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WHEN LESS IS MORE

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Modern dental practice follows the principles of minimal intervention dentistry which is based on the concept that demineralized, non-cavitated caries lesions can be „healed“ using different treatment options. Operative treatment is indicated only in cases with either active, cavitated and non-cleansable lesions or micro-cavitated lesions extending deep in the dentin. However, even for deep caries lesions, the operative treatment is minimally invasive and remineralization of inner layer of carious dentin may help to maintain the vitality of the tooth and avoid endodontic treatment. The choice of restorative materials and procedures depends on numerous factors, the complexity of which depends on the severity of the disease. For initial demineralization of the tooth structure, treatment strategies may include either the use of various remineralizing agents, such as those based on CPP-ACP with an addition of fluoride in high concentration, resin infiltration of incipient caries lesions or placement of sealants. In cases of deep caries lesions approximating the pulp, but without any signs or symptoms of pulp involvement, selective removal of caries is suggested. Selective caries removal is minimally invasive procedure due to removal of only the infected dentin and preservation of the demineralized deeper layer or affected dentin. In the treatment of cavitated lesions, the main role of a restoration is not only to help the patient control the biofilm, but also to protect the dentin-pulp complex while restoring the function, shape and esthetics of the tooth. However, the restoration of endodontically treated teeth is still a major challenge. Special attention is required for the longterm restoration of non-vital teeth to ensure adequate retention and maximum resistance of the remaining tooth structure and to prevent possible catastrophic tooth fractures.

Keywords: Initial Caries; Remineralization; Restoration

BIOACTIVITY – CLINICAL ASPECT IN RESTORATIVE DENTAL MEDICINE

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Despite the continuous improvement of composite materials, the fundamental problem is still the occurrence of secondary caries, which is the result of microleakage due

to polymerization shrinkage. Volume reduction during polymerization is caused by a chemical reaction mechanism and therefore shrinkage is an inevitable phenomenon in composite materials based on methacrylate resins. A possible solution to the problem of secondary caries is the development of composite materials with remineralization properties. Such materials contain an amorphous calcium phosphate (ACP) filler that crystallizes into hydroxyapatite in an aqueous medium and releases calcium and phosphate ions. The continuous release of ions from the restoration enables remineralization of the surrounding hard dental tissues. ACP-based composite materials show an extremely high degree of conversion, indicating better biocompatibility than most commercial composite materials. Although ACP composites are very promising bioactive materials, their clinical application is limited by their poor mechanical properties. The addition of conventional fillers to the ACP composite results in a "hybrid" material in which each type of filler contributes to certain properties. ACP is responsible for bioactivity and ion release, and conventional fillers for a stable bond with the polymer matrix, load transfer between filler and matrix, and improved mechanical properties. Another direction is experimental composite materials with bioactive glass filler. This group of materials contains bioactive fillers that release calcium and phosphate ions in the aqueous medium of the oral cavity and thus regenerate demineralized hard dental tissues. Bioactive fillers by chemical composition are different calcium orthophosphates or bioactive glasses. Their basic feature is solubility in water and the release of calcium and phosphate ions. Part of the released ions precipitates on the surface of the bioactive glass in the form of amorphous calcium phosphate, which spontaneously transforms into thermodynamically more stable calcium hydroxyapatite. In restorative dental medicine, bioactive glasses have a potential application as fillers for composite materials. Experimental composites with bioactive glass in laboratory research show the potential for remineralization of hard dental tissues by means of calcium and phosphate ions, and the growth of hydroxyapatite crystals on the surface of the restoration contributes to the sealing of microcracks caused by polymerization shrinkage.

Keywords: Composite Materials; Bioactivity

LARGE PERIAPICAL LESIONS – ENDODONTICS OR SURGERY?

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The goal of endodontic treatment is to prevent or treat the periapical process, and the long-term outcome of the procedure is measured by the healing, or the absence of the lesion if it was not present at the moment of the treatment. Most dentists associate the

likelihood of healing a periapical lesion with its size, and if the lesion is larger, a decision is more likely to be surgically treatment or tooth extraction. The situation becomes even more complicated when root resorption is present. Many factors influence the final outcome of the treatment, some related to the patient's systemic diseases, others to the procedures during the root canal treatment. More recently, some authors suggest inducing bleeding in the lesion to activate the inflammatory response, which, when the intracanal infection is eliminated, ultimately promotes healing. In addition to the intracanal application of calcium hydroxide between visits, healing could be enhanced with bioactive materials based on hydraulic calcium silicate intended for the root canal filling and repairing the canal perforations. In the lecture, the theoretical mechanism underlying the healing of large periapical lesions after endodontic procedures was presented, and case presentations were used to describe different options of treatment of such lesions and to explain specific procedures.

Keywords: Endodontics; Periapical Diseases; Bleeding

DIGITALIZATION AND THE CLINICAL CHOICE OF RESTORATIVE MATERIALS

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Digital dentistry is deeply changing the clinical approaches to the patient. From diagnosis to surgery and prosthetic rehabilitations, clinicians can be supported by many digital tools: detectors of caries and other oral diseases, intraoral scanners for orthodontics and prosthetic, digital smile simulators and 3D printers are just few examples. However, digitalizing a dental clinic doesn't mean just to buy one specific device: from clinicians to dental technicians to supply chain, everything must be focused on the idea that not all the materials valid for "traditional dentistry" (and still valid in those procedures) can perform well in a digital procedure. Moreover, combination of different chemistries (e.g. luting cements, build-up materials, endodontic materials, composites or glassionomer cements) can perform dramatically worse if not well considered before. The lecture will focus on materials, it will explain the most common digital procedures in dentistry and which rings of the digital chain can be affected by a wrong choice of restorative and preventive materials.

Keywords: Dental Prosthesis Design; Dental Implants; Esthetics Dental; Digital Dentistry

ORAL SURGICAL PROCEDURES IN GENERAL ANESTHESIA FOR PAEDIATRIC PATIENTS

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General anaesthesia may be indicated to treat patient anxiety associated with dental treatment, to enable treatment for patients who have cognitive impairment or motor dysfunction which prevents adequate dental treatment, to treat patients below the age of reason, or for traumatic or extensive surgical procedures. This modality should only be used when indicated, as an adjunct to appropriate nonpharmacologic means of patient management. Many oral surgeons are providing general anesthesia for number of patients annually. Although the surgical duration of these anesthetics was often very brief, the sheer average number of cases provided by individual oral surgeons is significantly more than the vast majority of any other type of anesthesia provider. The main indications for general anesthesia in oral surgery for paediatric patients are limited access to surgical field, risk of damage of vital structures, unusual cases and aggressive diseases, systemic conditions of patients. These factors often overlap and complicate each other. Solving complex clinical cases requires diagnostic competence, effective anesthesia, adequate instruments and equipment, and rational method of operation.

Keywords: General Anesthesia; Indications; Oral Surgery; Jaw; Pathology

GENERAL ANESTHESIA IN THE SERVICE OF BEHAVIOR MANAGEMENT IN CHILDREN

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Guiding and controlling a child's behavior is one of the most important tasks of any dentist working with children. Behavior control is performed in a variety of ways, and general anesthesia is the last resort that specialized facilities may use when other methods are unsuccessful. The work of a dentist under general anesthesia is extremely demanding and requires cooperation with a whole team of experts. In our facility, this form of work has been carried out since 2016, and during this period around 800 procedures have been

performed under general anesthesia. The population that turns to us consists mainly children with developmental difficulties and children who are uncooperative in smaller numbers. It is known that children with developmental disabilities are more prone to tooth decay and therefore have a greater need for dental services. An analysis of all referral diagnoses for such interventions was undertaken to show which groups are most represented. An overview is also given of all the complications that occur with such a large number of procedures in high-risk children. At the same time, all the procedures used in such patients are presented, with a particular focus on the different anesthesia techniques used on a daily basis in such situations.

Keywords: Behavior Management; General Anesthesia; Children

THE ROLE OF DENTIST IN THE MANAGEMENT OF ORAL CANCER PATIENT

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In spite of the progress of medicine and developing treatment modalities, oral cancer remains a disease with high mortality. Treatment of oral cancer is long standing and often has side-effects in the oral cavity which significantly impair patient's quality of life. The role of dentist in the management of oral cancer patients is not sufficiently recognized, even though the dentist is the most competent healthcare professional for all aspects of oral care. The lecture will cover all aspects of dental management of oral cancer patient. First and most important, it is oral mucosal examination for the early detection of oral cancer, activity that should be performed during every dental examination. If detected early enough, oral cancer has better prognosis and the treatment is less complicated. Furthermore, significant aspect of dental care in these patients is prevention and management of oral cancer treatment side-effects and complications, mainly head and neck irradiation-related complications. Timely dental intervention can lead to decreased intensity of these complications, while some of them can be completely prevented. Finally, since smoking is the main etiological factor of oral cancer, the role of dentist in the smoking cessation will be discussed.

Keywords: Oral Cancer; Prevention; Early Detection; Radiotherapy; Side-Effects

CHALLENGES AND GUIDELINES IN ORAL HEALTHCARE OF ELDERLY PATIENTS

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Objectives: To identify individual and professional challenges in working with elderly patients and to offer guidelines for increasing the efficiency and quality of dental care for the elderly. The number of elderly people is increasing every day. With the progress and development of dental care and awareness of oral health, patients keep their teeth longer, often for the rest of their lives. Physiological and pathological changes in the orofacial system caused by aging represent a significant challenge for the profession, but also for society. It is the peculiarities of the orofacial system of the elderly that make the standard approach to the treatment and reconstruction of masticatory function and aesthetics insufficient, even inadequate due to general health challenges and limitations, comorbidity, and numerous medications that patients use, and reduced mobility. As a result of the demographic changes, the need for the care of the elderly is increasing, with the elderly being one of the most demanding populations in dental medicine. Due to the impossibility of applying standard decision-making algorithms and the specific physiological changes and problems that occur in the mentioned population, focused clinical guidelines are necessary. The proposed system of plan and implementation of prosthetic therapy in the elderly includes 1. emergency care (dealing with acute inflammations); 2. maintenance of the existing condition and hygiene measures (cleaning of plaque and calculus, extractions of hopeless teeth, denture relining, plan for final prosthodontic therapy); 3. corrective therapy (temporary phase); 4 rehabilitation therapy (permanent phase); 5. maintenance phase. The steps in ensuring a better control of the oral health of the elderly include: 1. help of caregivers/care providers in regular maintenance of oral hygiene; 2. defining the schedule of regular visits to the dentist or arranged home visits for those with impaired mobility; 3. supervision of the elderly (checking the ability to maintain oral and hygiene of prosthodontic appliances, and checking difficulties when eating, chewing and swallowing); 4. measures to protect oral health, whereby the elderly should/should brush their teeth and/or prosthodontic appliances twice daily.

Keywords: Geriatric Dentistry; Dental Care; Elderly Patients; Dental Care Guidelines

HYALURONIC ACID - WHEN, HOW AND WHY IN PERIODONTOLOGY

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Nowadays, it is almost unimaginable to perform periodontal surgical procedures without the use of biomaterials. Over the decades, numerous biomaterials have found their place in dental medicine, and in the last few years, products of hyaluronic acid (HA) have also found their application in periodontology. Due to its favorable physicochemical and biological properties, HA is considered to play an important role in periodontal wound healing. It can be used in regenerative surgical procedures, in mucogingival surgery, and during non-surgical periodontal therapy. This lecture will show where HA can be used in periodontology, and with what success, how long are the follow-ups of procedures performed with HA, their predictability, and what can be expected when using HA as a new biomaterial in regenerative and mucogingival periodontal surgery. Also, the properties and characteristics of HA, the mechanism of action in wound healing, and the interaction with periodontal tissue cells will be explained. Finally, papers describing the regenerative potential of HA accompanied by histological evidence in animal models will be presented.

Keywords: Hyaluronic Acid; Periodontal Regeneration; Wound Healing

ORAL HEALTH AND HUMAN PAPILOMAVIRUS

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Human papilloma viruses (HPV) have a tropism for squamous epithelium and can be isolated from clinically healthy oral mucosa, can cause benign mucosal changes, and are also associated with the development of oropharyngeal carcinoma. The lecture will provide an overview of HPV-related oral changes and their treatment. The frequency of asymptomatic oral HPV infections varies among different age groups and differs depending on the site from which the sample is taken, the sampling method, and the HPV detection method. Although oral HPV infections are associated with sexual habits, recent evidence suggests horizontal transmission through saliva. Most HPV infections in children are transmitted vertically from the mother during the intrauterine period, during childbirth, or later through saliva. On the oral mucosa, the HPV virus can cause benign changes such as warts, papillomas, condylomas and focal epithelial hyperplasia. Treatment methods include cryotherapy, surgical or laser removal, the use of trichloroacetic acid, or the use of topical immune response modifiers. HPV is also associated with the development of oropharyngeal carcinoma, a subgroup of head and neck cancers, which show a better prognosis than non-HPV-related cancers. For the prevention of HPV infection, three available vaccines have been developed, which are recommended for people from 9 to 26 years of age, and for some up to 45 years of age.

Keywords: Human Papilloma Viruses; Oral Infections; Oropharyngeal Carcinoma; Prevention

ORAL HERPES SIMPLEX VS. HERPES ZOSTER INFECTIONS

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Herpes simplex virus (HSV) and varicella zoster virus (VZV) are human alpha herpesviruses that present tropism toward nerve and epidermal cells. There are two types of HSV: type 1 and type 2. HSV-1 most commonly causes herpetic lesions in the head and neck region, while HSV-2 most commonly causes infections in the genital region. However, due to unprotected oro-genital contacts, an increase in the number of cases of genital herpes caused by HSV-1 and oral herpes caused by HSV-2 has been noted, especially in young people. HSV and VZV cause primary infection followed by latent infection in the nervous system. After reactivation of the latent infection, skin and mucous membranes lesions may occur. In this presentation, the clinical manifestations of primary and reactivated latent infections caused by these viruses will be compared, as well as treatment guidelines and prevention of these infections.

Keywords: Herpes Simplex Virus; Herpes Zoster Virus; Oral Lesions

ORAL MUCOSAL TRAUMA AND INJURIES

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Trauma to the oral mucosa can cause a variety of lesions to the oral mucosa, which can be mechanical, chemical, or thermal in nature. The most common are acute mechanical injuries to the oral mucosa, whether caused by a bite, a toothbrush when brushing teeth

or the introduction of foreign bodies into the mouth. Mucosal injuries often occur when wearing movable prosthetic or orthodontic appliances. Acute mucosal injuries are accompanied by severe pain. Traumatic ulcerations epithelialize quickly within a few days after removal of the cause of the injury. Local therapy includes the use of antiseptics, corticosteroids and agents that stimulate epithelialization. Chemical injuries are caused by contact of the oral mucosa with a corrosive substance. The source of chemical injuries can be careless handling of the material during dental procedures. Thermal injuries are usually associated with the habit of smoking cigarettes.

Keywords: Mechanical Trauma; Traumatic Injuries; Chemical Injuries; Thermal Injuries

PATIENT WITH RECURRENT APHTHOUS STOMATITIS IN GENERAL DENTAL PRACTICE

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Recurrent aphthous stomatitis is autoimmune disease characterised with periodic occurrence of oral mucosal ulcerations. According to the literature the disease affects around 20% of the general population. The lecture will cover data on aetiology, pathogenesis, clinical presentation, diagnosis, differential diagnosis and treatment of recurrent aphthous stomatitis. Focus of the lecture will be on providing clear guidelines for general dentists on management and treatment of these patients.

Keywords: Recurrent Aphthous Stomatitis; Aphthae; Diagnosis; Differential Diagnosis; Treatment

CORTICOSTEROIDS APPLICATION IN ORAL MEDICINE

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Corticosteroids are adrenal cortex hormones that have numerous physiological and pharmacological functions. Due to their anti-inflammatory and immunosuppressive effects, they are one of the most useful drugs in pharmacotherapy in general. They have been used in clinical practice for more than 50 years in the treatment of a number of inflammatory and immune-mediated diseases and conditions. The use of corticosteroids in dentistry is widespread, especially in cases of autoimmune diseases with oral manifestations such as oral lichen planus (OLP), pemphigus vulgaris (PV), pemphigoid, systemic lupus erythematosus (SLE), but also traumatic ulcers, recurrent aphthous ulcers (RAU) and many other diseases and conditions. In dentistry, corticosteroids are most often applied as topical preparations in the form of ointments, gels, adhesive pastes, rinsing solutions, and mouth sprays. The systemic use of corticosteroids such as methylprednisolone and prednisone are mainly reserved for severe forms of the disease and those cases that are resistant to topical treatment. Topical application of corticosteroids rarely causes mild side effects such as oral candidiasis and mucosal atrophy, however, more serious ones, such as adrenal insufficiency, diabetes, osteoporosis, etc. occur more often with systemic application. Despite the mentioned side effects and caution when prescribing, the use of corticosteroids has significantly improved treatment protocols for various oral diseases and conditions and has become indispensable in everyday clinical practice.

Keywords: Adrenal Cortex Hormones; Oral Medicine; Administration, Topical; Systemic Application of Corticosteroids

BURNING MOUTH SYNDROME

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Burning mouth syndrome is a complex chronic pain disorder. It is characterized by the presence of burning sensation in the oral mucosa, which may often be accompanied by a change in taste and a dryness in the oral cavity but without clinically visible changes in the oral mucosa. The syndrome affects 1-3.7% of the population and is most common in menopausal and postmenopausal women. The development of the disorder is associated with local, systemic, neurological and psychological disturbances. The current therapeutic approach includes drug treatment as well as behavioural and alternative methods. To achieve the best possible outcomes, an interdisciplinary and systematic approach is required.

Keywords: Burning Mouth Syndrome; Cause; Pain

ONCOLOGICAL PATIENT IN THE DENTAL PRACTICESonja Pezelj-Ribaric^{1,2,3*}¹Faculty of Dental Medicine, University of Rijeka, Rijeka, Croatia²University Hospital Centre Rijeka, Rijeka, Croatia³Faculty of Dental Medicine and Health, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia

The dental treatment of oncology patients is carried out in three parts: dental treatment before the start of specific therapy, during therapy and after the end of therapy. To prevent complications, all patients with neoplasms should undergo a dental examination before starting specific therapy. The goals of the prevention program for patients with malignant processes are to improve oral function and quality of life, improve and maintain oral hygiene to reduce the risk and severity of oral complications, treat oral infections and prevent systemic infections of dental origin, prevent treatment and control oropharyngeal pain, prevent and control salivary gland dysfunction and dental damage, and prevent osteoradionecrosis.

Keywords: Oncological Patient; Dental Practice

PATIENT WITH DRY MOUTH- WHEN TO SUSPECT SJÖGREN'S SYNDROMEIvana Škrinjar^{1,2*}¹Department of Oral Medicine, School of Dental Medicine, University of Zagreb, Zagreb, Croatia²Clinical Department of Oral Diseases, Dental Clinic, University Hospital Centre Zagreb, Zagreb, Croatia

Objectives: Dry mouth (xerostomia) present the subjective feeling of dryness in the oral cavity. Objective lack of saliva is called hyposalivation. Normal salivary flow rate is 2-2.5 mL/min, and less than 1 mL/min is called hyposalivation. Patients complain of difficulty of swallowing, chewing and speaking and the tongue sticks to the palate. It is most often seen in older age as a consequences of aging and medication. It could also be side effect of radiation of the head and neck region. Sjögren syndrome is an autoimmune disease that is most commonly manifested by dry mouth and dry eyes. It is characterized by T lymphocytes which infiltrate exocrine glands. The diagnosis is made on the basis of several criteria including objective hyposalivation and histopathology of the minor salivary glands. Case report: This is a case of a patient complaining of dry mouth in which Sjögren's syndrome was suspected based on the subjective symptoms and objective findings. Conclusion: Doctors of dental medicine should be aware of Sjögren's syndrome and refer a patient to clinical immunologist in suspicious cases.

Keywords: Sjögren Syndrome; Dry Mouth; Hyposalivation

ORAL HEALTH CARE AND REHABILITATION OF CANCER PATIENTS - MISTAKES, OMISSIONS, COMPROMISESDanica Vidović Juras^{1,2*}, Bernard Janković³¹Department of Oral Medicine, School of Dental Medicine, University of Zagreb, Zagreb, Croatia²Clinical Department of Oral Diseases, Dental Clinic, University Hospital Centre Zagreb, Zagreb, Croatia³Department of Endodontics and Restorative Dentistry, School of Dental Medicine, University of Zagreb; Department of Dental Diseases, Dental Clinic, University Hospital Centre Zagreb, Zagreb, Croatia

A series of cases of oral and dental care of cancer patients was presented in a lecture. The importance of certain aspects of dental care for this group of patients is emphasized through clinical mistakes, omissions and compromises, described as follows. Dental care for oncology patients involves much more than the absence of periapical lesions and decay. Before a bone marrow or solid organ transplantation, it is crucial to examine the soft oral tissues, as missing the patient's oral cancer or an infection of the oral mucosa can be fatal. Absence of preventive measures in patients undergoing head and neck radiation leads to mucositis, post-radiation caries and/or possible osteonecrosis of the jaw, etc. Dentists should minimize the possibility of these side effects. Also, before dental management, special attention should be paid to patients on biological therapy. Comprehensive oral and dental care of cancer patients is a complex and demanding process. Quality oral health care and rehabilitation of these patients requires a multidisciplinary team in which each team member has specific responsibilities, and the entire team contributes to the patient's oral care. However, treatment should be organized under the guidance of an oral medicine specialist. The basis for this recommendation is the fact that the branch of dentistry that includes education and training for the oral management of systemic diseases, planning dental and oral preparation for cancer treatment, managing the consequences of this treatment during and after it, and monitoring and counselling patients after the completion of oncology therapy, is Oral Medicine.

Keywords: Dental Care Team; Oral Medicine; Cancer Patients; Drug, Biological;

PREPARING THE PATIENT FOR KIDNEY TRANSPLANTATIONBožana Lončar Brzak^{*}

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Objectives: Kidney transplantation is the last line of treatment for chronic kidney failure, which can occur due to various causes. Patients are usually on dialysis for years before transplantation, and there is enough time for dental treatment. Nevertheless, sometimes it happens that they come just before the transplantation, which affects the treatment decision. When planning dental treatment, it is necessary to consider the patient's general condition and plan the procedure with regard to the days on which dialysis is performed. The lecture will present a case report on the dental preparation of a patient for a kidney transplant. Case report: A man with a diagnosis of chronic renal failure was referred for dental treatment before a kidney transplant. After a clinical examination and an orthopantomogram, it was established that there are contraindications for the procedure. Tooth extraction was agreed upon, the day after dialysis. Conclusion: The goal of dental treatment is to exclude oral sources of infection and to establish a good level of oral hygiene, in order to avoid complications after transplantation. All invasive procedures should be completed at least three weeks before transplantation. It is necessary to instruct the patient on the importance of maintaining oral hygiene before and after the transplant procedure.

Keywords: Kidney Transplantation; Oral Health

A NEW APPROACH ON THE TREATMENT OF MEDICATION RELATED OSTEONECROSIS OF THE JAW

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Medication related osteonecrosis of the jaw (MRONJ) continues to represent a major challenge in treatment due to its unpredictability and the need for a standardized treatment protocol. MRONJ is associated with the use of antiresorptive and antiangiogenic drugs, which are primarily used in the treatment of malignant diseases. Given that oncology patients also use additional therapies such as chemotherapy, the treatment of the disease is initially empirical, and it is necessary in the beginning to control the disease and stop its progression. Treatment of the MRONJ includes surgical and conservative approaches, or their combination. Traditionally, the MRONJ is divided into 4 stages where therapeutic measures are proposed, however, we still have a low successful rate of treatment, especially in the lower jaw. This disease significantly impairs the quality of life of patients. In this lecture, we will talk about the new grading of the disease and the proposed treatment based on MRONJ national recommendations. The treatment of the MRONJ is complex and requires excellent multidisciplinary cooperation between doctors of dental medicine and oncologists.

Keywords: Osteonecrosis of the Jaw; Treatment; Prevention; Bone Disease; Malignancy

INFLUENCE OF VITAMINS, MINERALS AND HORMONES ON ESSENTIAL VITAL PROCESSES AND PATHOLOGICAL CONDITIONS OF DENTAL TISSUESValentina Brzović Rajić^{1*}, Domagoj Vražić², Joško Viskić³, Marko Vuletić⁴¹Department of Endodontics and Restorative Dentistry, School of Dental Medicine, University of Zagreb; Department of Dental Diseases, Dental Clinic, University Hospital Centre Zagreb, Zagreb, Croatia²Department of Periodontology, School of Dental Medicine, University of Zagreb; Department of Periodontology, Dental Clinic, University Hospital Centre Zagreb, Zagreb, Croatia³Department of Fixed Prosthodontics, School of Dental Medicine, University of Zagreb, Zagreb, Croatia⁴Department of Oral Surgery, School of Dental Medicine, University of Zagreb; Clinical Department of Oral Surgery, Dental Clinic, University Hospital Centre Zagreb, Zagreb, Croatia

Aim: The patient has multiple disorders that require a multidisciplinary approach to treatment because they have various pathogenic consequences. Because the patient is medically complex, standardizing therapeutic procedures involves many deviations and adjustments in all branches of dental medicine. The patient's autosomal dominant tubulointerstitial kidney disease has caused chronic renal insufficiency and osteoporosis. High levels of parathyroid hormone, low vitamin D, and excessive excretion of potassium and calcium are factors that can lead to tooth and mucous membrane damage and other pathological conditions. Clinical case: A 26-year-old patient is undergoing treatment for non-specific biochemical parameters that are causing accelerated bone matrix remodeling and calcium leaching from the bone. The treatment includes vitamin D and K, calcium replacement therapy, and other medications to address the primary disease. Clinical findings show

irreversible damage to the enamel and dentin, as well as inflammatory changes in the mucous membrane. After restorative procedures and endodontic therapy, the patient underwent non-surgical periodontal therapy with instructions to proper oral hygiene and maintenance, as part of the preparation for the corrective procedure of clinical crown lengthening in the upper frontal region. After completing the treatment, all four third molars were extracted and the patient was referred to a dental prosthodontics specialist for prosthodontic rehabilitation. The patient's diet and salivation were continuously monitored, and antibiotic prophylaxis was used during invasive procedures due to mitral valve prolapse. The patient was treated interdisciplinarily with constant endocrinological-diabetological internist supervision. Conclusion: Therapy for chronic disorders, whether hereditary or acquired, requires a multidisciplinary team and long-term rehabilitation beyond outpatient care.

Keywords: Chronic Renal Failure; Hypokalemia; Hypocalcemia; Hyperparathyroidism

ODONTOGENIC MYXOMA IN A PATIENT WITH HEMATOLOGICAL DISORDER - A CASE REPORT

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Odontogenic myxomas are rare benign tumors that originate from embryonic connective tissue of odontogenic origin. They are characterized by the presence of a myxoid stroma with variable collagenization and stellate or spindle-shaped cells. In the 5th edition of the World Health Organization classification, there are updates related to the activation of the MAPK/ERK pathway, whose inhibition may lead to an increased potential for tumor development. We described a 22-year-old female patient with an odontogenic myxoma of the mandible, who also suffers from idiopathic thrombocytopenic purpura and hypothyroidism as a result of Hashimoto's thyroiditis. She presented to the Department of Oral Surgery at the Clinic for Dentistry, Clinical Hospital Centre Zagreb, due to swelling in the symphysis area and mobility of the lower incisors. Radiological analysis revealed a multilobular radiolucent formation, and an incisional biopsy confirmed the diagnosis of odontogenic myxoma. Odontogenic myxomas are known for their recurrence and mainly affect the mandible, with the peak incidence occurring in the second to fourth decades of life and a predisposition for females. Clinical, radiological, and histopathological features should be considered when making the diagnosis. Some of these characteristics overlap with other benign and malignant tumors. The treatment plan should take into account the patient's age and gender, as well as the location and size of the lesion. Sometimes, reconstructive surgery may be necessary, but it should be delayed until appropriate monitoring is performed to exclude recurrences.

Keywords: Odontogenic Myxoma; Thrombocytopenia; Thyroiditis; Mandible; Neoplasm

THE CONNECTION OF HYPODONTIA WITH OTHER GENETIC SYNDROMES

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Hypodontia is defined as the agenesis of one or more teeth and is the most common dentofacial anomaly in humans. It can occur as an isolated anomaly, in combination with other dental anomalies and/or with general medical conditions. Today, the best accepted theory is that hypodontia occurs as a result of a complex interaction of external and genetic factors. External factors that can cause tooth agenesis are taking some drugs such as thalidomide and infection with the rubella virus during pregnancy. Also, the literature mentions smoking and drinking alcohol during pregnancy and chemotherapy and radiotherapy of children's tumors as possible causes of hypodontia. There are a large number of syndromes in which hypodontia occurs. Etiologically, anomalies of the number of teeth are divided into genetic and environmental, and each of these groups is divided into non-syndromic or isolated and syndromic disorders. Mutations in the AXIN2, MSX1, PAX9 and WNT10A genes that cause hypodontia are also associated with different types of neoplasms, which suggests the possibility that the hypodontia phenotype is an early indicator for later neoplasm development. Dentists play an important role in the early recognition of the syndrome due to the characteristic dental findings related to certain syndromes and are often the first doctors to diagnose the syndrome. Due to mandatory dental examinations of children, doctors of dental medicine are in an excellent position to be the first to diagnose an anomaly in the number of teeth and raise suspicions about the possible presence of a genetic disorder.

Keywords: Hypodontia; Children; Genetic Syndromes

IMPLANT-PROSTHETIC REHABILITATION OF HYPODONTIA OF THE SECOND UPPER INCISOR IN A PATIENT WITH CLEFT LIP AND PALATE

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Orofacial clefts are the most common malformation in the head and neck area and are often accompanied by hypodontia of the teeth, especially the lateral incisor. Patients with a cleft require long-term treatment and a multidisciplinary treatment approach that takes place in stages depending on the patient's age. When mesialization of canines is not possible with orthodontic therapy (10-50%), these patients are candidates for tertiary augmentation and implantoprosthodontic rehabilitation. This is done after the patient's seventeenth year, when growth and development are complete and there are stable and predictable interjaw relationships. The case of a patient with cleft lip and palate is presented. After completion of orthodontic therapy, augmentation with a composite graft was performed, after which it was provided with a dental implant and a prosthetic replacement.

Keywords: Cleft Lip; Cleft Palate; Bone Graft; Orthodontic Therapy; Dental Implants

HORIZONTAL ROOT-FRACTURE OF MAXILLARY INCISOR – A CASE REPORT

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Traumatic dental injuries most often affect the maxillary central incisors and their supporting tissue. Dental trauma is often the main reason for an emergency visit to the dental clinic. Horizontal root fractures in the permanent dentition have been reported to occur in approximately 7% of all traumatic dental injuries. Horizontal root fractures occur more frequently in the permanent dentition on teeth with closed root apices. Diagnosis of a root fracture is made by clinical and radiographic examination. Clinical examination includes assessment of mobility, presence or absence of tenderness and pain on soft tissue palpation, dental percussion, and pulp sensitivity testing. The prognosis of horizontal root fractures depends largely on the location of the fracture and the presence of combined damage to the pulp, cementum, dentin, and periodontal tissues. Follow-up of such cases includes continuous evaluation of the tissue repair process and the possible occurrence of adverse effects such as periapical lesions, internal or external resorption, and pulp calcification. This case report describes the successful treatment of a horizontal root fracture of a central maxillary incisor that remained vital in the apical segment. Endodontic treatment was performed up to the fracture line and both fragments healed on their own.

Keywords: Horizontal Root Fracture; Tooth Injuries; Healing

FREQUENCY AND RATIONALITY OF THE ANTIBIOTICS CONSUMPTION IN DENTAL PRACTICE OF MONTENEGRO

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Introduction: Bacterial resistance to antibiotics is one of the biggest threats to global health today. Irrational use of antibiotics accelerates this process. Montenegro was the European runner-up country in antibiotic consumption for 2011 year with the rate of 31.5 DDD/1000/day (daily doses of drug/1000 patients/daily). Also, the antibiotic consumption of 31.66 DDD/1000/day was registered in 2021. Aim: The aim of the present study was to determine the type of used antibiotics, its average daily dose, as well as the average therapy duration of different pathological conditions related to tooth, as well as to assess the rationality of antibiotics consumption in dental practice of Montenegro. Material and methods: The study was conducted at the Clinical Centre of Montenegro, Podgorica from January 2022. to July 2023. Data on patients' gender, age, diagnosis as well as the type and dosage of administered antibiotics and the therapy duration were obtained from dental files of the patients at the Department of Oral Surgery, Clinical Centre of Montenegro. Results: This study included 5000 adult patients without systemic disease and allergies (57% men and 43% women). The youngest patient was 18 and the oldest was 86, the average age was 39. In 748 cases (14.96%) antibiotics were used in the therapy of the following pathological conditions: abscessus, pericoronitis, radix gangraenosa and dens impactus. Antibiotics were used in the therapy of dentogenic abscess for 292 patients (39%), for 205 patients with gangrenous tooth root (27%), for pericoronitis

in 8% of cases (57 patients) and for the presence of the impacted tooth in 26% of cases (194 patients). Antibiotic was prescribed for 79% of the patients (231) after the extraction of tooth that caused dentogenic abscess and in only 21% of cases (61 patients) before tooth extraction (with a previous incision). Also, an antibiotic was prescribed in the case of pericoronitis before tooth extraction, while in the presence of a gangrenous tooth root or the presence of an impacted tooth, the antibiotic was administered after tooth extraction. Amoxicillin and amoxicillin+clavulanic acid were used in 75% of patients in the treatment of various pathological conditions in dentistry, and the average duration

of therapy was 5 days, regardless of the type of antibiotic and the method of drug administration. Conclusion: The use of antibiotics in dental practice requires, among other things, respect for the principle of rational use. Correct assessment and diagnosis of the pathological condition, along with adequate therapeutic approach, play a key role in reducing the unnecessary use of antibiotics, all with the aim of preserving the effectiveness of these drugs in the future.

Key words: Antibiotics; Penicillin; Rational Use.