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**ENDODONTIC TREATMENT AS PREVENTION OF
PREMATURE LOSS OF PRIMARY TEETH**

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Abstract

Premature tooth loss is defined as tooth loss before the time of its natural exfoliation. In the primary dentition it causes serious complications, especially if a tendency towards orthodontic anomalies exists. Orthodontic anomalies could significantly impair the growth and development of the upper and lower jaw with the usual consequence of a long and expensive orthodontic treatment.

This lecture will describe the endodontic techniques that can prevent early loss of primary teeth until their natural replacement, in case of pulp infection.

Primary tooth is still the best space maintainer until the moment of replacement with permanent successor.

**THE ROLE OF DENTISTS IN DETECTING CELIAC
DISEASE IN CHILDREN**

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Abstract

Celiac disease is a chronic immune disorder caused by intolerance to gluten in the diet, which occurs in persons with a genetic predisposition and can appear at any age. Diagnosis of the disease is carried out by serological testing and histopathological analysis of the small intestine mucosa. As symptoms are not often present in gastrointestinal tract, and serologic tests can be falsely negative, the confirmation of diagnosis is sometimes very prolonged. Since celiac disease causes disorders of intestinal absorption, and therefore the malabsorption of essential minerals and nutrients, it is expected that changes may occur in the structure of the enamel and therefore visible even in children. It is very important to diagnose the disease before the development of apparent clinical complications. This is possible by intensive and precise exploring of the symptoms on other (extraintestinal) organ systems that may help in the early identification of the disease. So far, several studies demonstrate that in patients with celiac disease a variety of oral lesions (changes of tooth enamel, recurrent aphthous stomatitis and atrophic glossitis) may be found, but of all the above, it is assumed that changes in the enamel may be the most important for celiac disease. This lecture will show, therefore, that noncarious lesions can indicate celiac disease and that the dentist could identify and accelerate the diagnosis of this life-long and incurable disease.

CASE STUDY OF RESTORATIVE TREATMENT OF PERMANENT LOWER CENTRAL INCISORS HYPODONTIA

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Introduction: One of the biggest challenges in current restorative pediatric dentistry is restoration of permanent tooth loss due to limited possibilities of restoration methods in children. Conventional fixed bridge is applicable at this age and mobile partial denture is not an adequate solution for young patients. Therefore, with continuous development and improvement of dental materials, temporary bridges were introduced and adopted as an adequate solution. This kind of temporary restoration is highly recommended as therapeutic solution in schoolchildren. Minimal preparation and light-cure resin based adhesion provides maximal preservation of the tooth structure and hard tissue of the abutment teeth.

Case report: Female patient aged 16 came to dentist for retreatment of teeth 31, 41 that were previously provided with inadequate prosthodontics restorations. After removing previous restoration and resolving consequences of inadequate treatment, composite bridge with material of Stick Tech (everStick[®]) was planned as treatment solution for teeth 31 and 41. Second lateral incisors were restored with resin based composite materials and composite bridge was fabricated and placed for teeth 31 and 41.

Conclusion: Contemporary development of dental materials provides many opportunities for adequate therapeutic teeth rehabilitation, which is acceptable for patients in respect of functionality and aesthetics.

MODERN TRENDS IN CARIES DETECTION

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Abstract

Modern paediatric dentistry means precise and detailed analysis of young, permanent teeth. Therefore, special attention should be devoted to modern devices for caries detection, based on the principle of laser fluorescence, digital imaging, fiber optic translumination and some other methods. Also, the method of lesion restoration is very important in order to emphasise the minimally invasive cavity preparation and the possibility of remineralization of caries lesions. It is especially important to be aware of other preventive procedures in paediatric dentistry, as well as the high prevalence of dental caries in Croatia. In this lecture, the detailed analysis of caries prevalence from 1991 to 2013 in Croatia will be presented, and the data will be compared with that of neighboring countries.

REVASCULARIZATION TREATMENT OF NECROTIC IMMATURE PERMANENT TOOTH - A CASE REPORT

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Introduction: Pulp revascularization is a regenerative endodontic procedure that allows continued root development in non-vital immature permanent teeth.

Case report: A 12-years-old boy was referred to the Department of Paediatric for evaluation of the upper right permanent incisor. The patient had a tooth avulsion that occurred 4 years ago. The tooth was replanted and splinted within 30 minutes of the trauma.

The patient was not followed-up. Clinical examination showed discoloration of the crown, infraocclusion and the presence of sinus tract in the apical area. Radiographic examination showed incomplete root development and a periapical lesion. Revascularization was achieved through multiple procedures. During the first visit the necrotic pulp tissue was removed, the canal was irrigated with 5% NaOCl and an antiseptic was set. Seven days later a mixture of metronidazole, ciprofloxacin and doxycycline was placed into the canal. Seven days later the canal was filled with Ca (OH)₂. Finally, periapical bleeding was induced and a mixture of mineral trioxide aggregate and saline solution was placed over partly coagulated blood. Walking bleach technique was applied to improve aesthetics. A 6-month follow-up showed radiographic evidence of periapical healing and root development. *Conclusion:* Revascularization proved successful in treating immature necrotic permanent teeth.

PREVENTION AND TREATMENT OF DENTAL INJURIES

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Prevention is always the most valuable form of planning and managing treatment in dentistry. Besides the caries, the prevention of dental injuries presents the most valuable part of prevention in dentistry. Therefore, we must emphasize possible preventive procedures in order to avoid dental trauma with far-reaching negative consequences for the child. But what happens when trauma occurs? After correct diagnosis of dental trauma and use of urgent clinical procedures, long-term planning is required to treat a patient in a functional and an aesthetic manner. At this stage, it is necessary to define the necessity of endodontic therapy and the type of final restoration depending of the remaining amount of tooth structure. During this lecture we will discuss indications, techniques and materials of choice for final functional and aesthetic reconstruction of traumatized teeth.

FIBER-REINFORCED AESTHETIC COMPOSITE TEMPORARY BRIDGES

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Abstract

Tooth loss in the period of adolescence is a challenge for all dental clinicians, for various reasons. At the same time it is a huge psychological trauma for the patients as well as for the parents. Because of intensive growth period when trauma usually occurs, the inability to use some therapeutic measures and the fact that available techniques require removal of large amounts of tooth structure, possibilities of reconstruction of traumatized teeth in young patients are limited. Considering these problems and also the problem of chair time in practice, temporary method of so-called temporary aesthetic bridges could be used. Development of “everStick®” temporary aesthetic bridges enabled restoration of lost teeth in young patients and helps us to improve daily clinical dentistry.

DENTAL PULP STEM CELLS - REVIEW OF THE LITERATURE

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Background: Stem cells are the basic cells of the human body from which all tissues are made. These cells are used in the human body to restore damaged tissue throughout lifetime. They possess two characteristics that distinguish them from other types of cells. First, they are unspecialized cells that can be divided over a long period. Second, under certain physiologic or experimental conditions, they can be differentiated into other cell types.

The aim of the study: The aim of the study was to present the progress of modern science and the latest developments of isolation and application of stem cells.

Types of Studies Reviewed: The authors reviewed reports of stem cells in the dental literature such as J Craniofac Surg., Clin Oral Invest. and Stom Glasn.

Conclusions: Implications of key findings: stem cells, as a relatively new and insufficiently explored area in medicine and dentistry, open up new treatment options. The recent discovery and testing of stem cells from the dental pulp was presented. Stem cells derived from the dental pulp, in the near future, may have clinical applications as well as stem cells isolated from bone marrow and umbilical cord blood. In vitro or in vivo, these cells can be differentiated, with certain mutual differences into odontoblasts, chondrocytes, osteoblasts, adipocytes, neurons / glia, smooth and skeletal muscle cells, endothelial cells and melanocytes. In vivo, after implantation, they had potential to differentiate into dentin, bone and fat tissue.

PREVENTIVE AND DIAGNOSTIC ORTHODONTIC PROCEDURES DURING GROWTH AND DEVELOPMENT

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The period of growth and development is of particular importance in Orthodontics. External environmental factors interact with genetics in the formation of anthropological variation. However, this interaction also can be expressed in different pathological phenotype forms, specially during the period of growth and development. In orthodontics, interceptive treatment is a procedure where growth is utilized to correct developmental occlusion problems. Prediction of growth patterns and severity of malocclusion is possible using various diagnostic procedures. Knowing orthodontic diagnostic procedures is of special importance, not only for orthodontists but also for other dental specialists and general practitioners. Due to high fragmentation leading to numerous specialistic dental fields, present dental medicine requires greater multidisciplinary approach in the assessment of the patient status. General dentistry practitioner and paedodontic and preventive care specialist need to have knowledge in orthodontics diagnostic procedure, treatment planning, preparation and motivation of patients in order to provide high quality patient care. A well-timed recognition of the growth pattern can significantly affect the success, duration and the cost of orthodontic treatment.

MODERN PREVENTIVE MODEL IN THE EVALUATION OF RISK, DIAGNOSIS AND TREATMENT OF DENTAL CARIES

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Modern approach in the diagnosis and treatment of dental caries involves treating caries as an infectious disease, which is under the influence of certain behavioral, genetic and external factors. Based on recent findings presented in the literature, diagnosis of caries has three possible thresholds: possible lesion, initial carious lesion and clinically evident caries lesion. In the modern model of treatment planning, preventive approach and monitoring of lesions is increasingly emphasized, rather than the classic operative "drill and fill" concept. Therefore, the purpose of this lecture is to present new findings that are the latest trends, concentrated on the following approach: 1 / sealing suspect and initial caries lesions, 2 / the application of fluoride to prevent and stop progression of dental caries, and 3 / indirect approach to conservative pulp treatment (indirect and direct methods of covering and treatment of pulp, ITR-ART fillings).

EARLY CHILDHOOD CARIES: ETIOLOGY, DIAGNOSIS AND PREVENTION

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Abstract

Epidemiological data of European and American studies suggest dental caries disease are widespread, with the prevalence between 11-72%. Despite the drop in the prevalence of dental caries in children of the Western world, the prevalence of ECC remains high,

regardless of whether it is in developed countries or developing countries and despite the nutritional factors, the composition of saliva, socioeconomic status and clinical diagnostics to prevent this condition. Educating parents is a very important factor in the treatment of this disease. Preventive procedures that are recommended during treatment include fluoridation, chlorhexidine varnish, sealing of pits and fissures in the age of 3 years, the use of sugar substitute xylitol, detailed instructions on diet and regular dental check-ups every three months.

THE TREATMENT OF NON-VITAL TEETH WITH INCOMPLETE ROOT GROWTH AND DEVELOPMENT: REPORT OF TWO CASES

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Introduction: The traditional treatment for non - vital permanent teeth with incomplete root growth and development is the complete teeth pulpectomy and induction of apexification with Ca-hydroxide or MTA. However, there is a growing body of evidence confirming that many teeth traditionally treated by induction of apexification can achieve apexogenesis. When the dental pulp is irreversibly inflamed or non - vital and apex opened, conventional root canal treatment is difficult to perform and the outcome of treatment is uncertain. The treatment of choice for non-vital teeth is induction of apexification, which induces apical closure and produce favorable conditions for conventional charging of channels.

Case report: Traditionally, the process of apexification consists of multiple and long-term Ca-hydroxide application. In this study, we will present two cases of non-vital teeth with incomplete root growth and development treated with Ca-hydroxide in which it manifests its ability to induce both apexification, and apexogenesis.

Conclusion: In the both presented cases in this study Ca-hydroxide has shown ability to succeed treatment, apexogenesis and apexification.

ANALYSIS OF DENTAL STATUS OF DOWN SYNDROME CHILDREN IN TUZLA AND SARAJEVO CANTON

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Abstract

Introduction: Oral health in Down syndrome children, including dental status, has some peculiar aspects that must be considered in the follow-up of these patients.

Aim of the study: To determine the state of the dental status of children with Down syndrome aged 6-18 years, and compare it with the dental status of healthy children.

Patients and methods: This study included 57 Down syndrome children, clinically examined and with established dental status. The examinations were conducted in Tuzla and Sarajevo Canton, under the rules of the WHO. Subjects were divided into three age groups, for easier data analysis.

Results: DMFT values in subjects aged up to 6 years is 6.4 (d = 6.4; m = 0; f = 0), DMFT values (first permanent molars) in patients aged 7-12 years is 2.05 (D = 1.47; M = 0.58; F = 0); DMFT values of respondents 13-18 years amounts to 10.3 (D = 7.46; M = 1.83; F = 1).

Conclusion: Tested sample of children with Down syndrome, has shown DMFT index extremely high in all age groups, with a high proportion of carious teeth.

TEN YEARS OF THE CENTRE FOR DENTAL CARE FOR PEOPLE WITH DISABILITIES UNDER GENERAL ANESTHESIA

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Abstract

As part of the Department of Pediatric and Preventive Dentistry, Faculty of Dentistry, University of Belgrade in 2004 opened a center for disabled patients. The department is based on day hospital clinic principle, where all necessary oral treatment procedures can be treated in one session under general anesthesia. In this way, we continued the long experience of teachers and associates of the Clinic in working with these patients. All dentists in the Clinic, specialists of preventive and pediatric dentistry, work with 4-6 patients weekly. During the year, the department takes care of about 200 patients (children and adults) from Serbia and the region. Staff from the three clinics: Pediatric and Preventive Dentistry, Dental disease, Oral and Maxillofacial surgery works at the Clinic. The Department of Pediatric and Preventive Dentistry received the "Great silver award for the most noble feat of 2007" for the efforts during the construction and establishment of the Centre, as well as the results achieved. This lecture will be focused on the challenges and difficulties occurred during the construction of the Centre, as well as the organization of everyday work.

CLINICAL CASES OF DENTAL ANOMALIES IN SCHOOL AND PRESCHOOL CHILDREN

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Introduction: Anomalies of the teeth may be present in the primary and permanent dentition. Most mentioned etiological factor of anomalies is heritage, but there may also be other factors like local or systemic. According to current information for children population in Bosnia and Herzegovina, incidence and frequency of anomaly ranges from 2% for gemination up to 28% of hypodontia. The aim of this study was to present a large number of anomalies of the teeth that the dentist may encounter in daily practice as isolated cases or as serendipitous radiographic observations.

Case report: Cases of dental anomalies in children of preschool and school age are registered at regular dental check in the Sarajevo clinic of the Public Institution Health Centre of Sarajevo Canton. Checks were carried out in the period from May 2012 until January 2014. Diagnosis of anomalies was carried

out on the basis of inspections during clinical examination, analysis of X-rays and photographs taken for this purpose. Displayed anomalies are macrodontia teeth, Turner's hypoplasia, gemination, fusion, hypodontia, retention and ectopic.

Conclusion: Anomalies in teeth are clinically evident disorders of the teeth and may lead to various dental problems. Careful observation and adequate knowledge is necessary to diagnose problems and plan treatment.

MODERN CARIES DIAGNOSTIC CAPABILITIES IN PRIMARY AND PERMANENT TEETH

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Abstract

Early diagnosis of caries and implementation of preventive and prophylactic measures before the onset of irreversible caries processes are of great importance. Therefore, there is a need for more reliable and accurate methods than traditional, visual and tactile. Research has focused on the study of sophisticated optical methods for early detection of caries, based on the measurement of physical signals generated by the interaction of light and hard dental tissue. The technique of transilluminated optical fibers (Fibre Optic Transillumination-FOTI) is based on the illumination of teeth with high intensity light. The optical properties of sound enamel are different from demineralized enamel. FOTI amplifies changes in the scattering and absorption of photons of light which can be observed in caries lesions as a dark shadow. This method provides information that rely on subjective interpretation and can not be reproduced. Digital systems (Digital Imaging Fibre Optic Transillumination-DiFOTI) is designed to overcome the limitations FOTI technology by being enabled to digitally record found condition. Saved images can be compared with earlier ones, which provides the ability to compare lesions in a specific time period. DiFOTI (DIAGNOcam, Kavo, Biberach, Germany) allows the detection of occlusal, proximal and secondary caries, as well as cracks in the enamel. The laser fluorescence (DIAGNOdent, KaVo) gives reliable results and allows early diagnosis of occlusal and interproximal caries. Red laser light is emitted through the optical fiber to the carious lesion. In the interaction with organic molecules in the porous structure of tooth light bounces as an invisible fluorescence. Bounced light is detected and the display reads a numerical value (0-99). Higher values indicate the increased fluorescence and extensive subsurface lesions. Because of the possibility of repetition of measurement, this device and method can be used for longitudinal monitoring of caries.