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Reattachment of subgingivally fractured central incisor with an open apex

Eden E, Yanar SC, Sönmez Ş DENTAL TRAUMATOLOGY 23 (3): 184-189 JUNE 2007

A case report of a 6-year-old girl with a fractured maxillary left central incisor with an open apex is presented. The procedure used to repair the fracture included flap surgery with an intrasulcular incision and endodontic treatment. The patient was called for 3 months regular follow-up to check the root formation. At the end of 32 months just before the root was obturated by guttaperka, she fractured the same tooth. Flap surgery was repeated and the tooth was restored. The root canal was obturated with a root filling paste and guttaperka as the apex was closed. Examination 10 months after treatment revealed good periodontal health, aesthetics and normal function.

Tissue plasminogen activator and plasminogen activator inhibitor-1 gene polymorphisms in patients with chronic periodontitis

Gürkan A, Emingil Q, Saygan BH, Çınarcık S, Atilla Q, Köse T, Berdeli A JOURNAL OF PERIODONTOLOGY 78 (7): 1256-1263 JUL 2007

Background: Tissue plasminogen activator (t-PA) and plasminogen activator inhibitor type 1 (PAI-1) are involved in the pathogenesis of periodontitis by controlling proteolytic events in the extracellular matrix. This study was designed to investigate the association of t-PA and PAI-1 gene polymorphisms with chronic periodontitis (CP).

Methods: One hundred eighty-nine subjects were included. Genomic DNA was obtained from the peripheral blood of 84 patients with CP and 105 periodontally healthy subjects. Polymerase chain reaction and endonuclease digestion was used to genotype the 4G/5G polymorphism in the promoter region of the PAI-1 gene and the Alu-repeat insertion (I)/deletion (D) polymorphism in intron 8 of the t-PA gene.

Results: The genotype distributions and allele frequencies of t-PA polymorphism were not different between patients with CP and healthy subjects (24.7% I/I, 45.7% I/D, and 29.6% D/D and 30.3% I/I, 45.5% I/D, and 24.2% D/D, respectively; P>0.05). The t-PA D allele frequency was similar in patients with CP (52.4%) and healthy subjects (46.5%). PAI-1 genotype distribution in patients with CP (30.9% 4G/4G, 35.8% 4G/5G, and 33.3% 5G/5G) and healthy subjects (36.2% 4G/4G, 41.9% 4G/5G, and 21.9% 5G/5G) was also similar. The 4G allele frequency was not different between patients with CP (48.8%) and healthy subjects (57.1%) (P>0.05). The 4G allele frequency in non-smoking CP patients was significantly lower than in non-smoking, healthy subjects (chi(2) = 4.201; P=0.040). Non-smoking CP patients also had a significantly lower percentage of 4G-positive genotypes compared to non-smoking healthy subjects (chi(2) = 5.046; P=0.025).

Conclusions: t-PA or PAI-1 genotypes are not associated with susceptibility to CP in Turkish subjects. Conversely, the 4G allele of the PAI-1 gene could be related to a decreased susceptibility to CP in non-smokers.

Evaluation of the shear bond strength of 3 curing bracket bonding systems combined with an antibacterial adhesive

Bulut H, Türkün M, Türkün LS, Işıksal E AMERICAN JOURNAL OF ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS 132 (1): 77-83 JUL 2007

Introduction: The purpose of this in-vitro study was to investigate the shear/peel bond strength of metal brackets bonded to human enamel with differently cured bonded systems combined with an antibacterial adhesive component.

Methods: One hundred twenty extracted molars were divided into 3 groups. Stainless steel brackets were bonded with 1 of 3 systems: group 1, no-mix bonding adhesive (Unite, 3M Unitek, Monrovia, Calif) (n=40); group 2, 2-paste chemically cured bonding resin (Concise, 3M Unitek) (n=40); and group 3, light-cured adhesive (Transbond XT, 3M Unitek) (n=40). Each bonding group was separated into experimental (n=20) and control groups (n=20). In the 3 experimental groups, an antibacterial self-etch adhesive (Clearfil Protect Bond, Kurary, Osaka, Japan) was also applied to the enamel. Specimens in the control groups were bonded only with their relevant bonding systems according to the manufacturers' instructions. All specimens were stored in distilled water for 24 hours and thermocycled before testing. Debonded specimens were scored with the adhesive remnant index.

Results: The mean bond strengths (in megapascals) were 9.8 (control, 15.7) in group 1, 12.0 (control, 18.5) in group 2, and 11.6 (control, 12.4) in group 3. Statistical analysis with t tests showed no difference between group 3 and its control (P=.178), whereas groups 1 and 2 were statistically different from their controls (P=.000).

Conclusions: The results indicated that the newly developed antibacterial self-etch adhesive can be combined with various bonding systems; achieved bond strengths were clinically more than satisfactory.

TLR2 Arg753Gly, TLR4 Asp299Gly and Thr399Ile gene polymorphisms are not associated with chronic periodontitis in a Turkish population

Berdeli A, **Emingil Q**, **Han Saygan B**, **Gürkan A**, **Atilla Q**, Köse T, **Baylas H** JOURNAL OF CLINICAL PERIODONTOLOGY 34 (7): 551-557 JUL 2007

Aim: Toll-like receptor (TLR) gene polymorphisms could affect the host's ability to respond to microbial pathogens. In this case-control study, the association of TLR2 and TLR4 gene polymorphisms with chronic periodontitis (CP) was investigated.

Materials and Methods: Genomic DNA was obtained from the peripheral blood of 83 patients with CP and 106 periodontally healthy subjects. The TLR2 Arg753Gly, Arg677Trp and TLR4 Asp299Gly, Thr399Ile gene polymorphisms were genotyped by the polymerase chain reaction-restriction fragment length polymorphism method. The data were analysed by a chi2 test, logistic regression analysis and the Mann-Whitney U test.

Results: The 753Gln allele was found in 6.1% of the CP patients as compared with 6.6% in the control group (p>0.05). The frequency of the 299Gly and 399Ile allele was 2.4% and 1.8% in CP patients. For the healthy subjects, the frequency was 2.8% for the 299Gly and 2.5% for the 399Ile allele (p>0.05). None of the CP patients or healthy subjects showed homozygosity for the TLR2 and TLR4 alleles. Percentage of sites with bleeding on probing and plaque were significantly higher in 299Gly-positive patients compared with 299Gly-negative patients (p<0.05).

Conclusion: These results showed that the TLR2 and TLR4 gene polymorphisms studied are not associated with susceptibility to CP in Turkish patients.

Skeletal open bite correction with rapid molar intruder appliance in growing individuals

Çinsar A, Alagha AR, **Akyalçın S** THE ANGLE ORTHODONTIST 77 (4): 632-639 JUL 2007

Objective: To determine the dentofacial effects of a fixed functional appliance, the rapid molar intruder (RMI).

Materials and Methods: One control group (n=10) and two study groups (n=10 each) were formed. The first experimental group consisted of growing children in the mixed dentition period who received RMI therapy alone. The second experimental group consisted of growing children in the early permanent dentition period who received both RMI and fixed appliance (edgewise) therapy together. Mean changes for the measurements for each group were evaluated by the Wilcoxon signed rank test. Comparisons of the mean changes between the groups were made by the Kruskal-Wallis test.

Results: Open bite correction was achieved by counterclockwise rotation of the mandible as a consequence of redirecting growth in both treatment groups. The ANB angle decreased significantly (P<.05). Significant decreases were also noted for vertical skeletal characteristics in both treatment groups (P<.05). Molar intrusion was statistically significant for both maxillary and mandibular first molars (P<.05) in both treatment groups.

Conclusions: The RMI appliance provided effective bite closure and favorable dentofacial changes for nonsurgical open bite treatment in growing patients. It was concluded that this method could be regarded as a safe and noncompliance alternative for early intervention of skeletal open bite correction.

Heightened telescopic copings in cleft palate rehabilitation: a case report

Kurtulmuş H, Sayı T, Çötert HS THE CLEFT PALATE-CRANIOFACIAL JOURNAL 44 (4): 448-452 JUL 2007

Objective: To increase retention of overdentures in cleft palate patients by means of heightened telescopic copings with a newly designed attachment. In this study, a "precision attachment" is described to develop the stability and retention of telescopic overdentures.

Case: A cleft palate patient was treated with a newly designed overdenture. Intraoral examination revealed poor tooth structure and retention. Therefore, a new semiprecision attachment was designed in order to increase retention and stabilization.

Conclusion: The patient's tolerance was increased with the new overdenture.

Thirty-five percent carbamide peroxide application causes in vitro demineralization of enamel

Efeoğlu N, Wood DJ, **Efeoğlu C** DENTAL MATERIALS 23 (7): 900-904 JUL 2007

Objectives: The objective of this in vitro study was to investigate whether a high concentration 'in-office' bleaching agent affected the mineral content of enamel and dentin.

Methods: A commercially available 35% carbamide peroxide bleaching agent was applied for 2h to sectioned teeth (n=11). Specimens were then immersed in artificial saliva at 37 degrees C for a further 24h to simulate the oral environment. Tomographic images of these sections were obtained (micro-CT 80, Scanco, Switzerland) prior to and post-bleach application. Eight three-dimensional regions of interest (ROI), starting from the enamel surface extending to the dentinoenamel junction, were selected for each section. The hydroxyapatite equivalent mineral concentrations (g/cm(3)) of the ROIs were calculated. Any changes in mineral content as a consequence of the bleaching procedure were calculated in relation to each ROI.

Results: There was a significant reduction in the mineral content of enamel specimens post-bleach application extending to a depth of 250microm (paired t-test, p < 0.05); this reduction in mineral content was greatest in the ROI's closest to the tooth surface. There was, however, no significant difference in the mineral content of dentin as a consequence of bleaching.

Significance: This in vitro study has shown that significant demineralization of enamel occurred following bleaching with 35% carbamide peroxide. The concept that 'in-office' bleaching is a non-destructive cosmetic procedure should be reconsidered.

Ion implantation inhibits cell attachment to glassy polymeric carbon

Zimmerman R, Deliloğlu-Gürhan I, Özdal-Kurt F, **Şen BH**, Rodrigues M, Ila D NUCLEAR INSTRUMENTS AND METHODS IN PHYSICS RESEARCH B 261: 760-762 AUG 2007

Implantation of MeV gold, oxygen, carbon ions into GPC alters the surface topography of GPC and enhances the already strong tendency for cells to attach to GPC. We have shown that implantation of silver ions near the surface strongly inhibits cell growth on GPC. Both enhanced adhesion of and inhibition of cell growth are desirable improvements on cardiac implants that have long been successfully fabricated from biocompatible glassy polymeric carbon (GPC). In vitro biocompatibility tests have been carried out with model cell lines to demonstrate that ion beam assisted deposition (IBAD) of silver, as well as silver ion bombardment, can favorably influence the surface of GPC for biomedical applications.

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Enhanced biocompatibility of GPC by ion implantation and deposition

Zimmerman R, Gürhan I, Muntele C, Ila D, Rodrigues M, Özdal-Kurt F, **Şen BH** SURFACE &COATINGS TECHNOLOGY 201: 8020-8023 AUG 2007

Biocompatible Glassy Polymeric Carbon (GPC) is used for artificial heart valves and in other biomedical applications. Although it is ideally suited for implants in the blood stream, tissue that normally forms around the moving parts of a GPC heart valve sometimes loses adhesion and creates embolisms downstream. We have previously shown that oxygen ion implantation slightly enhances cell adhesion to GPC. Here we compare silver ion implantation and silver deposition, each of which strongly inhibits cell attachment on GPC. Inhibition of cell adhesion is the more desirable improvement to current GPC cardiac implants. In vitro biocompatibility tests have been carried out with model cell lines to demonstrate that traces of silver can favorably influence the surface of GPC for biomedical applications.

Differential expression of receptor activator of nuclear factor-kappaB ligand and osteoprotegerin mRNA in periodontal diseases

Bostanci N, **İlgenli T, Emingil G, Afacan B, Han B**, Töz H, Berdeli A, **Atilla G**, McKay IJ, Hughes FJ, Belibasakis GN JOURNAL OF PERIODONTAL RESEARCH 42 (4): 287-293 AUG 2007

Background and Objective: Receptor activator of nuclear factor-kappaB ligand (RANKL) is responsible for the induction of osteoclastogenesis and bone resorption, whereas its decoy receptor, osteoprotegerin, can directly block this action. Because this dyad of cytokines is crucial for regulating the bone remodelling process, imbalances in their expression may cause a switch from the physiological state to enhanced bone resorption or formation. This study investigated the mRNA expression of RANKL and osteoprotegerin, as well as their relative ratio, in the gingival tissues of patients with various forms of periodontal diseases.

Material and Methods: Gingival tissue was obtained from nine healthy subjects and 41 patients, who had gingivitis, chronic periodontitis, generalized aggressive periodontitis, and chronic periodontitis and were receiving immunosuppressant therapy. Quantitative real-time polymerase chain reaction was employed to evaluate the mRNA expression of RANKL and osteoprotegerin in these tissues.

Results: Compared with healthy individuals, patients in all periodontitis groups, but not those with gingivitis, exhibited stronger RANKL expression and a higher relative RANKL/osteoprotegerin ratio. In addition, osteoprotegerin expression was weaker in patients with chronic periodontitis. When patients with generalized aggressive periodontitis and chronic periodontitis were compared, the former exhibited stronger RANKL expression, whereas the latter exhibited weaker osteoprotegerin expression, and there was no difference in their relative ratio. When chronic periodontitis patients were compared with chronic periodontitis patients receiving immunosuppressant therapy, osteoprotegerin, but not RANKL, expression was stronger in the latter.

Conclusion: This study demonstrates that RANKL and osteoprotegerin expression are differentially regulated in various forms of periodontitis, and the relative RANKL/osteoprotegerin ratio appears to be indicative of disease occurrence. This information may confer diagnostic and therapeutic value in periodontitis.

Cell adhesion study of the titanium alloys exposed to glow discharge

Abidzina V, Deliloğlu-Gürhan I, Özdal-Kurt F, **Şen BH**, Tereshko I, Elkin I, Budak S, Muntele C, Ila D NUCLEAR INSTRUMENTS AND METHODS IN PHYSICS RESEARCH B 261: 624-626 AUG 2007

Titanium for biomedical application stems mainly from its advantageous bulk mechanical properties in combination with a high degree of biocompatibility that is largely attributable to their surface properties. This work is focused on the investigation of surface properties of treated titanium and cell adhesion to titanium treated in glow-discharge plasma.

Pure titanium samples (grade 4) were exposed to low-energy ion irradiation in a specially constructed plasma generator, where materials were irradiated by ions of residual gases in vacuum. The ion energy was 1-10 keV. The irradiation dose was maintained at 10(17) ions cm(-2). The irradiation time varied from 5 to 60 min.

Rutherford backscattering spectrometry (RBS) was used for surface studies. RBS showed the presence of iron on the titanium surface that occurred from the cathode of plasma generator.

In vitro biocompatibility test have been carried out with model cell lines (L929 mouse fibroblasts) to demonstrate that low-energy ion irradiation can favorably influence the surface of titanium for biomedical application. Scanning electron microscopy (SEM) was the main tool to demonstrate the cell attachment properties.

Profile changes of patients treated with and without premolar extractions

Erdinç AE, Nanda RS, Dandajena TC AMERICAN JOURNAL OF ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS 132 (3): 324-331 SEP 2007

Introduction: In this study, we evaluated and compared treatment effects and long-term soft-tissue profile changes in patients treated with extraction of 4 first premolars and with a nonextraction protocol.

Methods: Cephalometric records of 98 patients were evaluated. For half (n = 49) of the patients, treatment included the extraction of 4 first premolars; the other 49 patients had no premolar extractions. The groups were evaluated before treatment (T1), at the end of treatment (T2), and at least 4 years postretention (T3).

Results: At T1, the extraction group had more protrusive lower lips than the nonextraction group, as measured by the Z-angle. At T2, the Z-angles had improved in both groups and were not significantly different. During treatment, upper lip vermilion and superior thicknesses increased, whereas lower lip vermilion thickness decreased in both groups. Except for lower lip inferior thickness, which increased significantly in the nonextraction group, no other soft-tissue differences were significant. Significant growth of the nose occurred during from T1 to T2 in both groups, and there was a tendency for the incisors in both groups to return to pretreatment values. The nose also continued to grow during that period.

Conclusions: Overall, the soft-tissue facial profile measurements for both extraction and nonextraction samples were similar at T3, and there were no clinically significant correlations between hard- and soft-tissue variables at T1, T2, and T3.

Extraction versus non-extraction: evaluation by digital subtraction radiography

Akyalçın S, Hazar S, Güneri P, Gögüs S, Erdinç AM EUROPEAN JOURNAL OF ORTHODONTICS 29 (6): 639-647 SEP 2007

The aim of this study was to investigate the facial profile changes of patients treated with and without extractions of four first premolars using novel computer-based digital subtraction software. The pre- and post-treatment radiographic image pairs of 25 extraction (13 girls and 12 boys, mean age = 12.64 ± 1.82 years) and 24 non-extraction (12 girls and 12 boys, mean age = 12.48 ± 1.66 years) Class I patients were subtracted by the software. Student's t-tests were used to determine whether the subtraction values for the linear measurements of radiographic differences registered at various anatomical landmark parameters were statistically different between the groups. To further determine whether any variables related to upper and lower lip changes, regression analyses were performed. The main soft tissue differences between the groups were established at labrale superior, labrale inferior, and sulcus inferior points, with extraction patients showing significantly more retruded upper and lower lips. However, the mean differences between the groups did not exceed 1 mm for these variables. Changes at labrale superior and labrale inferior were associated with sagittal movement of the maxillary (r=0.549) and mandibular (r=0.630) incisor midpoints. Changes at sulcus inferior were associated with both sagittal and vertical displacement of mandibular incision point (r=0.676). Some dentofacial alterations were found but in view of the differences between the groups pretreatment, the inter-group differences reflect different treatment intent rather than differences arising from the extraction and non-extraction modalities.

Seven-year clinical follow-up study of Probond ceramic crowns

Güngör MA, Artunç C, Dündar M QUINTESSENCE INTERNATIONAL 38 (8): 456-463 SEP 2007

Objective: The Probond metal-ceramic system was proposed as an alternative to conventional metalceramic restorations. This study examined the 7-year survival and clinical performance of Probond metalceramic crowns.

Method and Materials: A total of 200 patients were included in the study. All subjects required single-unit fixed prosthodontics in various areas of the mouth. The patients without any active periodontal or pulpal diseases, having adequate tooth structure and good oral hygiene, were included in the study, while patients with parafunctional habits were excluded. Overall clinical performance over 7 years was determined by using modified USPHS criteria and evaluated with Kaplan-Meier survival analysis.

Results: Seven failures were recorded among the 260 crowns placed. In the 4th year, 2 Probond crowns had minimal incisal fractures, and 1 restoration had a cervical fracture in the 2nd year. After 7 years, 2 Probond crowns were replaced with new Probond crowns as a result of fracture or trauma. Two restorations lost their occlusal contact integrity due to marginal ridge fractures. The formation of cracks and fractures as well as caries were significant (P<.05) at the 4- and 7-year recalls. Overall survival rates for marginal integrity, color stability, caries and crack formations, and occlusal integrity were 90.7%, 98.1%, 98.1%, 95.4%, and 99%, respectively, at 7 years.

Conclusion: The durability of Probond ceramic crown restorations proved to be successful after 7 years.

Comparison of conventional and digital radiography for radiometric differentiation of dental cements

Baksi BQ, Ermiş RB QUINTESSENCE INTERNATIONAL 38 (9): 532-536 OCT 2007

Objective: To test the efficacy of conventional radiometry with indirect digital image analysis in the assessment of the relative radiopacity of dental cements used as liners or bases compared to human enamel and dentin.

Method and Materials: Disks of 15 different dental cements, 5 mm in diameter and 2 mm thick, were exposed to radiation together with 2-mm-thick disks of enamel and dentin and an aluminum step wedge. Density was evaluated by digital transmission densitometry and with the histogram function of an image analysis program following digitization of the radiographs with a flatbed scanner.

Results: A higher number of dental cements were discriminated from both dentin and enamel with conventional radiographic densitometer. All the cements examined, except Ionoseal (Voco) and Ionobond (Voco), were more radiopaque than dentin. With both methods, Chelon-Silver (3M ESPE) had the highest radiopacity and glass-ionomer cements the lowest.

Conclusion: Radiodensity of dental cements can be differentiated with a high probability with the conventional radiometric method.

Toll-like receptor 2 and 4 gene polymorphisms in generalized aggressive periodontitis

Emingil Q, Berdeli A, Baylas H, Saygan BH, Gürkan A, Köse T, Atilla Q JOURNAL OF PERIODONTOLOGY 78 (10): 1968-1977 OCT 2007

Background: Toll-like receptors (TLRs) recognize exogenous ligands such as lipopolysaccharide and bacterial lipoprotein during the immune responses to pathogens. The aim of the present study was to investigate whether TLR2 and TLR4 gene polymorphisms are related to susceptibility to generalized aggressive periodontitis (GAgP).

Methods: A total of 245 subjects were included in the present study. Genomic DNA was obtained from the peripheral blood of 90 patients with GAgP and 155 periodontally healthy subjects. Probing depth, clinical attachment loss, plaque accumulation, and bleeding on probing were recorded. The TLR2 gene Arg753Gln and Arg677Trp polymorphisms and TLR4 gene Asp299Gly and Thr399Ile polymorphisms were genotyped by the polymerase chain reaction-restriction fragment length polymorphism method. The data were analyzed by chi2 and Mann-Whitney U tests and logistic regression analysis.

Results: There was no significant difference in the distribution of TLR2 and TLR4 genotypes and allele frequencies between GAgP patients and healthy subjects (P>0.05). The TLR2 753Gln allele was found in 3.9% of the GAgP patients compared to 6.1% in the healthy group. The GAgP patients and healthy subjects did not show homozygosity for the TLR2 mutant alleles. The TLR2 677Trp mutant allele was not found in any of the subjects; 2.2% of the GAgP patients and 2.9% of the periodontally healthy subjects were identified as having the TLR4 299Gly polymorphic allele. With regard to the TLR4 399Ile polymorphic allele, 1.1% of the GAgP patients and 2.3% of the periodontally healthy subjects had this allele.

Conclusions: The present study failed to find any significant association between the TLR polymorphisms and GAgP, potentially because of the small sample size. To the best of our knowledge, this was the first study to examine the prevalence of these polymorphisms in a Turkish population with aggressive periodontitis.

Human beta defensin-1 and -2 expression in the gingiva of patients with specific periodontal diseases

Vardar Şengül S, Demirci T, Şen BH, Erkizan V, Kurulgan E, Baylas H JOURNAL OF PERIODONTAL RESEARCH 42 (5): 429-437 OCT 2007

Background and Objective: beta defensin antimicrobial peptides are important in epithelial innate immunity, and their differential expression is associated with periodontal diseases. The aims of this study were to determine the mRNA expression of human beta defensin-1 and -2 in the gingival tissue of patients with gingivitis, aggressive periodontitis and chronic periodontitis, and to evaluate the relationship between defensin expression and type and/or severity of periodontal destruction.

Material and Methods: Fifteen patients in each group with gingivitis, aggressive periodontitis and chronic periodontitis, and 10 healthy subjects, were included in the study (n=55). The periodontal status of the subjects was determined by periodontal clinical measurements and radiographical evaluations. Transcriptional levels of human beta defensin-1 and -2 genes in gingival samples were assessed by using the quantitative real-time polymerase chain reaction technique, and the data were evaluated statistically by the relative expression Software Tool 2 for groupwise comparisons.

Results: Expression of the human beta defensin-1 gene was lower in gingivitis and aggressive periodontitis groups, and significantly higher in the chronic periodontitis group, than in the control group (p<0.001). Human beta defensin-2 mRNA expression in the gingivitis group was lower than in the control group; however, the difference was statistically significant only in half of the gingivitis patients (p<0.001). Human beta defensin-2 mRNA levels were higher in some chronic periodontitis patients, but lower in the others when compared with the control group (p<0.001). Expression of the human beta defensin-2 gene increased in the aggressive periodontitis group relative to the control group.

Conclusion: This study suggests that human beta defensin-1 and -2 genes in the gingival epithelium show differential expression in patients with specific periodontal diseases, and aggressive and chronic periodontitis types demonstrate different gingival beta defensin-1 and -2 expression patterns.

Clinical evaluation of three desensitizing agents in relieving dentin hypersensitivity

Pamir T, Dalgar H, Önal B OPERATIVE DENTISTRY 32 (6): 544-548 NOV-DEC 2007

Objectives: This in vivo study determined whether the application of three different desensitizing agents on exposed dentin surfaces was effective in reducing dentin hypersensitivity in subjects with slight-to-moderate sensitivity.

Methods: Sixty patients with a history of sensitivity were included in this study. At baseline visit, the initial sensitivity levels were recorded using a visual analog scale (VAS). In order to activate the sensitivity, evaporative (air-blast) and thermal (chloraethyl) stimuli were applied to each subject. The subjects' responses to the stimuli were marked on the VAS. Then, the subjects were assigned to one of the treatment groups or to a placebo. The agents used were Seal&Protect (Dentsply DeTrey GmbH, Konstanz, Germany), Vivasens (Ivoclar Vivadent AG, Schaan, Liechtenstein) and BisBlock (BISCO, Schaumburg, IL, USA); whereas, distilled water was used as the placebo. The subjects were recalled after four weeks, and their responses were again recorded.

Results: The VAS scores of the treatment and placebo groups were not different from each other at baseline (p > 0.05), and thermal stimuli caused higher patient discomfort than evaporative stimuli (p<0.05). Alleviation effects of the desensitizing agents were not significantly different from each other; however, the placebo was an exception (p < 0.05). The differences between the VAS scores at baseline and after four weeks were significant for all three desensitizing agents (p<0.05). However, in the placebo group, the evaporative stimuli led to insignificant pain variations (p>0.05).

Conclusion: It was concluded that the desensitizing agents used in this clinical study were effective in alleviating dentin hypersensitivity. Meanwhile, the placebo response was shown to play a significant role.

The correlation between serum immunoglobulin A and immunoglobulin G levels and the presence of Treponema denticola in human periapical lesions

Çoğulu D, **Önçağ Ö**, Kütükçüler N, Uzel A, **Eronat C** JOURNAL OF ENDODONTICS 33 (12): 1413-1416 DEC 2007

The aim of this study was to compare the serum immunoglobulin A (IgA) and immunoglobulin G (IgG) levels and the presence of Treponema denticola in the root canals in a group of teeth with/without periapical lesion. A total of 66 children aged 8 to 13 years old were involved in this study. Five milliliters of blood samples were taken to detect the serum IgA and IgG levels. Sixty-six endodontic samplings were also obtained to determine the presence of T. denticola by polymerase chain reaction. The presence of T. denticola between the groups with/without periapical lesion was statistically significant (p=0.026). A significant negative correlation was found between serum IgG and IgA levels and the presence of T. denticola in the root canals is mainly related to the periapical lesions, and the higher levels of serum IgG and IgA levels may protect against T. denticola.

Matrix metalloproteinase-2, -9, and -12 gene polymorphisms in generalized aggressive periodontitis

Gürkan A, Emingil Q, Saygan BH, Atilla Q, Çınarcık S, Köse T, Berdeli A JOURNAL OF PERIODONTOLOGY 78 (12): 2338-2347 DEC 2007

Background: Matrix metalloproteinases (MMPs) are involved in periodontal tissue remodeling and degradation. Polymorphisms in the promoter region of the MMP-2 and -9 genes and in the coding region of the MMP-12 gene could affect transcription and the function of these enzymes. The aim of the present study was to determine the association between the aforementioned MMP polymorphisms and generalized aggressive periodontitis (GAgP).

Methods: Genomic DNA was obtained from the peripheral blood of 92 subjects with GAgP and 157 periodontally healthy subjects. MMP-2 -735C/T, MMP-9 -1562C/T, and MMP-12 357Asn/Ser polymorphisms were genotyped by polymerase chain reaction and restriction fragment length polymorphism. Probing depth, clinical attachment loss, supragingival plaque accumulation, and bleeding on probing were recorded. The data were analyzed by chi(2), logistic regression, and Mann-Whitney U tests.

Results: The genotype distributions, allele frequencies, and rare allele carriage of MMP-2 and MMP-12 genes were similar in GAgP and healthy subjects (P>0.05). T allele frequency and T allele carriage of the MMP-9 -1562 C/T polymorphism were significantly lower in the GAgP group than in the healthy group (P<0.05). In addition, logistic regression analysis revealed a protective effect for MMP-9 -1562 T allele carriers (odds ratio = 0.52; P=0.04).

Conclusion: MMP-2 -735C/T and MMP-12 357Asn/Ser polymorphisms are not related to GAgP. Conversely, the MMP-9 -1562 gene T allele might be associated with a decreased risk for GAgP in the Turkish population.

Efficacy of a new software in eliminating the angulation errors in digital subtraction radiography

Güneri P, Göğüş S, Tuğsel Z, Boyacioğlu H DENTO MAXILLO FACIAL RADIOLOGY 36 (8): 484-489 DEC 2007

Objectives: To evaluate the efficacy of a new software developed for digital subtraction radiography at tolerating the vertical and horizontal angulation changes between the X-ray source and object.

Methods: The right first molar of a preserved dry mandible was imaged with 0 degrees vertical and 0 degrees horizontal tube angulation. Then, the vertical angle was changed to +10 degrees, -10 degrees, +15 degrees and -15 degrees, and the same tooth was radiographed in each condition, accordingly. The same procedure was performed with 5 degrees horizontal angular modifications in both mesial and distal directions. All radiographs were automatically developed and were digitized with 600 dots per inch (dpi) spatial resolution. New software and Emago were used to subtract the images with angulation alterations from the original image, and a total of 20 subtracted images were obtained. Ten experienced specialists evaluated the images and rated the efficacy of the programs. Data were analysed statistically and alpha was accepted as 0.05.

Results: The total score of the new software was 190 and that of Emago was 117 for vertical angular alterations, whereas the scores were 51 and 21, respectively, for horizontal angular alterations. The differences between the overall scores of the softwares were statistically significant (P<0.05). Overall evaluation revealed that the new software was rated with higher scores for subtracted images obtained with both vertical and horizontal angular alterations.

Conclusions: Both programs managed to tolerate vertical angulation alterations up to 10 degrees and horizontal angulation changes up to 5 degrees ; however, the new program performed better than Emago.

Perceptibility curve test for digital radiographs before and after application of various image processing algorithms

Alpöz E, Soğur E, Baksı Akdeniz BQ DENTO MAXILLO FACIAL RADIOLOGY 36 (8): 490-494 DEC 2007

Objectives: The aim of the present study was to compare digital radiographs before and after the application of various digital image enhancement methods by means of a perceptibility curve (PC) test.

Methods: Radiographs of an aluminium test object containing holes with sizes ranging from 0.5 mm to 1.5 mm were exposed at nine time settings, ranging from 0.05 s to 3.2 s using Digora (Soredex, Helsinki, Finland) storage phosphor system. Original digital images were then enhanced and displayed in colour-coded, contrast- and brightness-enhanced, histogram-equalized and negative modes. Thus, five series of images were created. Eight observers independently evaluated all of the images in the same random order and under the same viewing conditions. The object detail with the lowest perceptible contrast was recorded for each observer and each image type. Modified PCs were plotted according to the mean observer data. Repeated-measures ANOVA was used to compare the PCs and the perceptible number of details in original and enhanced images for each exposure (P=0.05). The Bonferroni/Dunn test was used to identify statistical differences among the groups.

Results: Histogram equalization showed the maximum number of perceptible details in both the lowest optimal exposure time and the widest exposure range (P<0.05). Significant differences were present in low and middle exposure ranges of images enhanced with various modalities (P<0.05), while no difference was obtained among the number of details for different enhancements in the high exposure range (P<0.05).

Conclusion: Histogram-equalization enhancement of Digora images demonstrated subjectively superior image quality, followed by contrast and brightness enhancement.

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TEMPOROMANDİBULAR DÜZENSİZLİKLER (TMD) TEMEL KAVRAM ve GÖRÜŞLER

Doç. Dr. Ahmet SARAÇOĞLU (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.) Prof. Dr. Berran ÖZTÜRK (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.)

- Çiğneme sistemi ve ögeleri
- Fonksiyonel anatomi
- Temporomandibular eklem ve kas muayenesi
- Çene hareketleri
- Çiğneme sisteminin fonksiyonel hareketleri
- Okluzyon
- Alt üst çenelerin birbirine göre konumları
- Çene hareketleri sırasında okluzal ilişkiler
- Diş dizilerinin morfolojisi
- Okluzal morfolojinin belirleyicileri
- Hanau'nun artikülasyon yasaları
- Okluzal yüzeylerin morfolojisi ve okluzal ilişkiler



- 62 sayfa
- Renkli baskı
- > 67 açıklamalı resim
- 85 gr. 1. hamur kağıt
 Bristol kapak, renkli
- I6x24 cm boyutlarında

İsteme Adresi: Ege Üniversitesi Dişhekimliği Fakültesi 35100 Bornova-İZMİR

DİŞ ANATOMİSİ VE DİŞ YONTMA TEKNİĞİ

Doç. Dr. Cenk CURA (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.)

- Dişin bölümleri
- Dişin dokuları
- Diş formülleri
- Dişlerin gelişimi
- Süt dişleri
- Dişlerin boyutları
- Morfolojik terimler
- Kalıcı maksiller santral diş (üst 1. kesici diş)
- Kalıcı maksiller lateral diş (üst 2. kesici diş)
- Kalıcı mandibular santral diş (alt 1. kesici diş)
- Kalıcı mandibular lateral diş (alt 2. kesici diş)
- Kalıcı maksiller kanin diş (üst köpek dişi)
- Kalıcı mandibular kanin diş (alt köpek dişi)
- Kalıcı maksiller 1. premolar diş (üst 1. küçükazı dişi)
- Kalıcı maksiller 2. premolar diş (üst 2. küçükazı dişi)
- Kalıcı mandibular 1. premolar diş (alt 1. küçükazı dişi)
- Kalıcı mandibular 2. premolar diş (alt 2. küçükazı dişi)
- Kalıcı maksiller 1. molar diş (üst 1. büyükazı dişi)
- Kalıcı maksiller 2. molar diş (üst 2. büyükazı dişi)
- Kalıcı mandibular 1. molar diş (alt 1. büyükazı dişi)
- Kalıcı mandibular 2. molar diş (alt 2. büyükazı dişi)
- Kalıcı maksiller 3. molar diş (üst 3. büyükazı dişi)
- Kalıcı mandibular 3. molar diş (alt 3. büyükazı dişi)
- Model dişin yontularak biçimlendirilmesi
- Diş çizimleri

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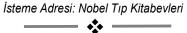
- 245 sayfa
- Renkli baski
- 150 açıklamalı resim
- 135 gr. 1. mat kuşe kağıt
- Kuşe kapak, renkli
- 16x24 cm boyutlarında

İsteme Adresi: Ege Üniversitesi Dişhekimliği Fakültesi 35100 Bornova-İZMİR

ENDODONTIDE TANI VE TEDAVILER

Prof. Dr. M. Kemal ÇALIŞKAN (E.Ü. Dişhek. Fak. Diş Hastalıkları ve Tedavisi A.D.)

- Endodontik tanı semiyoloji
- Dentin hastalıklarının pulpaya etkisi ve vital endodontik tedaviler
- Pulpa hastalıkları
- Periapikal hastalıklar
- Endodontik mikrobiyoloji
- Diş rezorbsiyonları
- Endodontik periapikal ilişkiler
- Kron ve kök pulpa anatomisi ve giriş kaviteleri
- Kök kanal tedavisine hazırlık
- Kök kanal aletleri ve kanal genişletme yöntemleri
- Endodontik materyallerin biyouyumluluğunu ve kök kanallarının irigasyonu
- Smear tabakasının apikal ve koroner sızıntıdaki rolü
- Kök kanal tedavisinde kanal içi medikasyon
- Kök kanal patları
- Kök kanal dolgu yöntemleri
- Endodontik tedavi sonrası restorasyon
- Kanal tedavisi sonrası iyileşme
- Kanal tedavisinin başarısını etkileyen faktörler
- Endodontik tedavilerde başarısızlıklar ve çözümleri
- Kanal tedavisinin yenilenmesi
- Tarvmatik diş yaralanmaları ve tedavileri
- Kök kırıkları
- Periodontal doku yaralanmaları
- Alveol kemiğinin ve gelişmekte olan dişlerin yaralanmaları
- Kök gelişimini tamamlamış sürekli dişlere uygulanan tedavi yöntemleri
- Endodontik cerrahi tedavi
- Süt dişlerinde endodontik tedaviler
- Endodontik beyazlatma



İŞLEVSEL OKLÜZAL MORFOLOJİ OLUŞTURMA YÖNTEMLERİ

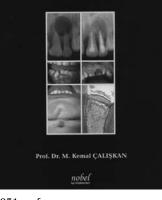
Doç. Dr. Gökhan AKSOY (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.)

- İşlevsel oklüzal morfolojiye giriş
- İşlevsel oklüzal morfoloji oluşturma yöntemleri
- Oklüzal yüzeyin morfolojisi
- İşlevsel oklüzal morfoloji oluşturma yöntemleri ile diğer modelaj yöntemlerinin kıyaslaması
- İşlevsel oklüzal morfoloji oluşturma yöntemlerinde kullanılan gereçler
- İşlevsel oklüzal morfoloji oluşturma yöntemleriyle modelajda alınması gereken önlemler
- İşlevsel oklüzal morfoloji oluşturma uygulamalarındaki analizler
- · İşlevsel oklüzal morfoloji oluşturma yöntemlerinde ön işlemler
- İşlevsel oklüzal morfoloji oluşturmada modelaj

İsteme Adresi: Ege Üniversitesi Dişhekimliği Fakültesi 35100 Bornova – İZMİR







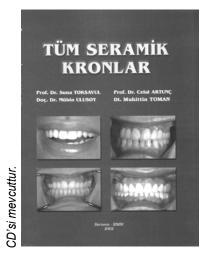
- > 831 sayfa
- Renkli baskı
- 712 açıklamalı renkli resim ve şekil
- 90 gr. parlak kuşe kağıt
- Mukavva cilt, kapak
- 20x28 cm boyutlarında

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TÜM SERAMİK KRONLAR

Prof. Dr. Suna TOKSAVUL (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.)
Prof. Dr. Celal ARTUNÇ (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.)
Doç. Dr. Mübin ULUSOY (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.)
Dt. Muhittin TOMAN (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.)

- Tüm seramik kronların tarihçesi
- Tüm seramik kronlar hakkında genel bilgi
- IPS-Empress-2 sistemi
- Rengin belirlenmesi
- Diş kesimi
- Ölçü
- Geçici kron yapımı
- Kronun hasta ağzına uyumlandırılması
- Simantasyon
- Klinik uygulamalar



- ➢ 90 sayfa
- Renkli baskı
- > 148 açıklamalı renkli resim ve şekil
- 135 gr. Mat kuşe kağıt
- Bez cilt
- 20x28 cm boyutlarında

İsteme Adresi: Quintessence Elektrokent A Blok 11. Kat 80270 Şişli - İSTANBUL

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BÖLÜMLÜ PROTEZLER

Prof. Dr. Suna TOKSAVUL (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.) *Prof. Dr. Gökhan YILMAZ* (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.)

- Protrezin tanımı ve çeşitleri
- Protez öncesi ağız hazırlığı
- Bölümlü protezlerde ölçü
- İskelet protezin elemanları
- Üst ve alt ana bağlayıcılar
- Kroşeler
- İndirekt tutucular
- Bölümlü protezlerde stabilite
- Tırnaklar
- İskelet protezlerde endikasyon ve planlama
- Metal iskelet yapımı
- Bölümlü protezlerde diş dizimi
- Bitmiş protezlerin ağızda kontrolü



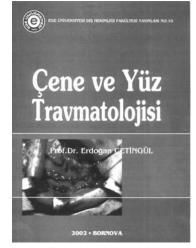
- ➢ 155 sayfa
- Siyah-beyaz baskı
- > 152 açıklamalı renkli resim ve şekil
- 80 gr. I. hamur kağıt
- Bristol kapak, renkli
- > 20x28 cm boyutlarında

İsteme Adresi: Ege Üniversitesi Dişhekimliği Fakültesi 35100 Bornova - İZMİR

ÇENE ve YÜZ TRAVMATOLOJİ

Prof. Dr. Erdoğan ÇETİNGÜL (E.Ü. Dişhek. Fak. Ağız Diş ve Çene Hsatalıkları Cerrahisi A.D.)

- Anatomi
- Genel bilgiler
- Kırık tedavisinde genel prensipler
- Dişlerin ve çevre dokuların travmaları
- Alt çene kırıkları
- Alt çene kırıklarının tedavisi
- Alt çene kırıklarının çeşitli klinik özelliklerine göre uygulanacak tedavi yöntemleri
- Çocuklarda alt çene kırıkları ve tedavileri
- Kafa travmaları
- Orta yüz kırıkları
- Çene yüz kırıklarında hatalı tedavi sonucu oluşan sekeler
- Kırık tedavisinde kullanılan plaka ve vidaların neden olduğu metal reaksiyonları



- ≥ 219 sayfa
- Renkli-siyah-beyaz baskı
- > 240 açıklamalı renkli resim ve şekil
- ▶ 115 gr. kuşe kağıt
- Bristol kapak, renkli
- 20x28 cm boyutlarında

İsteme Adresi: Ege Üniversitesi Dişhekimliği Fakültesi 35100 Bornova - İZMİR



SABİT ORTODONTİK APAREYLERİN BİYOMEKANİK PRENSİPLERİ

Prof. Dr. Yahya TOSUN (E.Ü. Dişhek. Fak. Ortodonti A.D.)

- Fiziksel prensipler
- Ortodontik kuvvetin oluşturulması ve sabit apereylerin planlanması
- İki diş arasındaki ilişkinin incelenmesi
- Sürtünmeli ve sürtünmesiz sistemler
- Ağız dışı apereyler
- Ankraj kontrolu ve seviyeleme
- Çekim boşluklarının kapatılması



- ➢ 246 sayfa
- Renkli-siyah-beyaz baskı
- > Açıklamalı 149 şekil ve 25 resim
- 135 gr. kuşe kağıt
- Bez cilt
- 20x28 cm boyutlarında

İsteme Adresi: Ege Üniversitesi Dişhekimliği Fakültesi 35100 Bornova - İZMİR

İÇ HASTALIKLARI

Prof. Dr. Ali TERCİ (E.Ü. Dişhek. Fak. İç hastalıkları öğretim üyesi)

- Ağrı (Baş, Yüz ve Boyun Ağrıları)
- Kardiovasküler sistem hastalıkları
- Solunum sistemi hastalıkları
- Sindirim sisitemi hastalıkları
- Endokrin ve metabolizma hastalıkları
- Hematolojik sistem hastalıkları
- Hemostaz ve hemorajik hastalıklar
- İmmün sistem hastalıkları
- Böbrek hastalıkları
- Kollagen doku hastalıkları
- Alerji ve alerjik hastalıklar
- Nörolojik hastalıklar
- Gebe ve gebelik



- > 330 sayfa
- Siyah-beyaz baskı
- ≽ 90 gr. I. hamur kağıt
- Bristol kapak, renkli
- ▶ 17x24 cm boyutlarında

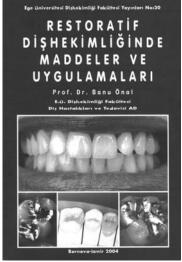
İsteme Adresi: Ege Üniversitesi Dişhekimliği Fakültesi 35100 Bornova - İZMİR



RESTORATİF DİŞHEKİMLİĞİNDE MADDELER VE UYGULAMALARI

Prof. Dr. Banu ÖNAL (E.Ü. Dişhek. Fak. İç hastalıkları öğretim üyesi)

- Simanlar
- Amalgam
- Kompozit dolgu maddeleri
- Cam iyonomer simanlar
- Cam iyonomer hibrit kombinasyonları
- Bağlayıcı ajanlar
- Laklar ve vernikler
- · İnley, onley ve overleyler restorasyon maddeleri
- Ağartma ajanları



▶ 171 sayfa

- Trigromi (renkli) baskı
- 110 açıklamalı renkli resim
- 135 gr. kuşe kağıt
- Bristol kapak, renkli
- ▶ 16x24 cm boyutlarında

İsteme Adresi: Ege Üniversitesi Dişhekimliği Fakültesi 35100 Bornova - İZMİR

AĞIZ PROTEZLERİ VE BİYOMEKANİK

Doç. Dr. Mehmet SONUGELEN (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.) Prof. Dr. Celal ARTUNÇ (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.)

- Biyomekanik
- Sabit protetik uygulamalarda biyomekanik
- Hareketli bölümlü protez biyomekaniği
- Tam protezler ve biyomekanik
- Oral implantlar ve biyomekanik



- ▶ 172 sayfa
- Renkli-siyah-beyaz baskı
- > 79 açıklamalı resim ve şekil
- 135 gr. mat kuşe kağıt
- Bristol kapak, renkli
- 16x24 cm boyutlarında

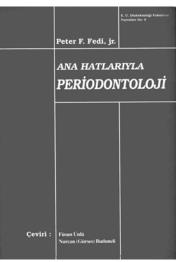
İsteme Adresi: Ege Üniversitesi Dişhekimliği Fakültesi 35100 Bornova-İZMİR



ANA HATLARIYLA PERIODONTOLOJİ

Prof. Dr. Füsun ÜNLÜ
(E.Ü. Dişhek. Fak. Periodontoloji A.D.)
Dr. Nurcan GÜRSES BUDUNELİ
(E.Ü. Dişhek. Fak. Periodontoloji A.D.)

- Periodonsiyumun anatomisi
- Periodontal hastalıkların patogenezi
- Cerrahi olmayan periodontal tedaviler
- Cerrahi periodontal tedaviler
- · Periotontolojide acil
- Periodonsiyum ve oklüzyon



- 230 sayfa
- Siyah-beyaz baskı
- 152 resim ve şekil
- > 90 gr. 1. hamur kağıt
- Bristol kapak, renkli
 17x25 cm boyutlarında
- , in Doyudun

İsteme Adresi: Ege Üniversitesi Dişhekimliği Fakültesi 35100 Bornova-İZMİR

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KONSERVATİF DİŞHEKİMLİĞİNDE RESTORATİF MATERYALLER VE UYGULAMALARI

Prof. Dr. Banu ÖNAL (E.Ü. Dişhek. Fak. Diş Hastalıkları ve Tedavisi A.D.)

Doç. Dr. Rıza ALPÖZ (E.Ü. Dişhek. Fak. Pedodonti A.D.)

- Cam iyonomer hibrit kombinasyonları
- Simanlar
- İnley, onley ve overleyler
- Amalgam
- Kompozit dolgu maddeleri
- Cam iyonomer simanlar
- Dentin bağlayıcılar
- Laklar ve vernikler
- Ağartma ajanları
- Fissür örtücüler



Restoratif materyaller hakkında teorik bilgiler ve klinik kullanımları ile ilgili görsel dökümanlar bulunmaktadır. Ayrıca CD'de E.Ü. Dişhekimliği Fakültesi'ni tanıtan bölümler yer almaktadır.

İsteme Adresi: Ege Üniversitesi Dişhekimliği Fakültesi 35100 Bornova-İZMİR

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KRANYOMANDİBULER DÜZENSİZLİKLER Prof. Dr. Birgül ÖZPINAR (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.)	
Prof. Dr. Berran ÖZTÜRK (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.)	KRANYOMANDİBULER DÜZENSİZLİKLER (CRANIOMANDIBULAR DISORDERS) CMD
 Genel Bilgiler Etiyoloji Sınıflandırma Değerlendirme Tedavi 	Prof. Dr. Birgül ÖZPINAR Prof. Dr. Berran ÖZTÜRK
	İzmir - 1998

- ➢ 80 sayfa
- Siyah-beyaz baskı
- 80 gr. 1. hamur kağıt
- Bristol kapak, renkli
- 14x20 cm boyutlarında

İsteme Adresi: Ege Üniversitesi Dişhekimliği Fakültesi 35100 Bornova-İZMİR

DİŞ SERT DOKULARINDA TARAMALI ELEKTRON MİKROSKOBU ATLASI

Prof. Dr. Banu ÖNAL (E.Ü. Dişhek. Fak. Diş Hastalıkları ve Tedavisi A.D.)

Prof. Dr. Ferit ÖZATA (E.Ü. Dişhek. Fak. Diş Hastalıkları ve Tedavisi A.D.)

Thomas G.H. Diekwisch D.D.S. Ph.D. (Baylor College of Dentistry, Texas A&M University System Department of Biomedical Sciences, Dallas, Texas, ABD)

- Sağlıklı dokuların histolojik görünümleri
- Restorasyon maddelerinin görünümleri
- Tedavi amacı ile uygulanan yöntemler sonrası diş sert dokularının görünümü



- ▶ 103 sayfa
- Siyah-beyaz baskı
- > 137 açıklamalı resim
- 85 gr. 1. hamur kağıt
- Bristol kapak, renkli
- 16x24 cm boyutlarında

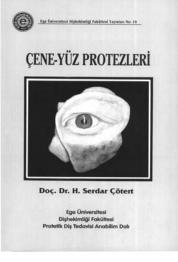
İsteme Adresi: Ege Üniversitesi Dişhekimliği Fakültesi 35100 Bornova-İZMİR

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ÇENE-YÜZ PROTEZLERİ

Doç. Dr. H. Serdar ÇÖTERT (E.Ü. Dişhek. Fak. Protetik Diş Tedavisi A.D.)

- Terminoloji ve temel kavramlar
- Çene-Yüz protezleri uygulamalarının tarihi
- Çene-Yüz bölgesi tümörleri
- Malign sinüs tümörlerinin sağıtımı
- Rezeksiyon obturatörleri
- Dudak damak yarıkları
- · Mandibula defektlerinde protetik rehabilitasyon
- Dil rezeksiyonlarında protetik rehabilitasyon
- Yüz protezleri
- Baş-Boyun kanserlerinde radyoterapi ve radyoterapi protezleri



- ▶ 149 sayfa
- Siyah-beyaz baskı
- 126 açıklamalı resim ve şekil
- 85 gr. 1. hamur kağıt
- Bristol kapak, renkli
- 16x24 cm boyutlarında

İsteme Adresi: Ege Üniversitesi Dişhekimliği Fakültesi 35100 Bornova-İZMİR

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