbon, Portugal

²Pequenos Grandes Doutores Clinic, Lisbon, Portugal

³Pediatric Dentistry Dept, University of Barcelona, Spain

INTRODUCTION

Hypodontia is a rare condition, especially in primary dentition. There are some cases described in the literature associated with other dental anomalies. However, isolated canine agenesis is an unusual clinical finding.

CASE REPORT

Three non-syndromic young patients with agenesis of primary canines are presented. No cases were also affected by hyperdontia and fusion. All permanent canines developed normally. **Case reports:** Case 1: Six-year-old boy with agenesis of canine 73. No other anomalies were found. Case 2: Seven-year-old boy with two maxillary mesiodens and agenesis of canine 63. Supernumerary teeth were associated with an abnormal position of the upper central incisors, and were extracted. Case 3: Four-year-old boy with agenesis of canine 83 and an associated fusion of 72–73.

COMMENTS

Regular control appointments have been conducted in order to assure a normal dental eruption and occlusion.

CONCLUSION

Children with congenitally missing primary canines may also present other dental anomalies such as hyperdontia and fusion, which may compromise the succedaneous permanent teeth.

OPD9.13 Groups of teeth affected by hypomineralisation in a sample of 77 patients with MIH

E. Garot*, Patrick Rouas, Y. Delbos, C. Couture

*Dept of Odontology, PACEA, UMR 5199 (Anthropology of past and present populations),
Bordeaux University, France*

AIM

This was to identify hypomineralisation present on the First Permanent Molars (FPM) and the Permanent Incisors (PI), and also on the other teeth.

METHODS

The target population consisted of 77 patients with MIH (Molar Incisor Hypomineralisation) aged 6 to 39 years. These were patients from teaching hospitals of Bordeaux (France). The hypomineralisations were identified according to diagnostic criteria from Weerheijm et al. (2003). Patients were divided into two classes according to the presence (n = 34) or the absence (n = 43) of primary molars in the dental arch.

RESULTS

25% of patients had hypomineralisations on teeth other than FPM and PI (mostly 2nd primary molars and permanent canines according to the classes). They averaged between 2 to 3 FPM each. 32% of patients had lesions on the 4 FPM and 78% had at least one PI affected.

CONCLUSIONS

A significant percentage (25%) of teeth other than FPM and PI were affected in this sample. It is likely that the definitions of MIH and Primary Molar Hypomineralization (PMH) (Elfrink et al. 2012) will evolve in the future.

OPD9.14 Infected Thyroglossal Duct Cyst in 5 years old Child: Case report and the role of pediatric dentist

M. I. Al-Malik*¹, L. Mirza²

¹Armed Forces Hospital, Saudi Arabia

²North Speciality Dental Center, Saudi Arabia

BACKGROUND

Thyroglossal cysts arise from a persistent epithelial tract (the thyroglossal duct) formed with the descent of the thyroid from the foramen caecum to its final position in the front of the neck. It is the most common cause of congenital neck swelling (70%). The incidence is 7% in the first decade of life. It is the most common cause of congenital neck swelling (70%). The incidence is 7% in the first decade of life.

CASE REPORT

A 5 year old patient attended the dental clinic complaining of multiple carious teeth. Upon clinical examination a palpable painless swelling in the middle third of the anterior aspect of the neck was noticed. This was soft, non-tender and moved when the patient swallowed or protruded her tongue. The parents were not aware of the presence of this lesion. The patient was referred to a paediatric clinic for further investigations. Initial diagnosis of the lesion was an infected thyroglossal cyst. The patient was referred for treatment under general anaesthesia for surgical excision of the lesion and complete dental rehabilitation. Histological investigation confirmed the diagnosis as an infected thyroglossal cyst and excluded other differential diagnoses of pathological lesions such as ectopic bronchogenic cyst, midline hemangioma and branchial cyst. The patient was followed up for 2 years with no recurrence of the lesion.

CONCLUSION

Paediatric dentists have a major role in discovering any abnormalities in the head and neck area. Comprehensive extra-oral and intra-oral examination of the head and neck region is a critical step in the routine clinical examination and require the dentist to focus his/her attention not simply upon the teeth.

OPD9.15 Amelogenesis imperfecta

T. Kripnerova*, T. Dostalova, K. Ginzelova, D. Strakova, M. Simandlova
Department of Stomatology, University Hospital in Motol, Prague, Czech Republic

INTRODUCTION

Amelogenesis imperfecta (AI) is developmental disorder of dental enamel (hypoplasia and/or hypomineralization) inherited by autosomal dominant, recessive as well as X-linked pattern. We also find “sporadic cases of the disease” or in connection with many other symptoms and syndromes. The prevalence depending on the population tested is 1 : 718 (Sweden) – 1 : 14,000 (Michigan, USA).

CASE REPORT

Two patients (born 2005 and 2007) were referred to our clinic with defective teeth. There was no occurrence of similar disease in their whole family. Based on clinical, radiological and genetic examinations an autosomal recessive Amelogenesis imperfecta was diagnosed in both patients. The younger patient had opaque yellow teeth with soft enamel. All the teeth of deciduous dentition were affected. An exfoliated primary incisor was obtained that we examined with an electron scanning microscope. The older girl had defects only on permanent teeth – with decay, change in opacity and consistency of enamel. Following clinical, radiological and DIAGNOcam (KaVo) examination, the affected incisal portions of the upper central incisors were restored with composite resin. Further treatment was given to avoid abrasion of teeth, reduce of the height of the bite, prevention of caries as well as orthodontics.

CONCLUSION

Patients with congenital enamel defects have difficulties in maintaining oral hygiene. Also the aesthetic appearance of teeth leads to difficulties in socializing and lower self-esteem. Amelogenesis imperfecta is not a common disease, but the patient has to be fully rehabilitated both functionally and the psychologically.

OPD9.16 Ectrodactyly, Ectodermal dysplasia and cleft lip/palate syndrome(EEC): Case report

G. Atasever, M. Dilek Turgut, M. Tekcicek*
Paediatric Dentistry, Hacettepe University, Turkey

INTRODUCTION

The combination of ectrodactyly, ectodermal dysplasia, and cleft lip/palate is known as EEC syndrome. The syndrome is very rare with the estimated incidence of 1.5 per million births. Genetic mutation is considered to be the aetiologic factor of the syndrome.

CASE REPORT

This case report presents the intraoral and extraoral findings of a patient with EEC syndrome. An 8 year-old girl diagnosed with EEC was referred to the paediatric dentistry clinic. Extraoral examination revealed dry skin with sparse hair and eyelashes. There was surgical scar tissue due to the operated cleft lip. Ectrodactyly was noticed on her hands and feet. Intraoral and radiological examination revealed cleft palate, double teeth, oligodontia of permanent teeth, impacted and supernumerary tooth. The carious primary teeth were restored, topical fluoride varnish was applied and the patient was scheduled for orthodontic therapy. An 8 year-old girl diagnosed with EEC was referred to the paediatric dentistry clinic. Extraoral examination revealed dry skin with sparse hair and eyelashes. There was surgical scar tissue due to the operated cleft lip. Ectrodactyly was noticed on her hands and feet. Intraoral and radiological examination revealed cleft palate, double teeth, oligodontia of permanent teeth, impacted and supernumerary tooth. The carious primary teeth were restored, topical fluoride varnish was applied and the patient was scheduled for orthodontic therapy.

CONCLUSION

The complex nature of the EEC syndrome necessitates a multidisciplinary approach involving paediatric dentists, orthodontists, paediatricians and plastic surgeons for better management of the patients.

SESSION OPD10 – MISCELLANEOUS

Date: Saturday 7th June, **Time:** 16:00–18:00, **Hall:** VASCO DA GAMA

Chair: Marie-Cecile Maniere, France; Mike Harrison, UK

OPD10.1 Clinical and microbiological findings of the oral cavity in Children with Fanconi's anaemia

A. Pinar-Erdem*¹, G. Ykikarakayali, E. Sepet¹, N. Topcuoglu², N. Yalman

¹Dept. of Pedodontics, Istanbul University, Faculty of Dentistry, Turkey

²Dept. of Microbiology, Istanbul University, Faculty of Dentistry, Turkey

AIM

Patients with Fanconi's anaemia (FA) have predisposition to leukemia and solid tumors. Haematopoietic stem cell transplantation (HSCT) is essential for treatment, and the risk of malignancies increases after HSCT. Patients without oral malignant lesions submitted to HSCT have a high prevalence of oral HPV. The aims of this study were to evaluate the oral and dental findings, the presence of HPV, HSV, EBV, HCMV in saliva samples of patients with FA and to analyze the possibility of using saliva as a diagnostic method for screening high-risk patients.

METHODS

The oral health of 35 FA patients (mean age: 11.63 ± 7.24) with HSCT(+) (n = 9) and HSCT(–) (n = 26) were examined; stimulated saliva samples were taken. Caries activity test (CAT), HPV (PapilloCheck®), HSV, EBV, HCMV and *A. Actinomyces comitans* were analyzed by PCR.

RESULTS

73.5% of the patients have been found to be in high caries risk group. 8.6% EBV, 11.4% CMV, 11.4% HSV; neither Aa nor HPV were detected. No statistically significant differences were examined between HSCT(+) and HSCT(–) groups. No significant differences were found between the same groups in plaque, bleeding index, dental caries, salivary flow rate, salivary buffering capacity, Mutans streptococci, lactobacillus and fungi presence scores. After 5 years follow-up, oral squamous cell carcinoma (OSCC) occurred in one child and oesophageal carcinoma in another patient. HPV was not detected in the saliva samples of these patients.

CONCLUSIONS

The clinical and microbiological findings in this wide range patient group suggest that oral health maintenance is essential for FA to protect their standards of life. This study did not show that detection of HPV in saliva could be used as a diagnostic method for early warning signs of OSCC. However, further studies are needed to prove or disprove this method for diagnosis.

OPD10.2 Localized aggressive periodontitis of the primary dentition – a case report

F. HersHKovitz*, E. Mass

Barzilai Medical Center, Israel

INTRODUCTION

Localized aggressive periodontitis (LAP) is characterized by severe loss of alveolar bone around permanent teeth. We present a case with LAP affecting the primary dentition in a 3 year old patient.

BACKGROUND

LAP occurs in children and adolescents without known systemic clinical manifestations. While mostly affecting the permanent dentition, some retrospective data suggest that bone loss around primary teeth can be an early finding of the disease. The prevalence of LAP is estimated between 0.1 and 15%. Virulent strains of *Aggregatibacter actinomycetemcomitans* (Aa) are found in most cases of LAP.

CASE REPORT

A 3 year old boy was referred to the paediatric dental clinic with inexplicably excessive mobility of teeth and exfoliation of 73. Clinical examination revealed favourable oral hygiene. Blood tests were performed for evaluating PMN's activity and the parents were advised to use local applications of 0.2% chlorohexidine twice a day. One month later tooth #83 was still excessively mobile. Blood tests were normal. A full mouth scaling and curettage were performed under general anaesthesia. Since tooth #83 has been spontaneously exfoliated one day earlier, biopsy was taken from its socket. The biopsy examination revealed granulation tissue with actinomyces colonies. A course of Amoxicillin 250 mg 3 times per day for 7 days was started. Three weeks later, cultures from periodontal pockets of all his family members have been taken and were found negative to Aa.

CONCLUSION

LAP should be treated with curettage and antibiotics, and intensive follow up is warranted.

OPD10.3 Correlation between oral hygiene and odontogenic infections in Kosovo's children

T. A. Kutllovci*¹, S. Iljoska², A. Begzati¹, A. Rexhepi¹, Blerta Xhemajli¹

¹Paediatric Dentistry, Kosovo

²Paediatric Dentistry, Fyrom

AIM

Odontogenic infections represent a characteristic pathology occurring relatively frequently in children of school age in Kosovo. One of the main factors that may indirectly affect the incidence of these infections is low levels of oral hygiene. The purpose of this study was to determine the correlation between oral hygiene levels and odontogenic infections due to untreated caries in children.

METHODS

The study group comprised 337 children of age group 10–15 years old, both genders from different cities of Kosovo. The Greene and Vermillion index of oral hygiene (OHI-index) was assessed. It was also researched the presence of odontogenic infections, as complications of untreated caries such as chronic apical parodontitis, as well as those associated with fistula or parulis, were measured

RESULTS

Of the total 337 examined children, OHI index values were as follows: OHI(0) 5.93%; OHI(0-1)=21.8%, OHI(1-2) = 72.9% and OHI > 2 = 0%. Odontogenic infection rate was higher in children with oral hygiene index (OHI) 1-2, with a positive correlation of ($r = 0.56$). Using the t-test there was a statistically significant difference between the average values of OHI index for the children with infections and those without infections.

CONCLUSIONS

Low level of oral hygiene is one of the main factors in the appearance of odontogenic infections due to untreated caries.



OPD10.4 The difficulties in management of amelogenesis imperfecta: a 10-year follow up of two siblings

E. Dursun*^{1,2}, C. Vargas², E. Savard², F. Bdeoui², M. M. Landru²

¹Dept. of Paediatric Dentistry, Paris Descartes University, France

²Mondor-Chenevier Hospital Complex (AP-HP), France



INTRODUCTION

Amelogenesis Imperfecta (AI) is a developmental disturbance that interferes with normal enamel formation in the absence of systemic disorders. It affects all (or almost all) the teeth in the primary and permanent dentitions.

BACKGROUND

The management of two siblings suffering from hypocalcified AI (with an irregular brown discoloured enamel and attrited occlusal surfaces) are described. The patients' main concerns were poor aesthetics and generalized sensitivity.

CASE REPORT

In the primary dentition, a preventive intervention with oral hygiene and calculus removal was performed and an oral rehabilitation was carried out with preformed metal crowns (PMC) for primary molars and composite resins with celluloid crown forms for anterior teeth (achieved with nitrous oxide/oxygen inhalation sedation). Improvements in the psychological behaviour and the elimination of sensitivity were observed. In the mixed dentition, PMC were placed on the first permanent molars. However these patients were lost to follow-up that resulted in infectious complications (deep caries and also a cellulitis with a skin fistula) and orthodontic problems (malpositions and impacted canines). In the young adult dentition, they were treated by extractions, root canal therapies and new restorations: PMC for permanent molars; direct/indirect composite resin veneers to improve the crown morphology and to mask the discolourations and the malpositions for anterior teeth. The siblings were followed-up over 10 years.

CONCLUSION

Restoring function and aesthetics in these patients is a challenge. Early corrections are essential for psychological benefits and to avoid dental damage. The main difficulties are rapid tooth surface loss, bonding to atypical enamel, the developing dentition and long-term follow-up.

OPD10.5 MIH, breastfeeding and baby milk

N. Jegat*

Private Practice, France

AIM

The aim of the study was to determine if the brand of baby milk may have an influence on the presence of MIH.

METHODS

The study was on a population of children, born before 2004, and under the care of a private practice limited to paediatric dentistry since 2009. At the first visit, before any clinical examination, the parents were asked if they did or not breastfeed their child. If bottle-fed, the brand of the baby milk used, either solely or in combination with breast feeding. The number of children having been breast-fed and those who were not were calculated, and each of these two groups we observed the number of patients affected by MIH.

RESULTS

Considering the small size of the sample, we cannot claim the results are scientifically and statistically accurate. However, some baby milk products seem to be more frequently associated with children affected by MIH.

CONCLUSIONS

This study shows the opportunity for a multi-center exploration of MIH, by adding two questions to the history-taking: "Did you breast-feed your child?", and "Which brand of powder baby milk did you use?"

OPD10.6 Management of enamel hypoplasia and Molar Incisor Hypomineralization.

A report of 4 clinical cases

M. Kukurba-Setkowicz*

Private Dental Office Dentist, Cracow, Poland

INTRODUCTION

Enamel hypoplasia (EH) and enamel hypomineralization (MIH) are defined as deficiency of enamel formation (EH) or enamel mineralization (MIH). Enamel defects are important clinically because they can result in increased tooth sensitivity, post-eruptive enamel breakdown, increased susceptibility to caries and poor aesthetics

CASE REPORT

This paper based on 4 cases presents different treatment protocol for patient with EH or MIH. Case 1: Seven year-old female patient with localized enamel hypoplasia on teeth 11 and 21 due to trauma of primary predecessor, Case 2: MIH in 7 year old male patient, Case 3: Nineyear old male patients with MIH and Turner Tooth, Case 4: Sixteenyear old female patient with generalized enamel hypoplasia.

TREATMENT

TREATMENT: After initial examination, a conservative approach was applied – using CPP-ACP daily in order to obtain a remineralization of the enamel opacities. In case 1 and 4 composite restorations were prepared to improve aesthetic appearance and restore enamel loss. In case 4 microabrasion with 18% hydrochloric acid was used to reduce discoloration and preparing enamel surface. In cases 2 and 3 GIC were used for fissure sealing, cavity restoration and to cover defective enamel. FOLLOW UP: After 6 and 12 months aesthetic the appearance was satisfactory, and the restorations were intact and functional. Results seem to be stable. In order to decrease the risk of recurrence of the defects patients were asked to maintenance therapy with CPP-ACP.

CONCLUSION

The presented protocols based on the combined use of CPP-ACP and low-invasive treatment options have shown to be effective and safe, with a good clinical outcome.

OPD10.7 Dental phenotypes in WNT10A mutations: retrospective study from a group of 21 families

F. Clauss¹, C. Tardieu*², S. Hadj-Rabia³, N. Philip⁴, M. C. Maniere¹

¹Reference Center for Oral Manifestations of Rare Diseases, University Hospital, Strasbourg, France

²Competency Center for Oral Manifestations of Rare Diseases, La Timone Hospital, Marseille, France

³Reference Center for Genodermatosis, Necker Hospital, AP-HP, Paris, France

⁴Reference Center of Development Abnormalities and Malformative Syndroms. La Timone Hospital, Marseille, France

AIM

This was to classify the oligodontia severity, to identify the extra-oral forms and to identify the genotype-dental phenotype correlations in patients presenting a WNT10A gene mutation.

METHODS

Retrospective inclusions of 21 family affected by various WNT10A gene mutations were performed in the French National Reference Center for Dental Manifestations of Rare Diseases (Strasbourg University Hospital) and a French Competency Center for Rare Diseases (Marseille Hospital). The inclusion criteria were isolated hypodontia-oligodontia or associated syndrome with mutation of the WNT10A gene (homozygous, heterozygous, compound heterozygous)

RESULTS

The patients with mutation of WNT10A present a marked phenotypic variability of oligodontia. Phenotypic severity in permanent dentition included 7 to 22 dental agenesis. The mean number of dental agenesis was 12.4 who corresponding to a severe form. The compound heterozygous mutation have present the most severe mean number of agenesis (13,4). Associated dental abnormalities, especially cone-shaped incisors and canines, as well as microdontia are systematically associated to WNT10A mutations. In the majority of cases, clinical signs of ectodermal dysplasia are observed, especially sparse hair and nail dysplasia, being the most frequent manifestations.

CONCLUSIONS

Oligodontia with morphological and size dental abnormalities, ectodermal or extra-ectodermal diseases represent the main phenotypic forms of the WNT10A gene mutation.

OPD10.8 The Use of Anxiety Scales in Patient Assessment

H. AlShammasi*¹, P. Ashley¹, H. Buchanan²

¹UCL Eastman Dental Institute, UK

²University of Nottingham, UK

AIM

Anxiety recognition is a major factor in determining the success of a child treatment. There is sufficient evidence establishing the reliability of dental anxiety scales. Our aim is to establish their use as a standardized method of anxiety assessment during patient assessment and treatment. Aim: measure the compliance of dentists with the introduction of anxiety scale as a method in the assessment of children anxiety.

METHODS

Abeer Cognitive Dental Anxiety Scale (ACDAS) and Facial Image Scale (FIS) were distributed in the Paediatric Department at the Eastman Dental Hospital (London, UK) on January/2013. Dentists were encouraged to use ACDAS (trait) with patients aged 5 and older on their first dental visit while FIS (state) was to be used with patients aged 3 and older on each dental visit. Dentists were reminded via E-mail, and department meetings to use the scales for a period of 6 months. Compliance was measured by reviewing one hundred files generated randomly. Dentists were later interviewed about their opinion.

RESULTS

Out of the 100 files, 89 patients were aged 5 and older and only 1 was assessed using the ACDAS (1.12%). Out of 100 patients only 4 patients were assessed using the FIS on their 1st dental visit (4%), while no patients were given the scale on their subsequent 2nd, 3rd or 4th visit. Dentists indicated that they consider the findings of scales as biased and unreliable.

CONCLUSIONS

The results showed a weak compliance with the introduction of anxiety scales.

OPD10.9 Intra-oral injection-phobia – a randomized controlled study in 10–17-yr-olds.

Preliminary results

K. G. Berge*, M. L. Agdal, M. Vika, M. S. Skeie

University of Bergen, Norway

AIM

To explore the effectiveness of 5 sessions of cognitive behavior treatment (CBT) among 10–17-yr-olds with formally diagnosed intra-oral injection phobia (DSM-IV).

METHODS

Inclusion criteria; referred 10-17-yr-olds (N = 60) who refused intra-oral injections due to intra-oral injection phobia. This randomized controlled study consisted of a test group (immediate treatment) and a control group (5 weeks waiting list). The diagnostic interview was performed by trained clinical psychologists, and the 5 sessions of CBT were performed by 4 specially trained dentists. Each session had a maximum duration of one hour. Assessments at pre-treatment, post-treatment and 1-yr follow-up, included a behavioral approach test (14 steps) and responses from different validated self-reported instruments measuring dental fear and blood and injection fear. The measurement results were compared between the groups and within groups before and after treatment.

RESULTS

Preliminary results for 30 patients will be presented.

CONCLUSIONS

Conclusions for the preliminary results will be presented.

OPD10.10 The relationship between dentists' education and their use of behavioural management techniques

K. Stroem*, A. Ronneberg, A. B. Skaare, T. Willumsen, I. Espelid

Dept of Paediatric Dentistry and Behavioural Science, Institute of Clinical Dentistry, University of Oslo, Norway

AIM

To explore the relationship between dentists' education in the management of young patients with dental anxiety (DA) and their use of behavioural management techniques.

METHODS

An electronically anonymous questionnaire (QuestBack) was sent to all dentists (n = 611) in the Public Dental Health Service in eight counties in Norway questioning the use of behaviour management techniques when treating children and adolescents with DA. Statistical evaluation was performed by cross-tabulation with chi-square statistics and logistic regression analyses

RESULTS

The response rate was 65%. The majority (74%) had a dental degree from Norway. Participation in continuing education in the management of patients with DA was completed by 53% of the dentists. The most commonly used behaviour management technique was tell-show-do (87%) followed by relaxation (35%), distraction (25%), cognitive behaviour therapy (22%) and conscious sedation (18%). Nitrous oxide sedation (2%) and hypnotherapeutic techniques (1%) were rarely used. Dentists graduated outside Norway used fewer techniques when treating DA patients compared with dentist graduated from Norway, OR 2.8 (p < 0.01). Dentists with no continuing education in the treatment of patients with DA also used fewer techniques compared with dentists with continuing education, OR 2.0 (p < 0.01).

CONCLUSIONS

The knowledge of behavioural management techniques in the treatment of patients with DA was associated with the use of these techniques. Focus on behaviour management techniques in the dental curriculum and in continuing education is an issue to improve the treatment of young patients with DA.

OPD10.11 Combined anaesthesia in paediatric dental treatment

E. Shavlokhova*¹, M. Korolenkova¹, I. Ostreikov²

¹*Central Research Institute of Dentistry and Maxillofacial Surgery, Russian Federation*

²*Russian Academy of Post-Graduate Education, Russian Federation*

AIM

To improve the quality of dental treatment in children by using combined anaesthesia technique including local anaesthesia and conscious sedation, and to assess the effectiveness of conscious sedation for younger children undergoing dental treatment.

METHODS

The study included 180 children aged 14-88 months who received dental treatment for tooth decay and its complications under combined anaesthesia. Midazolam was used as sedative medication. Sedation level was assessed by visual scale and BIS-monitoring. ANI-monitoring was also used for pain sensitiveness evaluation.

RESULTS

All 180 children were successfully treated under combined anaesthesia which showed satisfactory sedation rates both by visual scale and BIS-monitoring values. While mean patient age was 39 months 20.6% were younger than 24 months. These data are extremely valuable as according to literature review conscious sedation in early infancy remains controversial.

CONCLUSIONS

Our results proved conscious sedation to be effective in younger children undergoing dental treatment thus representing important alternative for general anaesthesia and providing a basis for later behaviour management.

OPD10.12 Improvement of children's behaviour using Entonox during the dental treatment

J. Vasakova*¹, Z. Teuberova¹, L. Navarova¹, Z. Broukal²

¹*Dept. of Paediatric Dentistry, Institute of Clinical and Experimental Dental Medicine (ICEDM), Charles University and General Teaching Hospital in Prague, Czech Republic*

²*Dept. of Oral Epidemiology and Preventive Dentistry, Institute of Clinical and Experimental Dental Medicine (ICEDM), Charles University and General Teaching Hospital in Prague, Czech Republic*

AIM

To assess children's behaviour during dental treatment using Entonox.

METHODS

A group of 86 children referred to the ICEDM due to uncooperativeness was recruited for the study. Inclusion criteria: ASA (Physical Status Scale) score I, II, Frankl behaviour rating scale (FSB) score ≥ 2 during the initial visit, no medical contraindications for Entonox administration, parental informed consent. The study sample characteristics: 46 boys (53.5%), 40 girls (46.5%) aged 3–12 yrs. FSB score was recorded during initial visit, dental treatment and follow-up visit (3 months later). The 4 grade scoring was used for assessing children's self-management of inhalation namely as easy, neutral, difficult and unacceptably difficult. The following variables were recorded: the patient's age and sex, new patients vs. experienced ones, fillings vs. extractions, Entonox-naïve vs. Entonox-experienced ones, Entonox-new patients vs. other conscious sedation experienced ones, absence/presence of amnesia after treatment. Chi-square test at the 5% level of significance was applied for calculation.

RESULTS

Self-administration of Entonox was easier for 6–12 year old children than those aged 3–6 ($p = 0.03$). Behavioural change between initial visit and follow-up visit: better cooperativeness 35 (40.7%), no change 47 (54.7%), worse cooperativeness 3 (3.5%). Differences in behaviour score: 3–6 yr olds vs. 6–12 yr olds: $p = 0.01$, boys vs. girls: $p = 0.10$, new patients vs. established ones: $p = 0.37$, Entonox-experienced patients vs. Entonox-new patients: $p = 0.02$, other conscious sedation experienced patients vs. Entonox-new patients: $p = 0.33$, restorative treatment vs. extractions: $p = 0.78$, amnesia in children with first-time treatment vs. treatment-experienced ones: $p = 0.003$.

CONCLUSIONS

Entonox administration enhances children's cooperativeness during dental treatment and helps reduce dental fear during follow-up visits. Supported by program PRVOUK-P 28/LF1/6.

OPD10.13 Pulpectomy vs tooth extraction on dental pain and anxiety levels in children: A randomized clinical trial

J. Abanto*¹, S. M. Paiva², E. Alvarez-Vidigal¹, T. Cordeschi¹, M. Bonecker¹

¹University of Sao Paulo, Brazil

²Federal University of Minas Gerais, Brazil

AIM

To assess the effectiveness of pulpectomy versus tooth extraction for severe dental caries, on dental pain and anxiety levels in children.

METHODS

A total of 59 children aged 3–5-years old with pulpally involved deciduous molars were enrolled. Patients were randomly allocated into two treatment groups: pulpectomy (n = 23) or tooth extraction (n = 36). In the first session, a single operator blinded to the outcomes, provided the treatment. Dental pain and anxiety levels were assessed using the Wong-Baker Scale and the Facial Image Scale (FIS), respectively. The FIS was collected before the start of the first treatment session (FIS-1) and before the second session (FIS-2), whereas dental pain was recorded after the first treatment session. Mean comparisons and Spearman's Rank Correlation Coefficient were used to analyse the data.

RESULTS

The mean standard deviation age of the sample was 3.8 ± 0.8 years. The results of this randomized clinical trial showed that there was a significant difference in dental pain levels between pulpectomy (1.70 ± 2.14) and tooth extraction (2.78 ± 1.99) ($p = 0.032$). For dental anxiety levels, a significant difference between pulpectomy (2.22 ± 1.35) and tooth extraction (2.89 ± 1.21) was observed only in the FIS-2 ($p = 0.042$). The correlation coefficient between FIS-1 and FIS-2 scores was $r = 0.30$ ($p = 0.010$).

CONCLUSIONS

It appeared that, there is more effective control of dental pain and anxiety levels by treating severe dental caries in deciduous molars using pulpectomy technique compared to tooth extraction. A high dental anxiety score before the first session was a predictor of a high score at the second session.

OPD10.14 The In-office Dental Trauma Management in a 2.1 years old Boy Using a Safe Conscious Sedation Technique

A. Stroianu*

Pediatric Dentistry, Barzilai Medical Centre, Tel Aviv, Izrael

INTRODUCTION

This report outlines considerations in treating a dental trauma case combining a behaviour management approach in an otherwise healthy toddler, using in-office conscious sedation.

BACKGROUND

Dental trauma in toddlers presents a complex of clinical findings as well as need for effective behaviour management. Most international guidelines state the care needed in choosing conscious sedation in children around 2 years old. Parental demands excluded tooth extraction and the use of general anaesthesia (GA) for this patient.

CASE REPORT

P.T a healthy 20 month old boy had suffered an indoor face trauma. The clinical examinations revealed a slightly intruded vital tooth 61 with a non-complicated crown-root fracture extending obliquely subgingivally. The loose fragment remained firmly attached to the gingiva. The parents insisted on keeping the tooth, and avoiding GA. Based on international guidelines for safe conscious sedation, this was conducted after the second birthday for the final treatment, using a monthly stepwise grinding of the incisal edge in order to bring the lowest edge of the line fracture supragingivally. After five months the new position of the vital tooth clinical crown permitted composite restoration using a prefabricated celluloid crown, conducted under conscious sedation providing 0.4 mg/kg oral Midazolam.

CONCLUSION

In some cases toddlers' dental trauma treatment using a safe conscious sedation technique, by a trained paediatric dentist, could be a substitute for GA in preserving a primary tooth that might otherwise be extracted.

OPD10.15 Premedication at home with oral diazepam prior to dental general anaesthesia in children – an audit

A. Ni Chaollai*, K. FitzGerald, J. McGinley, P. Fleming
Our Lady's Children's Hospital, Crumlin, Ireland

AIM

Audit of the success of a pre-admission sedative technique for paediatric dental patients using oral diazepam administered at home by the parent or guardian

METHODS

The records of a cohort of very anxious or uncooperative patients attending for comprehensive dental treatment under general anaesthesia (GA) in the dental department at a tertiary children's hospital in 2013 were audited. For patients identified at the assessment visit as being unable to tolerate the normal admission process, a protocol of pre-admission sedation was established with the approval of the hospital sedation committee lead. The parents or carers were asked to administer premedication at home the night before and on the morning of the scheduled procedure. Thirteen contacts with 12 children over the year-long period were included. The success of the technique was assessed subjectively by the parents, the day ward nurses, the operating dentists and the anaesthetic team.

RESULTS

Eleven patients accepted the diazepam and were judged to have had a successful outcome. One patient did not tolerate diazepam at home and was instead given oral midazolam premedication in hospital on the day of surgery

CONCLUSIONS

Administration of oral diazepam at home prior to admission for day case dental treatment under GA is a useful and safe technique, with a high success rate in this small sample, where it was predicted that a severely anxious child would have great difficulty with the process of admission to hospital and/or the administration of oral premedication in the hospital setting.

OPD10.16 Hypohyperdontia in the premaxilla – a case series

N. M. King, R. P. Anthonappa, S. Wong, R. Yawary*
Paediatric Dentistry, University of Western Australia, Perth, Australia

INTRODUCTION

Hypodontia in combination with hyperdontia (hypohyperdontia) is a condition of mixed numeric variation in the human dentition. A comprehensive review on the hypohyperdontia literatures reported prevalence ranges from 0.002% to 3.1%. Furthermore, the occurrence of both hypodontia and hyperdontia in the same arch is extremely rare.

BACKGROUND

This report describes three unrelated patients who exhibited hypohyperdontia in the premaxilla and their management.

CASE REPORT

Case 1: a Chinese female patient exhibited hypodontia of tooth 12 and hyperdontia (two conical supernumerary teeth) in the same region, which were subsequently removed under general anaesthesia. Case 2: a Caucasian female patient exhibited hypodontia of tooth 12 and hyperdontia (a conical supernumerary tooth) in the same region. Case 3: an Asian female patient exhibited hypodontia of tooth 12 and a conical supernumerary tooth in the 22 region which was subsequently extracted under local analgesia.

CONCLUSION

Comprehensive clinical and radiographic examinations are essential for recognizing such rare dental anomalies. Judicious use of radiographs not only enhances the detection of hypohyperdontia, but also leads to changes in the course of management.

SESSION OPD11 – DENTAL MATERIALS

Date: Sunday 8th June, **Time:** 12:00–13:00, **Hall:** MARCO POLO
Chair: Larisa Kiselnikova, Russian Federation; Francois Clauss, France

OPD11.1 Study of gingival fluid indices in pulpotomy treatment of primary tooth pulpitis in children

L. P. Kiselnikova*¹, **I. S. Shcherbina**¹, **E. A. Savinova**¹, **T. P. Vavilova**², **I. G. Ostrovskaya**²

¹Paediatric Dentistry Dept, Moscow State University of Medicine and Dentistry
named after A.I. Evdokimov, Russia

²Biologic Chemistry Dep. Moscow State University of Medicine and Dentistry
named after A.I. Evdokimov, Russia



AIM

To assess biologically, radiologically and clinically, the effectiveness of primary tooth treatment using pulpotomy with different medicaments.

METHODS

Pulpotomy was performed on 243 primary molars in 112 children, using ViscoStat (Ultradent) for the first group, Trioxident (VladMiVa), a mineral trioxiaggregate, for the second group, Pulpotec (Products Dentaires) – for the third group. To determine interleukin 1beta and lactoferrin concentration gingival fluid was taken before the treatment and 6, 12 months later. In the control group it was taken from intact teeth in 10 children.

RESULTS

The data showed 82.6% of successful treatment in the 1st group, 87.5% in the 2nd one and 83% in the 3rd one. Before the treatment IL-1beta was twice as high compared with the norm and lactoferrin was present. 6 months later lactoferrin in the 1st group was absent, in the 2nd and 3rd ones – significantly decreased. 12 months later there were no traces of lactoferrin in all three groups. 6 months later IL-1beta was 33.4 ± 5.84 in the 1st group, 65.4 ± 22.8 – in the 2nd one and 19.9 ± 3.15 – in the 3rd one. The norm was 6.68 ± 2.46 and the indexes before the treatment were 13.6 ± 5.54 ; 13.9 ± 2.37 ; 12.1 ± 2.20 for each group accordingly. Twelve months later IL-1beta was close to that of the control group – 6.47 ± 1.65 ; 9.73 ± 2.03 ; 9.20 ± 2.48 for each group accordingly.

CONCLUSIONS

Trioxident enabled the preservation of pulp vitality. High IL-1beta index in the 2nd group signified anti-inflammatory pulp activity. The least negative effect of ViscoStat on periodontal tissues was proved by early normalization of gingival fluid indexes.

OPD11.2 The Occlusal Fracture Force of Primary Molar Crowns Prepared Using Three Different CAD/CAM Blocks

Y. Yilmaz*, **A. Mete**, **S. Simsek Derelioglu**

Dept. of Paediatric Dentistry, Faculty of Dentistry, Marmara University, Turkey



AIM

This was to compare the occlusal fracture forces and failure types of primary molar crowns prepared using resin-based, polymethylmethacrylate-based, and microfiller reinforced polyacrylic-based, CAD/CAM system Blocks.

METHODS

In this study, resin-based [Group-1 (Lava Ultimate, 3M&ESPE)], polymethylmethacrylate-based [Group-2 (Telio CAD, Ivoclar Vivadent)], and microfiller reinforced polyacrylic-based [Group-3 (Vita CAD-Temp, Vita)] CAD/CAM blocks were used. A total of 30 test crowns were made of CAD/CAM blocks in sizes similar to the primary second molar SSCs (#E3). They were stored in water at 37°C for 30 days. Each of the test crowns was cemented using resin cement (Bifix QM, Voco) onto cast die. A force was applied on the occlusal surface of the crowns until the test-crown material appeared to be fractured. Occlusal force resistance values and failure types were recorded and analyzed using statistical software.

RESULTS

There was a statistically significant difference among the groups for the means of the occlusal force resistance ($P < 0.05$). The distribution of occlusal force resistance occurred as follows: Group-1 > Group-2 = Group-3. Statistical analysis revealed no statistically significant difference for failure types ($P > 0.05$).

CONCLUSIONS

Crowns made of different chemical structural CAD/CAM blocks may be used for restoration of primary molar teeth.

OPD11.3 Microleakage and Shear Bonding Strength of Sealants Using 4 Different Application Protocols

J. M. Sun*, J. H. Park, H. J. Ahn, S. C. Choi

Pediatric Dentistry, Kyunghee University, Seoul, Korea

AIM

To compare microleakage and shear bonding strength of sealants using 4 different application protocols.

METHODS

80 extracted sound molars were used and the samples divided into 2 groups. Shear bond strength was measured in one group (Group A) and microleakage in the other (Group B). Each group was again divided into 4 groups, to each of which Phosphoric acid (A-1, B-1), AdperTMSingleBondTM (A-2, B-2), Clearfil SE bond (A-3, B-3) and AdperTMPromptTML-pop (A-4, B-4) were applied as bonding agents. After all of the specimens were thermocycled, Group A were tested for shear bonding strength with Universal testing machine, and Group B were measured for the degree of microleakage with a stereomicroscope. The data were statistically analyzed following the SPSS procedure, ANOVA test and each test complemented by post-analysis using the Tukey test with 0.05 significance level.

RESULTS

No statistically significant difference was observed between groups A-2, A-3 and A-4 but A-2 and A-3 groups showed statistically higher shear bond strength than that of group A-1 ($p < 0.05$). The lowest average of microleakage was found in group B-2 and increased in group B-1, B-3, and B-4 in order. The average of microleakage in group B-4 was significantly higher than those of other groups ($p < 0.05$).

CONCLUSIONS

Self-etch adhesives are potentially attractive because of the easier clinical protocol requirement, provided that they have similar bond strengths compared to other products. All-in-one system is regarded as an inappropriate bonding agent for pit and fissure sealant as it shows lower level of bonding strength and higher microleakage than those of other bonding agents.

OPD11.4 X-Ray Microtomography (XMT) to observe the depth of dentine bonding agent penetration into dentinal tubules; In Vitro studies

N. Mohd Kenali*¹, G. R. Davis², M. Patel³

¹Paediatric Dentistry Dept, Queen Mary University of London, UK

²3D X-Ray Imaging, Queen Mary University of London, UK

³Biomaterials in relation to Dentistry, Queen Mary University of London, UK

AIM

This was a non-destructive XMT study of penetration depth of radio-opaque dentine bonding agent into dentinal tubules on extracted molar teeth.

METHODS

The Adper Scotchbond Multipurpose primer and sealer were mixed with iodine and tin methacrylate respectively. Each mixture was placed on a peristaltic machine for 24 hours at 30 rpm and was centrifuged at 3000 rpm in 10 minutes. A drop of each mixture was scanned using XMT. 3 extracted molar teeth were cut at 4 mm from the occlusal surface to expose the dentine. By using 35% phosphoric acid, the dentine surfaces were etched for 30 sc then washed with de-ionized water for 40 sc and dried. The primer with added iodine was applied for 1 minute on the dentine surface, followed by the sealer with added tin methacrylate. The tooth was light cured for 10 sec and scanned with XMT. The images of the mixture and the teeth were analysed using software and the Linear Attenuation Coefficient (LAC) was studied.

RESULTS

XMT images showed that the iodine contrast added to the primer gave LAC reading similar to the enamel (3.2 cm^{-1}), and showed marked uneven penetration depth of the bonding agent from 30–300 μm in sound dentine. However, sealer with added tin methacrylate showed separation after two months of use.

CONCLUSIONS

XMT gives a clear picture of penetration depth of the contrast primer with added iodine that warrants future studies in this field.

OPD11.5 The effects of coating material on selected physical properties of newly developed glass ionomer cements

I. A. Baldag*, C. Cinar

Dept. of Paediatric Dentistry, Gazi University Faculty of Dentistry, Turkey

AIM

This was to evaluate the effects of a coating material on selected physical properties of a newly developed zinc-containing glass ionomer cement.

METHODS

Two conventional glass ionomer cements (GICs), Fuji IX GP (GC Corporation, Tokyo, Japan) and newly developed ChemFil Rock (Dentsply De-Trey, Konstanz, Germany) with or without resin coating material Equia-Coat (GC Corporation, Tokyo, Japan) were used in this study. The specimens were divided into four groups, G1: Fuji IX GP, G2: Fuji IX GP+Equia-Coat, G3: ChemFil Rock, G4: ChemFil Rock+Equia-Coat. For solubility and water absorption tests, samples were prepared in metallic moulds 15 mm diameter and 1 mm depth ($n = 17$), and calculated according to the change of mass in distilled water for 24-, 48-, 72- and 168-h. For surface roughness test, specimens were prepared in metallic moulds $3 \times 3 \times 2$ mm ($n = 24$) and analyzed using profilometer for 24- and 168-h. Data were analysed using Kruskal Wallis H and Wilcoxon Sign tests.

RESULTS

The lowest changes of solubility values were found for G2 in 48-, 72- and 168-h periods ($p < 0.05$). G3 and G4 presented the highest water absorption values in all test periods ($p < 0.05$). G2 and G4 showed the lowest surface roughness values in all test periods ($p < 0.05$). G1 presented higher surface roughness values than G3 in all test periods ($p < 0.05$).

CONCLUSIONS

Surface protection with resin coating material is required in two tested GICs.

OPD11.6 Restoration of missing primary teeth with glass fibre (Stick-Tech, GC, Japan) and composite material

U. Zilberman*

Paediatric Dental Unit, Barzilai Medical Center, Ashkelon, Israel

AIM

To determine the best etching time for primary teeth. To compare the tensile strength of three different bonding agents for adhesion of glass-fibre ribbon to primary teeth. To examine the possibility of restoring missing anterior or posterior primary teeth with the use of glass-fibre (Stick-Tech, GC, Japan) bridges and light cure composite materials.

METHODS

20, 40, 60 and 80 sec etching times were analyzed using the SEM on buccal and lingual surfaces of 4 primary second molars. The tensile strength of three bonding agents (Scotchbond, SE bond and GC bond) was analyzed for adhesion of Stick-Tech glassfibre to primary molars.

RESULTS

The 60 seconds etching time showed the best results with the prismless enamel removed. The mean tensile strength results for all three bonding systems were similar (13–14 MPa) and more than 80% of the failures were cohesive. Anterior missing central incisors and posterior missing primary molars were restored using the Stick-Tech glass fibre and composite materials.

CONCLUSIONS

The Stick-Tech glass fibre ribbon showed good tensile strength using common bonding systems and the clinical results showed that this method can be used for restoration of missing primary teeth.

OPD11.7 Micro-computed tomographic evaluation of stainless steel crowns on extracted primary molars

Y. Bae*, T. Noh, J. Y Kim, S. Kim

Dept. of Paediatric Dentistry, School of Dentistry, Pusan National University, Korea

AIM

This study was performed to identify the frequent causes of failure of preformed metal crowns (PMC) by evaluating them on extracted primary molars using micro-computed tomography (Micro-CT), and further to suggest any appropriate restorative technique.

METHODS

Micro-CT(Inspexio SMX-90CT, SHIMADZU, Japan) images of 97 extracted primary molars with PMC restoration were analyzed. The states of marginal adaptation, internal cement loss and secondary caries were evaluated.

RESULTS

Internal cement loss was found in 98% of the specimens and it showed a positive relationship with the size of marginal gap and presence of recurrent caries ($p < 0.05$). The recurrent caries was more frequently found in primary first molars than primary second molars in both arches. The highest frequency was observed when previous restoration was exposed below the crown margins ($p < 0.05$). The marginal gap was largest in maxillary second molars and smallest in mandibular second molars. It showed that the longer the SSC margins, the bigger the marginal gap ($p < 0.05$).

CONCLUSIONS

Care should be taken to reduce the marginal gaps and to accurately locate the level of crown's gingival margins for better success of PMCs on primary molars.

OPD11.8 Sodium fluoride, amine fluoride and HealOzone + Remineralization kit application as a treatment method for initial caries

R. Bozatlioglou*, H. M. Uyan, A. P. Munevveroglu

Paediatric Dentistry, Medipol University Faculty of Dentistry, Turkey

AIM

This was to evaluate the effectiveness of Sodium fluoride, amine fluoride and HealOzone + Remineralization kit on non-cavitated initial occlusal fissure caries of human premolars and molars extracted for orthodontic reasons.

METHODS

100 extracted human teeth, which were free from apparent caries, macroscopic cracks, abrasions, and extensive staining on the lingual or buccal surfaces, were used. Specimens containing the lingual or buccal tooth surface were covered with varnish leaving a 3x3 mm window. Specimens were sectioned longitudinally and embedded in epoxy resin with the cut face exposed. Then specimens were divided into 5 groups: (A) Duraphat group (sodiumfluoride), (B) Elmex (aminfluoride) group and (C) Heal Ozone+ Remineralization Kit (sodiumfluoride) group, (D) Heal Ozone group, (E) aminfluoride+Heal Ozone group. After two days of demineralization process, the specimens were subjected to the pH cycling regime for 14 days. Then specimens in Group A, B, C, D, E were tested. Surface hardness (SH) of the specimens was evaluated before and after the pH cycling process using microhardness testing machine. Six specimens from each group were prepared for SEM examination.

RESULTS

All the remineralization materials were found to increase the surface hardness of demineralized specimens.

CONCLUSIONS

Duraphat, Elmex and Heal Ozone + Remineralization Kit and Aminfluoride +Heal Ozone groups are successful in the inhibition of further demineralization and enhancement of remineralization of artificial carious lesions in vitro.

**POSTER PRESENTATION
WITHOUT DISCUSSION**

SESSION PND

Date: Saturday 7th June, **Time:** 9:00–18:00, **Place:** MEZZANINE of MARCO POLO HALL

PND1 Providing of good children's cooperation during dental treatment

E. Falko, V. Elizarova*, N. Sirota

Paediatric Dentistry, Moscow State University of Medicine and Dentistry, Russian Federation

AIM

To define influence of parents on behaviour of the child and to develop methods of psychological training (Doll-therapy) of the child to dental treatment.

METHODS

100 children aged 3–7 years old and their parents were studied. The behaviour of parents was determined by the rating scale, developed by us. Before a meeting with the doctor and after treatment the assessment of behaviour on Sarnat's system and Lyusher's test was carried out.

RESULTS

Developed a rating scale of behavior of parents on dental office: 1 type – selecting an initiative at the child; 2 – provides excessive guardianship to the child; 3 – bargains with the child; 4 – the silent observer; 5 – provides support to the child; 6 – completely trusts the doctor. Parents, whose behaviour is referred to 4, 5, 6 types, children showed high level of cooperation and with the doctor on Sarnat's system. After Doll-therapy the Lyusher's test revealed that 43% had a positive condition, 43% – negative easy degree, 11% – negative average degree, 3% – negative high degree. Level of cooperation after Doll-therapy increased considerably from 4% to 43%. Behaviour of children before treatment in Sarnat's system was average 2.80. After Doll-therapy, psychological methods – 1.76.

CONCLUSIONS

The behaviour of parents during the first visit to the dentist children's is of crucial importance. Psychological training of children significantly influences the level of their dental cooperation.

PND2 Prevalence of traumatic dental injuries in children and adolescents in connection with their pulpal consequences – 10 ys follow-up

M. A. Raducanu, I. V. Feraru, M. Tanase*

Paediatric Dentistry Department, UMF Carol Davila, Bucharest, Romania

AIM

This retrospective study evaluated the prevalence of dental trauma in primary and permanent teeth among children and adolescents who attended the Paediatric Department of the University of Medicine and Pharmacy in Bucharest, Romania, between 2003 and 2013 and the correlation of dental trauma with the risk of developing pulpal consequences.

METHODS

The study was carried out on 1379 patients aged between 10 months and 18 years, 650 girls and 729 boys. Patients' records were reviewed and the following factors, relevant to dental trauma, were registered: gender, age, type of dentition, number of affected teeth, lesion type and location, type of pulpal complication.

RESULTS

The overall prevalence of dental trauma was 13.34%. The frequency of traumatic injuries in deciduous teeth was approximately equal for boys and girls, and the most for those between 3 and 6 years old. In the permanent dentition, dental trauma was more frequently found in boys, and the most affected age group was between 10–13 years, for both boys and girls. The most common causes were falls in deciduous teeth and sports accidents in permanent teeth. The most frequent type of trauma found in both dentitions was non-penetrating crown fracture. Post-traumatic pulpal involvement was more frequent in deciduous teeth (28.4%) compared to permanent teeth (20%).

CONCLUSIONS

The considerable frequency of pulpal involvement leads to an increased need for endodontic treatment, which is hard to achieve due to the difficulties presented by primary and immature permanent teeth.

PND3 Case report on treatment of skeletal class III malocclusion with facemask and rapid maxillary expansion therapy

N. K. Choi*

Chonnam National University Dental Hospital, Gwangju, Korea

INTRODUCTION

A developing Class III malocclusion can include maxillary skeletal retrusion, mandibular skeletal protrusion, or a combination of both.

BACKGROUND

In recent years, early management of Class III malocclusions with facemask and palatal expansion therapy has become common in the orthodontic community. Facemask treatment produces an orthopedic effect to bring the maxilla forward, often accompanied by a downward and –backward movement. Maxillary expansion increases the transverse width of the maxilla.

COMMENTS

A 7 year old boy visited with a chief complaint of anterior cross bite. He was diagnosed with skeletal class III due to maxillary retrognathism and treated with orthopedic facial mask. Treatment began with the placement of a bonded maxillary acrylic expander. The patient was instructed to activate the expander once a day for 3 weeks. 1 week later, Facemask was delivered to the patient. Elastics were attached from the hooks on the expander to the support bar of the facemask in a downward and forward vector, producing orthopedic forces of 400 g per side. The patient was instructed to wear the facemask for at least 14 hours per day. 2 months later, a positive overjet was achieved. Treatment results showed more convexity of the facial profile from anterior displacement and downward and backward rotation of the maxilla and clockwise rotation of the mandible.

CONCLUSION

The facemask with maxillary expansion treatment is very effective. The facemask therapy displaces the maxilla and maxillary dentition anteriorly, and changes the direction of the growth of mandible, therefore a favourable profile can be achieved.

PND4 Regenerative endodontic treatment of an immature permanent premolar with necrotic pulp:

A case report

P. Kinay*, A. Olmez

Dept. of Paediatric Dentistry, Gazi University Faculty of Dentistry, Ankara, Turkey

INTRODUCTION

Pulp necrosis of an immature tooth due to trauma or deep caries could cease the development of the root, leaving the tooth with thin root canal walls and open apex.

BACKGROUND

Calcium hydroxide based apexification procedure is acceptable for immature permanent teeth with pulp necrosis, but this technique has some drawbacks. On the other hand, revascularization is a reliable treatment alternative to conventional apexification.

COMMENTS

A 13-year-old female presented with deep caries on the maxillary right second premolar tooth. Clinical and radiographic examinations revealed that the tooth was immature, necrotic and asymptomatic. After local analgesia, rubber dam isolation and access cavity preparation; the tooth was irrigated with NaOCl 5.25% and triple antibiotic mixture (ciprofloxacin, metronidazole, doxycycline) was applied for 2 weeks. At the next appointment, the antibiotic mixture was completely removed, a blood clot was created inside the canal, and then the coronal third of the canal was sealed with mineral trioxide aggregate. At 1, 3, 6, 12 months follow up, the tooth was clinically asymptomatic, and a radiograph showed that the radiolucency was resolved, and the thickness of the canal wall and length of the root had increased. At 18 month follow up, healing of the periapical area and maturation of the tooth were found to be completed.

CONCLUSION

Revascularization is a conservative and effective method for inducing maturogenesis in nonvital, immature teeth.

PND5 Ten special kinds of supernumerary teeth need extra attention

M. C. Wang*, S. W. Yu

Taipei Veterans General Hospital, Taiwan

INTRODUCTION

The prevalence rate of supernumerary teeth is between 0.15–3.9%. The common approach is surgical odontectomy which is familiar to most paediatric dentists.

BACKGROUND

There are some difficult scenarios would make the surgical procedure difficult. Ten special kinds of supernumerary teeth are described, and the causes of possible difficulties and treatments are discussed.

COMMENTS

(1) Intranasal ST /Highly positioned supernumerary tooth (ST) (2) Positioned mid-palatally ST (3) ST with enlarged dental follicle/ with pathological change (4) ST embedded in the soft tissue (5) ST v.s. odontoma (6) ST v.s. Talon Cusp (7) Fusion of ST and incisor (8) Anterior-posterior oriented ST (9) Supplementary ST (10) Multiple ST.

CONCLUSION

Radiographs do not always show fully the complexity of these ST, which leads to an underestimation of the surgical difficulties. All of these categories of ST need CT/CBCT to confirm the position and condition. Dentists should be more aware of these special ST positions for correct diagnosis and successful treatment.

PND6 Endodontic, Surgical and Restorative management of a Complicated crown-root fracture

E. Y. Ballikaya*, Z. C. Cehreli

Hacettepe University Department of Pedodontics, Turkey

INTRODUCTION

Complicated crown-root fractures are among the most challenging types of dental trauma owing to subgingival extension of fracture margins and endodontic involvement. Such fractures often require a complicated treatment plan, which may involve a multidisciplinary approach.

BACKGROUND

This case report presents the endodontic, surgical and restorative treatment approach of complicated crown-root fracture in a central incisor.

COMMENTS

A 12-year-old boy was referred to the clinic for treatment of a fractured maxillary central incisor 4 hours after a fall accident. Clinical examination of the affected tooth revealed a buccal fracture line extending subgingivally toward the palatal direction. Endodontic access was gained under local anesthesia, and the root canal was obturated with gutta-percha and sealer. In a separate appointment, buccal and palatal gingival flaps were raised, and adhesive reattachment along with intracoronary reinforcement was performed under strict isolation conditions using sterilized rubber dam. The reattached tooth has been in function for 18 months in the absence of clinical and radiographic symptoms.

CONCLUSION

When strict isolation conditions can be achieved, reattachment of crowns fractured below the gingival level can be a viable treatment option to restore function and esthetics.

PND7 Treatment of Ameloblastoma in a Child: A case report

D. Sakaryali*¹, A. Alacam¹, G. Dimiller²

¹Paediatric Dentistry Department, Faculty of Dentistry, Gazi University, Ankara, Turkey

²Oral and Maxillofacial Surgery Dept. Faculty of Dentistry, Gazi University, Ankara, Turkey

INTRODUCTION

Ameloblastoma is a rare, benign tumor of odontogenic epithelium. These tumors are rarely seen in childhood, and should be followed regularly because of the risk of metastasis.

BACKGROUND

These tumors, which are rarely malignant or metastatic, result in lesions which can cause severe abnormalities of the bone and face. Ameloblastoma cases should be enucleated immediately.

COMMENTS

This case report describes the treatment of asymptomatic ameloblastoma in a 12-year-old male patient. The patient referred to Paediatric Dentistry Dept. of Gazi University for the treatment of his dental caries. Clinical examination showed, hyperplastic gingiva in the left mandibular retromolar pad area. A cystic lesion surrounding the left mandibular second molar was observed radiographically. At surgery the cyst was marsupialized and followed until the second molar eruption. Histopathologic analysis showed that the cyst was ameloblastoma. At the nineteen months follow-up the remaining part of the marsupialized cyst had not increased in size, and there were no metastases.

CONCLUSION

Ameloblastoma is an asymptomatic and progressive tumor which could be diagnosed in the early stages. Regular clinical and radiological evaluations are very important for diagnosis and successful treatment.

PND8 Using gelitaspon in pulpectomy of primary molars with advanced root resorption: 3-year follow up

J. Hassi*, L. Arancibia, C. Danzijner, V. Soto

Paediatric Dentistry Dept. Dental School, Pontifical Catholic University of Chile

INTRODUCTION

The high incidence of caries disease in Chilean children, in addition to the significant existence of dental abnormalities, result in the need to provide appropriate treatments that allow the conservation of the deciduous tooth until its normal exfoliation time. In severe cases, the carious process may affect the root integrity; this compromises its prognosis and influences the decision to extract the affected molar.

BACKGROUND

Scientific evidence has shown that gelitasilver sponge is an excellent regenerator of bone tissue under certain conditions, also is an excellent haemostat and is antibacterial.

COMMENTS

In this report we describe the clinical case of a six-year old child who presented with a primary molar with penetrating caries and root resorption affecting at least one root, in which a pulpectomy was performed in combination with a resorbable and absorbable material based on gelatin, namely Gelitaspon, placed in the root resorption area. The tooth was then sealed and clinical and radiographic monitoring was conducted.

CONCLUSION

Three years monitoring radiographically showed the recovery of bone tissue damaged by the infection process.

PND9 Treatment of anterior cross-bite using lower anterior inclined plane

A. Hassan*

Pediatric Dental Clinic, Barzilai Medical Center, Ashkelon, Israel

INTRODUCTION

Anterior cross-bite can be defined as upper anterior primary or permanent teeth positioned lingually in relation to mandibular incisor teeth. Treatment of anterior cross-bite is recommended in primary and early mixed dentition using various techniques. Case report: a 7.5 year old boy presented at the dental clinic at Barzilai Medical Centre Ashkelon for periodic examination. The Treatment of anterior cross-bite is recommended in primary and early mixed dentition using various techniques. Case report: a 7.5 years old boy arrived at the dental clinic at Barzilai Medical Center Ashkelon for periodic examination.

BACKGROUND

Clinical examination showed: 1) an anterior cross-bite. 2) crowding in the mandibular anterior segment 3) amalgam restorations and preformed metal crowns on the primary molar teeth.

COMMENTS

The main treatment goal was the correction of the anterior cross-bite. To achieve this at a chairside inclined plane on was constructed on teeth 31, 72 and 73 with composite resin after etching and bonding. In order to prevent occlusal trauma a posterior open bite using composite resin material was established on the first permanent molars. After three weeks of treatment, tooth 21 was moved buccally to its correct position.

CONCLUSION

Early detection and treatment of anterior cross-bite can prevent future malocclusion. Inclined plane, constructed at the chair side, provides an easy and effective treatment modality.

PND10 General anesthesia and postoperative cooperation. A case report

M. Armas*, P. Lorente, F. Guinot Jimeno, C. Cuadros, A. I. Lorente Rodriguez

International University of Catalunya, Spain

INTRODUCTION

The decision to perform dental treatment under general anaesthesia (GA) is based upon age, a patient's ability to cooperate in a normal setting, medical status, and extent of treatment required.

BACKGROUND

Although the results are beneficial, it has been shown that there is high probability of further and recurrent decay in children following dental treatment under general anaesthesia, since few child patients return for follow-up after treatment.

COMMENTS

A girl aged 7 years and 7 months, diagnosed with Early Childhood Caries (ECC), was referred for treatment to the Department of Paediatric Dentistry at the Universitat Internacional de Catalunya. Her dentition was restored under general anesthesia using a combination of restorative approaches and techniques, including the placement of composite resins, preformed metal crown restorations, extractions and space maintainers. Follow-up visits at one week, and then 3 monthly consisted of regular examinations, oral hygiene advice and fluoride varnish application. After 3 months the restorations remained intact and no further caries were detected, but at 12 months fresh caries and decalcification were seen.

CONCLUSION

This case reflects the need to insist on regular reviews after treatment under general anaesthesia, and demonstrates that the choice of patient, cooperation and motivation will be key to successful treatment.

PND11 Age of first dental visit and dental condition in 6–7-year old children

I. Grzesiak-Gasek*, U. Kaczmarek

Dept of Conservative Dentistry and Paediatric Dentistry, Wroclaw Medical University, Poland

AIM

To assess an association of the age of the first dental visit with dental condition and dental care utilisation.

METHODS

Data about the age and reasons for first dental visit and dental care were collected by a parental semi-structured questionnaire. At 548 both sexes 6–7-year-old children dental condition was assessed according to WHO criteria calculating dmft and DMFT and their components. The data were analysed by Statistica-9.0 at $p < 0.05$.

RESULTS

In all children dft was 5.7 ± 4.0 and DFT 0.5 ± 1.1 . 9.5% children had their first dental visit up to 1 year of age, 21.5% 1–2 years, 22.5% 2–3 years, 38.7% over 3 years, 5.8% no visit and 2.0% no response. The reasons for the first visit were mostly oral health control 33.3% and tooth decay 42.4%. The frequency of the subsequent dental visits was 7.5% less than once a year, 24.8% one a year, 24.3% twice a year, 33.4% more than twice a year and 10.0% no visits. Mostly the counselling during the dental visits was clear and satisfied (61.8%). Children with the symptomatic first visit had higher dft value than asymptomatic ones ($p < 0.05$). The reason but not age of the first dental visit influenced the number of caries affected teeth. The frequency of the subsequent visits was positively correlated with dft.

CONCLUSIONS

Within the study limitations, reason but not the age of the first dental visit was related with caries severity.

PND12 Pulp Survival After Traumatic Extrusion: A Case Report

F. Z. Aytepe*, S. Akcay Ozer

Paediatric Dentistry Dept., Istanbul University, Turkey

INTRODUCTION

Dentoalveolar trauma is a very common event in children. Extrusion refers to the vertical displacement of the tooth out of the alveolar bone, resulting from a trauma.

BACKGROUND

Treatment and prognosis of traumatically extruded teeth can vary depending on multiple factors such as severity of trauma, age of patient and stage of root development. This case report demonstrates the maintenance of pulp health in an extruded tooth without any complications or endodontic treatment.

COMMENTS

A 12 year old girl with a traumatic extrusion of the maxillary right central incisor (11) was referred to the Department of Pedodontics, Istanbul University. Clinically the tooth showed mobility and a negative response to the pulp test. Splinting was placed for 3 weeks and the child was observed under a regular follow-up regime. After 3 weeks the tooth showed a positive response to pulp testing. Two years later the tooth was asymptomatic and showed a positive response to pulp testing. No pathological signs were seen radiographically.

CONCLUSION

The vitality of teeth with traumatic extrusion can sometimes be maintained without endodontic treatment.

PND13 Multidisciplinary management of unerupted central incisors due to supernumerary teeth in a young patient: A case report

E. Arat Maden, C. Altun*, S. Secer, K. Gyder
Gulhane Military Medical Academy, Ankara, Turkey

INTRODUCTION

The aim of this paper is to report our experience in the surgical treatment of radiological confirmed supernumerary teeth obstructing path of eruption of central incisors and the orthodontic treatment of the central incisor for eruption after surgical treatment in an 9-year -old girl with retained primary maxillary central incisors.

BACKGROUND

A 9-year-old female patient referred to Pediatric Dentistry Department with a complaint of delayed eruption of maxillary left and right permanent central incisors. Radiological investigations revealed the presence of impacted bilateral supernumerary teeth and impacted permanent incisors. The patient was referred to Oral and Maxillo-facial Surgery Department and Orthodontics Department where the primary maxillary central incisors and these supernumerary teeth were surgically removed. The supernumeraries were diagnosed as tuberculate type. Orthodontic treatment involved attaching a gold chain to the central incisors and fixed orthodontic appliances to bring the tooth down.

COMMENTS

The patient is on clinical and radiological follow up for eruption of the permanent teeth.

CONCLUSION

Impacted permanent incisors due to supernumerary tooth are a rare entity and often cause psychological problems in children. In the present case report a combination of surgical and orthodontic treatment resulted in an aesthetically pleasing and balanced occlusion. Thus timely recognition of these entities and early multidisciplinary treatment are required for greater hard and soft tissue preservation.


PND14 Tooth surface loss in a patient suffering from endometriosis

A. B. Ammari*
Central London Community Healthcare NHS Trust, UK



INTRODUCTION

A 14 year old patient was referred regarding gingival recession related to 41.

BACKGROUND

Presenting problem: The patient was complaining of gingival recession  associated with calculus, she had a habit of scratching her gingivae 41 with her finger. Marked tooth surface loss was noted in the maxillary incisors palatally which she and her dentist were unaware of. Medically she had heavy menstrual periods associated with two days of vomiting and missing school. She had a habit of brushing her teeth straight after a vomiting episode; she also consumed large quantities of fizzy drinks.

COMMENTS

Clinical management: She had palatal direct composite resin veneers to the maxillary incisor, she had a mouth-guard constructed and advised to use before vomiting, to use a 225ppm fluoride mouthwash after vomiting and not to brush her teeth straight after, she was strongly advised to  drinking fizzy drinks, and limit juice intake to mealtime. She had a course of periodontal therapy and the  ssion has not deteriorated, she also stopped her habitual habit of scratching her gingivae and she was referred to her GMP and Gynaecologist. She was later diagnosed with iron deficiency anemia and been prescribed iron tablets. After seeing the gynaecologist she was diagnosed with endometriosis and was prescribed combined oral contraceptive pill which relieved her symptoms and markedly improved her quality of life.

CONCLUSION

The cause of the tooth surface loss was the regular vomiting attacks and consumption of fizzy drinks. It was imperative to refer to the Gynaecologist to help relieve these severe symptoms.

PND15 Myofibroma of the mandible: A case report

U. Karacayli, E. Arat Maden*, M. Dad, O. M. Akgun

Gulhane Medical Academy, Ankara, Turkey

INTRODUCTION

Myofibroma is an uncommon benign mesenchymal neoplasm composed of myofibroblasts, but it can be confused with more aggressive spindle cell tumors. Solitary myofibroma is common in soft tissues of head and neck, but rare in the jaw bones. In cases of the oral myofibroma, the majority are located in the mandible. This case presents an intraosseous myofibroma of the mandible in a 10-year-old boy.

BACKGROUND

A 10-year-old male patient referred to Pediatric Dentistry Department with a chief complaint of discomfort of mandibular right molar area. Intraorally there was a firm, nontender swelling in the right buccal aspect of the mandible. A panoramic radiograph demonstrated a globe-like radiolucent lesion in the left angle of the mandible. Histologically, characteristic biphasic pattern of myofibroma was noticed. The patient was treated by local-wide surgical excision of the lesion. The tumor was totally resected under general anesthesia.

COMMENTS

A 2-year follow-up revealed no signs of recurrence.

CONCLUSION

Occurrence of myofibroma involving the jaw bones is common in the younger age groups and represents a unique diagnostic and therapeutic challenge. Differentiating this lesion from other benign and malignant neoplasms is crucial in deciding between a radical and a conservative treatment approach. The treatment of the solitary myofibromatosis is primarily surgical and its prognosis is excellent despite the multicentric form.

PND16 Complex Odontomas, an unusual cause of dental pain from erupting molars in children

S. A. Tukmachi*, D. Baldwin, J. Long

Royal London Dental Hospital, Barts And The London Hospital Trust, London, UK

INTRODUCTION

Odontomas are benign tumours of odontogenic origin. Complex odontomas are characterized by the formation of calcified enamel and dentine in an abnormal arrangement because of the lack of morphodifferentiation. Rarely odontomas have the potential to erupt and if they do this can give rise to pain, inflammation and infection.

BACKGROUND

This report describes an unusual presentation of pain in two adolescent males with a similar ethnic background to the Paediatric Dental Emergency Clinic at Barts Health NHS Trust.

COMMENTS

Both patients complained of an acute episode of pain from partially erupted mandibular second molar teeth. In both these cases dental hard tissue masses were discovered on the occlusal surface of partially erupted second molar teeth which were later confirmed histologically as erupted complex odontomas. Follow up was uneventful with the second permanent molars erupting into the mouth normally. There were no obvious developmental defects associated with the crowns of the teeth.

CONCLUSION

These findings highlight that erupted odontomas may be a cause of dental pain which if presented to our surgeries should be considered as an alternative differential diagnosis to pericoronitis. This series of cases should serve to add to published data that odontomas can, and do, erupt on the surface of permanent second molars without causing delay of eruption and may therefore be more common than previously thought.

PND17 Dental erosion in children and adolescents with gastroesophageal reflux disease

U. Kaczmarek*, M. Kowalczyk-Zajac

Dept of Conservative Dentistry and Paediatric Dentistry Wrocław Medical University, Poland

AIM

Evaluation of some causative factors of dental erosion in children and adolescents with gastroesophageal reflux disease (GERD).

METHODS

114 subjects of both sexes, 6 to 18 years old, out of which 57 with diagnosed GERD, were studied. Dental erosion by Lussi's index was evaluated as well as acidic food intake and oral hygiene habits. In unstimulated mixed saliva pH, buffering capacity, bicarbonates, phosphates, calcium, magnesium, sialic acid and salivary flow rate were measured. The subjects were divided into groups GERD with (G-E-1) and without erosion (G-E0) and control with (C-E1) and without erosion (C-E0). The data were analysed by Statistica 9.0 at $p < 0.05$ level.

RESULTS

The GERD patients compared to the control revealed higher frequency of erosion (59.6% vs 26.3%, $p < 0.01$) and more teeth were affected. Between all groups no significant differences in acidic food and beverages intake and oral hygiene habits were found. In group G-E1 compared to C-E1 significantly higher salivary flow rate and sialic acid level, and lower calcium content was noticed. In group G-E0 compared to K-E0 significantly lower salivary flow rate and in group G-E1 lower magnesium level than in G-E0 were found. Significant association between the occurrence of GERD and erosion (OR 4.139; $p < 0.0001$) was found.

CONCLUSIONS

The GERD patients had the 4-fold higher dental erosion risk compared to control. Some differences in salivary components between GERD subjects with dental erosion and healthy ones were noticed.

PND18 Malocclusion in primary dentition of Saudi children: A cross-sectional study

S. A. Bin Hassan*, A. M. Alqhtani, M. Zakirulla

Department of Paediatric Dentistry, King Khalid University, Abha, Saudi Arabia



AIM

of this cross-sectional study is to record various primary dentition parameters in a Saudi children population.

METHODS

700 Saudi children, 2–6 years-old, were divided into four age groups and was randomly selected to observe the differences between the age groups.

RESULTS

It was found that 55.6% of the children had a 'flush terminal plane' molar relationship while the proportion of children with a distal step molar relationship was lower (3.2%). The degree of overbite was less in the 5-year-olds than in the 3-year-olds. The majority of the children (80.7%) had spaced dentitions. The prevalence of anterior cross bite was 0.7% and of open bite was 0.3%.

CONCLUSIONS

Spaced dentition was seen more in males compared to females. An important aspect of occlusal development in the primary dentition is the early recognition of incipient occlusal disharmony which may necessitate orthodontic intervention.

PND19 Dental Findings and Treatment of a Patient with Cyclic Neutropenia

M. S. Park*, N. K. Choi

School of Dentistry, Chonnam National University, South Korea

INTRODUCTION

Cyclic Neutropenia is a rare idiopathic hematologic disorder characterized by periodic reductions in the neutrophil population. It usually has a 21-day cycle, but neutrophil population with transient decrease lasts only for 5–10 days. After this period, the level of neutrophils recovers to the normal range. Oral manifestations of the disease include oral ulceration, generalized aggressive periodontitis, bone loss, premature loss of teeth, and high risk of dental caries.

CASE REPORT

A 4-year old boy had been on medication for cyclic neutropenia since he was 23 months old. The chief complaints were mobility of teeth and swollen gums. In clinical examination, mobility was at degree 2 on both mandibular first primary molars. Overall redness and swelling of gingiva were notable. There were apical abscess and localized alveolar bone loss. Treatment was planned as follows; (1) restoration of decayed teeth, (2) pulpectomy and SS crown restoration, (3) scaling, (4) regular check-up. So far, restoration of decayed teeth, endodontic treatment of the teeth with periapical abscess, and oral hygiene care were performed. Further treatment is planned for preventing dental caries and regular oral hygiene management.

CONCLUSION

Professional dental treatment is extremely important for patients suffering cyclic neutropenia. Proper care and intensive professional guidance at an early stage is especially needed for young patients to minimize the unwanted consequences of premature tooth loss and early alveolar bone loss for permanent tooth development. In addition, cooperation from patients and their caregivers is needed to obtain adequate home care and good oral hygiene.

PND20 Oral Health Survey of 5 and 12 Years Old School Children in Northern Cyprus

S. Korun¹, L. Ozkan¹, A. Islam¹, O. Oge*¹, T. Sakar²

¹Dept. of Pediatric Dentistry, Faculty of Dentistry, Near East University, Cyprus

²Dept. of Orthodontics, Faculty of Dentistry, Near East University, Cyprus

AIM

To assess the oral health status of 5 and 12 years old school children in Turkish Republic of Northern Cyprus (TRNC).

METHODS

12 preschools and 12 primary schools from all cities of TRNC were included in this research. The study population consisted of 506 children, 5 year old, attending preschools, of whom 258 were girls and 248 were boys, and 12 years old 570 children, 12 years old, attending primary schools, of whom 299 were girls and 271 were boys. The survey is based on WHO (1997) and the main outcome measures were prevalence of caries and dmft index. The research data were collected by the calibrated research assistants of the Department of Paediatric Dentistry and intern dentists. Data were analysed using SPSS 19 statistical software package, which included a chi square test.

RESULTS

The overall prevalence of caries in 5 year old children were 76.5% (boys 77.7%, girls 75.3%) and 85% in 12 year old children (boys 82%, girls 87%). The dmft index was 3.62 for 5 year old and 3.32 for 12 year old children. There were no statistically significant differences in caries prevalence between 5 year old boys and girls and also between 12 year old boys and girls.

CONCLUSIONS


This study revealed a high level of dental caries and poor oral hygiene in children resident in TRNC. Oral indices in TRNC are far from the World Health Organization global goals and there is an urgent need for therapeutic and prevention measures.

PND21 Reliability of Information Obtained by Children's Self-Reports in the NOT-S
B. L. Cavalcante-Leao, S. R. Barancelli-Todero, G. Solheid-Gil*, F. M. Ferreira, F. C. Fraiz
Federal University of Parana, Brasil

AIM

To assess the reliability of the information obtained by children's self-reports in relation to some aspects of the orofacial function.

METHODS

This cross-sectional study involved 622 children of both genders aged 8-10 years, enrolled at public schools in a city in southern Brazil, and their caregivers. The diagnosis of orofacial dysfunction was performed by a single examiner who had undergone a calibration exercise for the use of the Brazilian version of the rdic Orofacial Test-Screening (NOT-S). The items addressing "breathing" and "habits" were **independent** answered by children and their caregivers. The Kappa coefficient (Kp) was used to analyze the agreement between the answers obtained by the child-caregiver dyads.

RESULTS

The NOT-S scores ranged from 0 to 8 with a mean of 2.1 (median 2). There was a fair agreement in the items addressing "snoring while sleeping" (Kp = 0.308, $p < 0.001$) and "having habits", like onychophagy, pacifier use and finger sucking (Kp = 0.346, $p < 0.001$). The item addressing "grinding teeth during the daytime" presented no agreement (Kp = 0.063, $p = 0.147$). The agreement between the diagnosis of orofacial dysfunction when the responses of children and their caregivers were considered, was moderate (Kp = 0.597, $p < 0.001$).

CONCLUSIONS

The information obtained by children's self-reports in relation to orofacial function was not reliable, and so the application of the NOT-S in 8-10-year-old children should include questions to the caregivers in order to reduce reporting bias.

PND22 Clinical experience of a pediatric dentistry private clinic in Bucharest, Romania
M. Toma*, D. Ivan, O. Taban, M. Taban
Private Paediatric Dental Practice, Bucharest, Romania

AIM

Study of the clinical experience of a private paediatric dental clinic in Romania, the number of patients and associated pathology.

METHODS

Retrospective study based on the medical records on the patient numbers and pathology in two different time periods: December 2009 which was one year after opening, and December 2013.

RESULTS

There was a steady increase of the number of patients from 2009 to 2013 (3.48 fold increase) up to a total of over 9,000 patients. The study was based on the following data: 296 patients were treated in December 2009 and 1031 patients were treated in December 2013. They were divided into four categories according to treatment they received: simple cavities, pulp treatments, emergencies and prophylaxis. The results indicated simple decay as the major dental pathology in children (46.9% in December 2009 and 45.9% in December 2013), followed by advanced decay (17.5% in December 2009 in increasing up to 22.5% in December 2013). Prophylaxis increased from 30.4% in December 2009 to 29.5% in December 2013. Dental emergencies were 5.06% in December 2009 and 1.93% in December 2013 of which dental trauma represented 1.35% in 2009 and 0.38% of patient attendances in 2013.

CONCLUSIONS

Private paediatric dental practice plays an important role in the treatment of paediatric pathology and provides a full range of services, and the increasing number of treated patients confirms that.