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Planning of the fixed bridge denture in the area of the big and the small molars

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The aim of the work is to give the clinical results after restoration of a limited adentia partialis by means of a fixed bridge denture in the area of the big and the small molars. It is planned and constructed according the adopted rules.

The material for the reading of the clinical results is collected in the reading of the clinical results is collected in the private clinical practices from the 2002 to the 2008. Eight (8) patients have been examined (3 men and 5 women) at the age of 35 to 59. They have had at least one limited adentia partialis from 3 adjacent teeth in the area of the small and the big molars on one of the jaws. It has been restored with at least a 5- member bridge denture. With three (3) of the patients a fixed bridge denture has been made by means of a sagittal stabilization and with five (5) of the patients – an arc stabilization. The method is routine and includes the known clinical and laboratory stages for making of the metal ceramic bridge denture. The control examination is done on the third day, on the first month and annually.

Prognosis is favorable, when the fixed bridge dentures for restoration of a limited adentia partialis in the area of the big and the small molars is planning based on accepted rules, principles and scientific facts.

Key words: fixed bridge denture, planning

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Cortisol in Saliva - a Marker for Situational Anxiety Registered with Test “State-Trait Anxiety Inventory” (STAI) of Spielberger Adapted in Bulgaria

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Cortisol, known as a stress hormone, is linked to the influence of the stress on the oral and general physiology of man. The purpose of the study is the evaluation of salivary cortisol and situational anxiety of young people in stress environment. Materials and methods. State-Trait Anxiety Inventory (STAI) of Spielberger, adapted in Bulgaria, were applied to 30 people at average age $21,37 \pm 0,96$ (18 girls and 12 boys) and the cortisol in salivary samples was studied. The study was conducted in two stages: (1) first stage - before the test (in stress environment) – application of STAI (S-scale) and study of salivary cortisol; (2) second stage – 30 days after the test, in environment without an obvious stressor - application of STAI (S-scale and T-scale) and study of the salivary cortisol. ELISA Method with „Salivary cortisol KIT” of Salimetric_{LLC} – USA was used to identify the quantity of cortisol in the saliva. Results. STAI – test of Spielberger is a reliable physiological test for situational anxiety assessment, which greatly increases in stress environment. There is a correlation between the anxiety as a feature and reaction of the organism to stress situations. The cortisol increases substantially in stress situations and normalizes in relaxed environment which confirms its role as a stress hormone. The noninvasive method for salivary cortisol study combined with appropriate

psychological tests for anxiety can be used to evaluate the behavior and level of anxiety of children in stress.

Key words: cortisol, stress hormones, stress, situational anxiety, psychological test, non-invasive diagnostic, saliva.

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Patient's informed consent and its putting into dental practice

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Patient's informed consent is a legal regulation and moral principle, determined by a number of laws in Bulgarian and European legislation. Its essence represents patients' right to take part in the clinical decisions that are concerned to them. This means not to move the whole responsibility to the patient, but to take their relations as a therapeutical union in which each part has its rights and perimeter of responsibility.

The necessity of observing these rights, including freedom of movement right between the countries that are members of the European union and their equal opportunities to use quality health care in their origin country and in each accepting European country, aims to encourage the concrete putting into practice of these rights in all the countries of the EU. Besides the new confirming of these rights, there is a necessity of changing the attitude and the behavior of all kinds of specialists and healthcare institutions in their daily relationships with patients.

The inquiry, which is enclosed in, aims to analyze the extent of practical using of the informed consent in the daily practice of the general practicing doctors of dental medicine. The results should be connected with the statement that informed consent is a legal regulation and moral principle but takes a great part in the clinical plan of a great deal of the dental doctors as well.

Key words: patients' rights, informed consent, information

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Bacterial leakage in adhesive root canal sealers

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Fundamental problem in endodontic treatment is the complete sealing of root canals. Penetration of microorganisms between root canal walls and root canal sealers is main reason for endodontic failure .

The aim of this study is to compare the degree of apical microleakage of root canals, filled with adhesive root canal sealers and Gutta percha / AH 26 . The apical microleakage was tested using the bacterial leakage method with specific microorganisms which have main role for periapical diseases . Forty extracted single-root teeth, divided in four groups-2 experimental and 2 control. Each canal was instrumented using crown-down technique with K3 files. The experimental groups were obturated with lateral condensation. Teeth were incubated in 100 % humidity at 37° C for 3 weeks before the introduction of E. Faecalis. The bacterial leakage model was adapted from Khayat.

The results showed greater microleakage on the teeth filled with Gutta-percha /AH 26. There was statistically significant difference in the leakage between two obturation systems.

Conclusion: 1.The experimental groups showed bacterial leakage with statistically significant difference between them. 2. Greater and earlier microleakage of E. Faecalis was with Gutta-percha/AH 26.

Key words: bacterial leakage, Resilon, root canal filling

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Effectiveness of additional application of Tantum verde mouth rinse in the treatment of plaque-induced gingivitis

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Background: There is enough evidence of dental plaque's causal role in the development of gingival inflammation. Nowadays it is also known that host modulating factors determine in high extent the intensity of inflammatory reaction. With the persistence of bacterial load a variety of inflammatory mediators are released, including cytokines IL-1 β , TNF- α and PGE₂ which support the inflammation and stimulate the destruction of periodontal tissues.

The conventional periodontal therapy and control of plaque-associated gingivitis with professional debridement of hard deposits and bacterial biofilm and effective personal plaque removal are often successful. There is data showing that additional use of some pharmaceutical agents may modulate tissue-destructive host response to periodontal pathogens from bacterial plaque and may reduce the progression of gingivitis to periodontitis. Applied topically, NSAIDs can inhibit the synthesis of pro-inflammatory cytokines and prostaglandins which suggests more effective therapy of gingival inflammation.

Materials and methods: The additional topical application NSAID (**benzydamine**) (mouth rinse **Tantum verde**) in the treatment of plaque-associated gingivitis (25 patients) was compared to conventional therapy (25 patients) for 8 days in a clinical experiment. Evaluation was made with the following clinical measurements: HI, PBI and PD.

Results: The results demonstrate statistically significant reduction of all clinical parameters in both groups except the reduction of PD in the control group. The comparative analysis shows statistically significant differences in all clinical parameters reduction on the 8th day for test group (p<0,001).

Conclusion: This comparative study demonstrates that the treatment of plaque-associated gingivitis with Tantum-verde mouth rinse may produce a beneficial additional effect on the healing compared to conventional therapy.

Key words: pro-inflammatory mediators, conventional therapy, NSAIDs, bacterial biofilm, prostaglandins.

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Dental health in children with visual impairment

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The visually impairment children comprise part of the children population, requiring special care.

Aim: This survey aims at establishing the dental health status in such children in Sofia.

Materials and methods: The study has covered 140 children at the age of 5 to 18 years, attending “Luis Braille“ school in Sofia. The prevalence and type of caries pathology is being evaluated. Dental anomalies, dental maxillary deformities and anomalies, injuries of hard dental structure and soft tissues in the oral cavity have been investigated.

Results and discussion: High incidence of dental caries as well such as hypomineralization and as dental anomalies alteration of the shape and number of teeth have been found in large number of children. Traumas due to visual problems are also frequent. All DMDA are class II and III under Angle’s classification.

Conclusion: It has been established that dental caries frequency in children with visual problems is higher compared to the healthy controls. Initial caries lesions in the enamel, stage D1 and D2 are predominant, which necessitates timely implementation of preventive measures for these children. The D3 stage pit and fissure caries lesions are fewer in number.

Key words: children with visual impairment, DMFT, dental caries, dental anomalies.

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Assessment of oral-hygiene condition of first permanent molars in eruption

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Oral-hygiene status is measured by indices that assess the accumulation of plaque biofilm in oral and vestibular surfaces. During the eruption occlusal surface of the first permanent molars is below occlusal level for months. Lack of functional usage in addition to difficult access for tooth brushing and very retentive occlusal surface, especially in the first lower permanent molars, leads to increase plaque accumulation. Incomplete mineralization of the deep fissures, coupled with increased plaque distribution is the main reasons for the rapid development of the carious process during the stage of eruption. To get a real idea of the level of oral hygiene in this period the valuation only of vestibular and oral surfaces is not enough.

This study aims to compare the values of the standard oral-hygiene indices (Green-Vermillion, I. Silness, H. LÖe) with index, including an evaluation of the occlusal surface of permanent molars.

Results show the appropriateness of oral-hygiene indices, which include the evaluation of occlusal surface.

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Dental rehabilitation of *Bulimia nervosa*

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Bulimia nervosa is an eating disorder characterized by recurrent binge eating, followed by compensatory behaviors. It has serious psychological reasons and its onset is usually in adolescence. The increased amount of gastric acids (hyperacidity), the disorders in salivary secretion and the type of the food may cause typical oral disorders, such as dental erosions.

The aim of this publication is to represent my personal experience in diagnosing and dental treatment of a patient with *Bulimia nervosa* and multiple dental erosions.

The main purpose of treatment plan is to achieve a functional and aesthetic dental rehabilitation and to avoid further damages. Preliminary dental status, immediate aesthetic reconstructions with light-cured composite material and 4-years results are represented in several photos.

The role of dental practitioner is very important in finding patient's problems, consulting him with specialist and reconstructing the dentition according to the rules of function and aesthetics. Modern light-cured composite materials can be used successfully in dental erosion reconstructions and in restoring decreased vertical occlusal correlations.

Key words: dental erosion, bulimia nervosa, dental rehabilitation.

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Alopecia areata and dental focal disturbances connection – case report

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The association of alopecia areata and infectious foci of dental origin is relatively common and may be explained by the autoimmune nature of the disorder. Some inflammatory and bacterial disease (incl. chronic dental infection) may be involved in initiating Alopecia areata expression.

We describe a case report of alopecia areata with unknown cause, which was effectively resolved by eliminating of localized dental infection via endodontic treatment.

Key words: alopecia areata, focal disturbances, focal infection, oral cavity.

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** Private Dental Practice

Serum regulatory cells (T-regs.) in chronic oral infection

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CD4⁺CD25^{hi}Foxp3⁺ regulatory T-cells (T-regs.) are of crucial importance in regulating the immune response, including the control of any defense against infection. Their presence in periapical lesions and in periodontitis tissues has been demonstrated. The aim of this study was to investigate the levels of T-regs. in peripheral blood in patients with chronic odontogenic infection, before and after treatment. by flow cytometry. It has been determined that the intracellular expression of Foxp3 coincides in 95% with low surface expression of the CD127 receptor, which gave us the reason to use *CD4+CD25highCD127low* phenotype for our investigation. A significantly increased percentage of circulating T-regs. was established after focal infection treatment. These findings confirm the crucial role that the *CD4+CD25highCD127low* cells play in controlling systematic immune/inflammatory processes. We consider that major role in successful treatment outcome play the T-regs. by inhibiting T-cells proliferation, through stimulating production of IL-10 and restoring the immune balance.

Key words: regulatory T-cell, flow cytometry, chronic odontogen infection, systematic inflammation

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In vitro strips bleaching, containing 6.5% hydrogen peroxide (Four – year study)

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The effect and durability of bleaching with strips containing 6.5% hydrogen peroxide is studied within four-year observation and the achieved colour of treated in vitro teeth is assessed. The bleaching is performed twice daily for 30 minutes for 14 days in succession, according to the instructions of the company producer. The color of all teeth in the test groups is assessed before the start of the bleaching therapy, at the end of the first and second week of the conducted bleaching, at the 6th week, the 12th week, the 6th month, at the end of the first year and every 6 months till the end of 4th year since the start of the bleaching therapy. The assessment is done by a dentist at day light through the Vita Lumin color shade guide.

Results: It was found that the main changes in the teeth color are accomplished at the end of the second week of bleaching. A certain slight return to the initial, registered before the treatment color is observed at the end of the first week after bleaching, but these changes are not statistically significant. At the end of the 6th week the original teeth color was almost fully restored.

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Comparative in vitro study of the bleaching effect of 10% carbamide peroxide in the product Nite White applied for different time periods (Four- year results)

I.Dimitrova*

An in vitro comparative study is carried out to assess the color changes in the hard tooth tissues after treating with 10% carbamide peroxide in the product Nite White. The bleaching is done in two groups respectively: group 1- for 6 hours daily for 14 days, group 2 – 6 hours daily for 21 days. The color changes are assessed at the end of the first and second week of the bleaching treatment, the first week after termination of the bleaching treatment, at the end of the 1st month, at 6th week, 12th week, the 6th month, one year and every 6 months till the end of 4th year since the start of the bleaching therapy.

Distinct, visible changes in the color of the hard tooth tissues are found after the second week from the bleaching treatment for all teeth groups and these results are statistically significant. The results obtained for group 1 are statistically significant up to the first and half years against the initial color before bleaching. For group 2 the differences observed in the color are statistically significant up to the second and half years against the initial color before bleaching. Statistically significant differences in the color between the groups are reported on the 21st day of the bleaching. The obtained results are preserved for a period of 2.5 years in the second group as compared to 1.5 years for the first group.

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Diagnosis of masticatory muscular activities via BiteStrip of patients with bruxism

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The bruxism is parafunction, which is characterized with teeth clench and grinding. Very often bruxism leaves untreated and with the time the complications aggravates.

BiteStrip is objective in the diagnostics of bruxism during sleeping, as registers the muscular activity. It detects the existence and intensity of bruxism.

The aim of this study is show the diagnostics of bruxism via BiteStrip, which is very important for the further treatment plan.

Sixty patients were divided in two groups. First group was with 30 patients with orthognatic occlusion and no complaints. The second group was with 30 patients with the same occlusion, who had initial diagnose of bruxism and had pain in the masticatory muscles and in the TMJ. They were given BiteStrip for home use, to diagnose if the problem is caused by bruxism.

We registered significant differences in the results between the two groups. At the patients from group 1 BiteStrip showed no muscular activity. At the patients from the second group it detected bruxism in four different degrees in the following correlation: 1:3:6:5.

The result from this study demonstrated the efficiency of BiteStrip as very good way to diagnose objectively the bruxism and to help in the treatment of the patient.

Key words: bruxism; BiteStrip

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**Private Dental Practice

Clinical approach in endodontic treatment of maxillary incisor with internal and external root resorption.

A. Gusiyska*

Root resorption is the process of destruction of cementum and dentin through physiological or pathological activity of resorbing cells—dentoclasts, which can lead to tooth extraction. Inflammatory apical root resorption in the most of the cases is a result of periapical inflammation process. Wide internal root resorption after traumatic injury on teeth is a biological phenomenon which pathogenesis is still discussed. The aims of treatment of root resorption are to eliminate the causes of periapical inflammation and to inhibit the formation and activity of resorbing cells. If these entities can be controlled then healing can be expected to occur. Apical inflammatory root resorption can be associated with an additional clinical problem through the development of an ‘open apex’. In contemporary endodontic treatment are used biocompatibility materials in root canal treatment and materials which create conditions for exact canal sealing - from apical to coronal part.

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