

Abstracts of the 7th Croatian Periodontology Days 2019 congress

Pula, Croatia, May 16-18, 2019

Sažeci kongresa 7. Hrvatski parodontološki dani 2019.

Pula, Hrvatska, 16.-18.5.2019.

Editor • Urednik: Ivan Puhar

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POSTER PRESENTATIONS

1.1. PERIODONTAL EMERGENCIES: MOST COMMON CASES IN THE EMERGENCY DENTAL SERVICE IN THE CITY OF ZAGREB

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Introduction: Periodontal emergency conditions are commonly diagnosed in patients attending emergency dental clinics in the city of Zagreb. To assess the occurrence of different diagnoses, pain levels and medication prescription, a survey was conducted from 1 May to 31 August 2015. **Materials and methods:** Data from 1730 patients who took part in our survey was collected and statistically analyzed using SPSS. The patient was asked to circle one of the offered answers, write down letters or numbers for the answers that were not for circling, and on a numeric scale of 0-10 mark the number that was related to the intensity of the patient's pain. **Results:** Periodontal emergencies comprised 11.4 % of all conditions diagnosed in our survey. The most common were: acute presentation of chronic periodontitis, periodontal abscess, acute necrotizing gingivitis, and pericoronitis. Patients used different over-the-counter analgesics to help relieve pain caused by periodontal emergencies and the percentages of patients who self-medicated in this way differed in diagnoses. **Discussion:** Patients presenting with periodontal emergencies who have not been previously diagnosed with periodontitis should be referred to a specialist for further treatment. Special care should be taken into account for patients with a high risk of developing more severe forms of periodontal disease, like diabetics and immunocompromised patients. **Conclusion:** Professional management of periodontitis, risk assessment and increasing patient's awareness of periodontal health could probably reduce the number of periodontal emergencies.

2.1. PREDICTORS FOR THE OCCURRENCE OF DESQUAMATIVE GINGIVITIS IN PATIENTS WITH ORAL LICHEN PLANUS

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Introduction: Desquamative gingivitis (DG) is an inflammatory disease of gingiva whose etiology is not related with dental plaque, but it appears within the oral lichen planus, pemphigus vulgaris and mucous membrane pemphigoid. Aims of this study were to determine the prevalence of desquamative gingivitis in patients with oral lichen planus (OLP) and to determine the predictors for the occurrence of desquamative gingivitis. **Materials and Methods:** The study included 40 patients with OLP (mean age 58.7±10.9, 12 men and 28 women) and 45 subjects who were not diagnosed with OLP (mean age 59.1±10.3; 11 men and 34 women). The subjects were tested by questionnaire (about systemic diseases and medications) and clinically examined. The type of lichen, localization and presence of desquamative gingivitis were recorded. The effect of systemic diseases (hypertension, diabetes mellitus, hypothyroidism, allergies, liver diseases and autoimmune diseases) on the development of OLP and DG was analyzed by multiple regression analysis. **Results:** DG was present in 37.5% of patients (N=15) with OLP. An atrophic-erosive form was observed in 12 patients. In 3 patients the plaque form of DG was recorded. Predictive role in the occurrence of DG had hypertension and hypothyroidism. Patients with hypertension had 7 times higher risk (p=0.023, OR 7.000; 95% CI:1.30-37.7) and patients with hypothyroidism 13.8 times higher risk (p=0.022, OR 13.800, 95% CI:1.464-130.070) for the occurrence of DG. Other analyzed factors did not influence DG development. **Conclusion:** Desquamative gingivitis is a relatively common in OLP patients, and its development is associated with hypertension and hypothyroidism.

POSTER IZLAGANJA

1.2. HITNA PARODONTOLOŠKA STANJA: NAJČEŠĆI SLUČAJEVI U HITNOJ STOMATOLOŠKOJ SLUŽBI GRADA ZAGREBA

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Uvod: Parodontološka hitna stanja uobičajeno se dijagnosticiraju kod pacijenata koji posećuju hitnu stomatološku službu Grada Zagreba. Kako bi se odredila učestalost pojavljivanja ovih stanja, intenziteti boli koji se uz njih javljaju te propisivanje lijekova, provedena je anketa u razdoblju od 1. svibnja do 31. kolovoza 2015. **Materijali i metode:** Podaci 1730 pacijenata koji su ispunili ankete su prikupljeni i statistički obrađeni u SPSS-u. Pacijent je morao zaokružiti jedan od ponuđenih odgovora, upisati slovom ili brojkom odgovore koji nisu za zaokruživanje te na numeričkoj skali od 1-10 označiti broj koji se odnosi na intenzitet boli. **Rezultati:** Parodontološka hitna stanja činila su 11.4% svih hitnih stanja u našem istraživanju. Najčešća su bila: akutna egzacerbacija kroničnog parodontitisa, parodontni apsces, akutni nekrotizirajući gingivitis i perikoronitis. Pacijenti su koristili različite bezreceptne analgetike kako bi olakšali bolove uzrokovane hitnim parodontološkim stanjima, a postoci pacijenata koji su se na taj način liječili razlikovali su se za pojedine dijagnoze. **Rasprava:** Pacijenti koji su se javljali s hitnim parodontološkim stanjima kojima prethodno nije dijagnosticiran parodontitis trebalo bi uputiti specijalistu na daljnje liječenje. Posebnu skrb trebalo bi pružiti pacijentima koji imaju visok rizik za razvoj težih oblika parodontne bolesti, kao što su dijabetičari i imunokompromitirani pacijenti. **Zaključak:** Profesionalno liječenje parodontitisa, procjena rizika te razvoj svijesti pacijenata o parodontnom zdravlju moglo bi smanjiti broj hitnih stanja.

2.2. PREDIKTORI ZA NASTANAK DESKVMATIVNOG GINGIVITISA U PACIJENATA S ORALNIM LIHEN PLANUSOM

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Uvod: Deskvamativni gingivitis (DG) je upala gingive čija etiologija nije vezana uz zubni plak već se pojavljuje u sklopu oralnog lihen planusa, pemfigus vulgarisa i pemfigoida mukoznih membrana. Ciljevi ovog rada bili su utvrditi prevalenciju deskvamativnog gingivitisa u pacijenata s oralnim lihen planusom (OLP) i utvrditi prediktore za nastanak deskvamativnog gingivitisa. **Materijali i metode:** U studiji je sudjelovalo 40 pacijenata s OLP-om (prosječne dobi 58,7±10,9; 12 muškaraca i 28 žena) i 45 kontrolnih ispitanika koji nisu bolovali od OLP-a (prosječne dobi 59,1±10,3; 11 muškaraca i 34 žena). Ispitanici su anamnestički ispitani (o sustavnim bolestima i lijekovima koje uzimaju) i klinički pregledani. Bilježen je tip lihena, lokalizacija i prisustvo deskvamativnog gingivitisa. Multiplom regresijskom analizom analiziran je utjecaj sustavnih bolesti (hipertenzije, šećerne bolesti, hipotireoze, alergije, bolesti jetre i autoimune bolesti) na nastanak OLP-a i DG-a. **Rezultati:** DG bio je prisutan u 37,5% pacijenata (N=15) s OLP-om. U 12 pacijenata zabilježen je atrofično-erozivni oblik, a u 3 pacijenata plakozni oblik DG-a. Prediktornu ulogu u nastanku DG imaju hipertenzija i hipotireoza. Pacijenti s hipertenzijom imali su 7 puta veći rizik (p=0,023, OR 7.000; 95% CI: 1,30-37,7) a pacijenti s hipotireozom 13,8 puta veći rizik (p=0,022, OR 13.800; 95% CI: 1,464-130,070) za nastanak DG. Ostali analizirani čimbenici ne utječu na nastanak DG. **Zaključak:** Deskvamativni gingivitis je relativno česta pojava kod OLP-a, a njegov nastanak povezuje se s hipertenzijom i hipotireozom.

3.1. PERIODONTAL CHANGES IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA

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Background: Obstructive sleep apnea (OSA) is characterized by episodes of partial and/or complete cessations of breathing during sleep. Periodontal diseases are common chronic conditions including loss of supporting tissues regarding to plaque accumulation and inflammatory host response. There might be an association of OSA severity and periodontal changes due to similar risk factors and inflammation in their pathogenesis. The aim of this study was to investigate association between periodontal changes and OSA severity. Methods: A total of 82 patients diagnosed with OSA following whole night polysomnography/poligraphy in Split Sleep Medicine Centre, underwent comprehensive periodontal examination. Clinical parameters were measured at 6 tooth sites, including plaque index (PI), bleeding on probing (BOP), pocket depth (PD) and clinical attachment level (CAL). OSA severity was measured by apnea-hypopnea index (AHI), where higher AHI indicated more severe OSA. Results: Out of included patients, 67 (82%) of them had ≥ 15 teeth, out of which 58 (87%) had periodontitis, 4 (6%) gingivitis and 5 (7%) had no periodontal changes. There was a positive correlation between AHI and PI ($r=0.309$, $P=0.005$), PD ($r=0.237$, $P=0.032$) and CAL ($r=0.223$, $P=0.044$). Patients with more severe periodontitis stage had higher AHI (28.1 ± 19.3 in stage 2, 32.0 ± 35.4 in stage 3 i 56.1 ± 25.1 in stage 4; $P=0.090$). Conclusions: Patients with more severe apnea had more profound periodontal changes. Considering that OSA and periodontitis frequently coexist and there is an association between increasing severities of OSA and periodontal disease, interdisciplinary approach might be valuable in clinical setting.

4.1. HOW WELL DO THOSE WHO KNOW BRUSH THEIR TEETH?

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Introduction: The awareness of importance of oral hygiene and knowledge of brushing techniques vary between different subsets of population. The hypothesis of this research was that those who have high awareness about oral hygiene maintenance - students of the fifth year of the Dental Medicine at the Faculty of Medicine in Rijeka - will have lower Plaque Index (PI). Objective: The aim of the research was to show the difference between the PI before and after the „usual” oral hygiene performance among the students. Materials and methods: 26 students did not perform any form of oral hygiene for 48 hours. Subsequently, the plaque detector was applied to their teeth and their PI was read. They were asked to brush their tooth with their own toothbrushes, in the same way as they perform oral hygiene on a daily basis. The PI was scored again and the data were statistically analyzed. Results: Results were statistically analyzed in the computer program Statistics (t-test for dependent variables with two variables). The PI before was $97,19 \pm 7,98\%$, and after oral hygiene $78,38 \pm 19,63\%$. Reduction of PI was statistically significant ($p < 0.05$). Conclusion: Despite the high awareness of oral hygiene, the PI after tooth brushing was high; therefore, we concluded that the oral hygiene in the examined groups was not satisfactory despite an expected significant difference. In addition, it can be concluded that it is not possible to effectively perform oral hygiene with only a toothbrush without using extra means for interdental hygiene maintenance.

5.1. THREE-DIMENSIONAL DIGITAL ANALYSIS OF SOFT TISSUES AND GINGIVAL RECESIONS

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Recession is defined as the apical shift of the gingival margin beyond the cemento-enamel junction. Intraoral scanners are widely used in modern dentistry and they can be useful in periodontology. The purpose of this study was to present the digital method of measuring recession height and keratinized tissue width with the use of an intraoral scanner, compare it to the conventional clinical method and determine the factors that affect the differences in measurement. 21 participants were involved in this study with a total of 102 teeth with recession. Recession height and keratinized tissue width were measured clinically using a periodontal probe and digitally using CEREC AC[®] after taking a scan of the teeth. The presence of non-carious cervical lesion and the visibility of the cemento-enamel junction on the digital scan were also noted. A statistically significant difference was not

3.2. PARODONTNE PROMJENE KOD PACIJENATA OBOLJELIH OD OPSTRUKTIVNE APNEJE

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Uvod: Opstruktivna apneja (OSA) poremećaj je karakteriziran epizodama djelomičnog ili potpunog prestanka disanja tijekom sna. Parodontne bolesti su kronična stanja uzrokovana bakterijskim biofilmom i upalno imunološkim odgovorom domaćina što dovodi do gubitka potpornih zubnih struktura. Budući da oba klinička entiteta imaju slične faktore rizika i slične upalne medijatore u svojoj patogenezi može se očekivati njihova povezanost. Cilj ovog istraživanja bio je usporediti parodontne promjene i stupanj težine OSA-e. Ispitanici i metode: Opsežnom parodontološkom pregledu podvrgnuta su 82 pacijenta kojima je dijagnosticirana OSA pomoću noćnog polisomnograma/poligrafije u Centru za medicinu spavanja u Splitu. Klinički parametri su mjereni na 6 mjesta na zubu, a uključivali su: plak indeks (PI), krvarenje pri sondiranju (BOP), dubinu sondiranja (PD) i razinu kliničkog pričvrstka (CAL). Težina OSA-e mjerena je apneja-hipopneja indeksom (AHI) gdje je veći AHI označavao težu OSA-u. Rezultati: Od ukupnog broja pacijenata, 67 (82%) njih je imalo ≥ 15 zubi, od kojih je 58 (87%) imalo parodontitis, 4 (6%) gingivitis, a 5 (7%) nije imalo parodontne promjene. Rezultati su pokazali pozitivnu korelaciju između AHI-ja i PI ($r=0.309$, $P=0.005$), PD ($r=0.237$, $P=0.032$) te CAL ($r=0.223$, $P=0.044$). Pacijenti s težim stadijem parodontitisa imali su veći AHI (28.1 ± 19.3 u stadiju 2, 32.0 ± 35.4 u stadiju 3 i 56.1 ± 25.1 u stadiju 4; $P=0.090$). Zaključak: Pacijenti s težom apnejom imali su izraženije parodontne promjene. Budući da su OSA i parodontitis često zajedno prisutni i da postoji povezanost težina navedenih bolesti, interdisciplinarna suradnja doktora dentalne medicine i doktora specijalista medicine spavanja bila bi značajna u kliničkom pristupu obiju bolesti.

4.2. KOLIKO DOBRO PERU ZUBE ONI KOJI TO ZNAJU?

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Uvod: Svijest o važnosti oralne higijene i znanje o tehnikama četkanja variraju među pojedinim segmentima ljudske populacije. Hipoteza ovog istraživanja bila je da će oni koji o oralnoj higijeni imaju visoku razinu svijesti te su adekvatno educirani o tehnikama četkanja – studenti pete godine Studija dentalne medicine Medicinskog fakulteta u Rijeci – imati niski plak indeks (PI). Cilj: Cilj istraživanja je pokazati razliku u PI prije i nakon provođenja oralne higijene kod studenata pete godine dentalne medicine. Materijali i metode: 26 studenata pete godine dentalne medicine 48 sati nije provodilo oralnu higijenu. Potom im je na zube nanesen plak revelator te je očitani PI. Nakon toga su zamoljeni da operu zube vlastitim četkicama za zube, na isti način kako to svakodnevno čine. PI je ponovo očitani te su podaci statistički obrađeni. Rezultati: Podaci mjerenja su statistički obrađeni u programu Statistica (t-test za zavisne uzorke s dvije varijable). Plak indeks prije iznosio je $97,19 \pm 7,98\%$, a nakon provođenja oralne higijene $78,38 \pm 19,63\%$. Smanjenje PI je statistički značajno ($p < 0,05$). Zaključak: Unatoč visokoj svijesti o oralnoj higijeni kao i o poznavanju tehnika četkanja, PI nakon pranja zuba je bio vrlo visok pa se nameće zaključak da higijena ispitivane skupine nije bila zadovoljavajuća, bez obzira na statistički značajnu razliku prije i poslije četkanja koja je bila i očekivana. Dodatno, može se zaključiti kako nije moguće učinkovito provesti oralnu higijenu samo s četkicom za zube bez korištenja sredstava za interdentalnu higijenu.

5.2. TRODIMENZIONALNA DIGITALNA ANALIZA MEKIH TKIVA I RECESIJA GINGIVE

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Recesija gingive je pomicanje ruba gingive apikalno od caklinsko-cementnog spojišta. Nekarijesna cervikalna lezija i karijes korijena stanja su koja često prate recesije. U modernoj dentalnoj medicini, široka je upotreba digitalnih sustava s intraoralnim skenerom. Upotreba tih sustava može biti korisna u parodontologiji. Svrha ovog rada je predstaviti digitalnu metodu mjerenja visine recesije i širine keratinizirane gingive pomoću intraoralnog skenera, usporediti ju s konvencionalnom metodom kliničkog mjerenja i ispitati koji čimbenici utječu na razlike. U istraživanju je sudjelovalo 21 ispitanika s ukupno 102 zuba s recesijom. Mjereni su parametri visine recesije i širine keratinizirane gingive analogno klinički uz pomoć parodontne sonde te digitalno u sustavu CEREC AC[®] uređaja nakon skeniranja zubi CEREC Omnicam[®] intraoralnim skenerom. Zabilježena je prisutnost nekarijesne cervikalne lezije i vidljivost caklinsko-cementnog spojišta na digitalnom zapisu.

determined between the digital and the analogue method of measuring recession height and keratinized tissue width, however, the presence of a non-carious cervical lesion significantly affected the differences in measuring recession height. The possibility of magnification and rotation of the acquired scan and measuring distances to 100th of a millimeter allow the digital method to be more precise. The presented digital method could be used for measuring recession height and keratinized tissue width. We proved that there is a statistically significant difference between the digital and analogue measurement of recession height with present non-carious cervical lesion. Digital method could be useful for further linear and volumetric researches.

6.1. HISTOLOGICAL ANALYSIS OF INJECTABLE BIPHASIC CALCIUM PHOSPHATE IN GUIDED BONE REGENERATION: A CASE REPORT

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Guided Bone Regeneration (GBR) is one of the most frequently used techniques in implant dentistry, which has a purpose to ensure adequate width and height of the alveolar ridge necessary for implant placement. In the present case report, we evaluate the histological outcomes of injectable biphasic calcium phosphate (I-BCP) in GBR. A healthy 21-years-old male was referred to an oral surgeon in Community Healthcare Center in Osijek, for extraction of the upper left premolar due to the unsuccessful endodontic treatment. Cone Beam Computed Tomography (CBCT) showed extensive periapical lesion and severe bone destruction. The patient decided to do dental implant rehabilitation following the extraction. After the atraumatic tooth extraction and careful curettage of the infected tissue, the socket was filled with I-BCP (Maxresorb inj., Botiss GmbH) and covered with a resorbable membrane (Collprotect, Botiss GmbH). The healing process went without complications. Six months after the augmentation, during the implant bed preparation, a bone biopsy was taken for histological analysis. The specimen was examined under the light microscope. The analysis showed new bone formation at the periphery of the bone defect and fully incorporated granules of I-BCP into the bone tissue. Furthermore, there were no signs of inflammatory tissue response. This case report presents that I-BCP has osteoconductive properties. Also, because of its viscosity, I-BCP allowed easy handling and great filling of the bone defect. However, further work is needed to complete pieces of evidence of osteoconductive, clinical and radiographical properties of I-BCP.

7.1. AUGMENTATION OF ALVEOLAR RIDGE DEFECT WITH NONRESORPTIVE MEMBRANE

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In cases of alveolar ridge defects and implant placement impossibility, alveolar ridge augmentation is a predictable method of augmentation of the alveolar ridge volume by choosing bone grafts and membranes. The patient contacted the Periodontology Department due to a suspect vertical fracture on the tooth 14. By examining the RTG image and performing clinical check-up, a bone loss around apical and buccal part was established. The flap surgery was performed, and a vertical fracture was confirmed. After two months, we have performed regenerative procedure - the bone regeneration with non-resorbable membrane and xenograft. The tooth was extracted, granulations were removed, defect size was 15 mm x 10 mm. The patient's autologous bone graft was taken above the bone defect, which was later mixed with xenograft and blood plasma. Membrane was tailored for the bone defect and fixated with pins and sutures. The bone defect was augmented with the bone graft material, and another membrane layer was inserted, in order to remove it more easily without mucoperiosteal flap reflection in 4 weeks, following the manufactur-

Statističkom analizom značajna razlika između digitalnog i analognog mjerenja visine recesije nije utvrđena, međutim, na razlike u mjerenjima značajno utječe prisutnost nekarijesne cervikalne lezije. Razlike u mjerenju širine keratinizirane gingive nisu se pokazale značajne. Digitalna i analogni metoda mjerenja pokazale su se jednako učinkovite. Pomoću digitalnog mjerenja vrijednosti su mjerene u stotinku milimetra, dok tek iskusni kliničari mogu precizno i ponovljivo mjeriti vrijednosti zaokružene na pola milimetra. Uvećavanje slike i rotacija u svim smjerovima čini digitalnu metodu preciznijom. Predstavljena digitalna metoda može se koristiti u svrhu mjerenja visine recesije i širine keratinizirane gingive. Dokazali smo da postoji statistički značajna razlika u mjerenju visine recesije kod prisutne nekarijesne cervikalne lezije. Predstavljena digitalna metoda ima velik potencijal u daljnjim linearnim i volumetrijskim istraživanjima.

6.2. HISTOLOŠKA ANALIZA INJEKCIJSKOG BIFAZIČNOG KALCIJEVA FOSFATA U VODENOJ REGENERACIJI KOSTI: PRIKAZ SLUČAJA

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Vođena regeneracija kosti (GBR) je jedna od najčešće korištenih tehnika u dentalnoj implantologiji, čiji cilj je osigurati adekvatnu visinu i širinu alveolarnog grebena potrebnu za postavljanje dentalnog implantata. U ovom prikazu slučaja evaluirali smo histološke ishode injekcijskog bifazičnog kalcijeva fosfata (I-BCP) u GBR-u. Zdravi 21-godišnjak upućen je oralnom kirurgu u Domu zdravlja Osijek, radi ekstrakcije gornjeg lijevog premolara, uslijed neuspjelog endodontskog liječenja. Cone Beam Computed Tomography (CBCT) pokazao je ekstenzivnu periapikalnu leziju i jaku destrukciju kosti. Pacijent se odlučio za terapiju dentalnim implantatom nakon ekstrakcije. Nakon što je izvedena atraumatska ekstrakcija zuba i pažljivo kiretirano inficirano tkivo, alveola je ispunjena I-BCP (Maxresorb inj., Botiss GmbH) i prekrivena resorptivnom membranom (Collprotect, Botiss GmbH). Cijeljenje je prošlo bez komplikacija. Šest mjeseci nakon augmentacije, u toku preparacije ležišta za dentalni implantat, uzeta je biopsija kosti za histološku analizu. Uzorak je pregledan na svjetlosnom mikroskopu. Analiza je pokazala formiranje nove kosti na periferiji koštanoog defekta te da su granule I-BCP u potpunosti inkorporirane s koštanim tkivom. Nadalje, nisu pronađeni znakovi upalnog odgovora tkiva. Ovaj prikaz slučaja pokazuje da I-BCP ima osteokonduktivna svojstva. Također, zbog svoje viskoznosti, I-BCP je pokazao jednostavno rukovanje i odlično ispunjavanje koštanoog defekta. U svakom slučaju, daljnja istraživanja su potrebna kako bi se kompletirali dokazi o osteokonduktivnim, kliničkim i radiološkim svojstvima I-BCP-a.

7.2. AUGMENTACIJA DEFEKTA ALVEOLARNOG GREBENA S NERESORPTIVNOM MEMBRANOM

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Kod koštanoog defekta alveolarnoga grebena i kod nemogućnosti ugradnje implantata, augmentacija alveolarnoga grebena je predvidljiva metoda kojom izborom koštanih nadomjestaka i membrana možemo povećati volumen alveolarnoga grebena. Pacijent se javio na Zavod za parodontologiju zbog sumnje na vertikalnu frakturu zuba 14. Uvidom u RTG snimku i kliničkim pregledom utvrđeno je da postoji gubitak kosti u apikalnom i bukalnom dijelu. Učinjena je operacija reznja te se utvrdila vertikalna fraktura. Nakon dva mjeseca pristupilo se regenerativnom postupku, koštanoj regeneraciji s neresorptivnom membranom i ksenograftom. Zub je ekstrahiran, granulacije uklonjene, veličina defekta iznosila je 15 mm x 10 mm, uzeta je autologna strugana kost pacijenta iznad koštanoog defekta koja je kasnije pomiješana s ksenograftom i krvnom plazmom. Membrana je krojena po mjeri defekta te je fiksirana titanskim pinovima i koncem. Koštani defekt je augmentiran koštanim nadomjesnim materijalom te je postavljen još jedan sloj iste membrane kako bi se lakše mogla ukloniti bez odizanja mukoperiostealnog reznja nakon 4 tjedna po uputama proizvođača. Zatim je reznj mobiliziran i produljen presijeca-

er's instructions. Moreover, the flap was mobilized and lengthened by periosteal incisions, so that the membrane exposure would be reduced. Before final wound closure by non-resorbable suture, L-PRF membranes were placed. An antibiotic ointment and periodontal dressing were applied over the wound. The patient came every week for a check-up, and after two weeks, upper membrane was removed, as well as the sutures. After 2 weeks, inferior, bigger membrane was removed, and wound was left to heal *per secundam intentionem*, and it healed regularly after 6 weeks following procedure.

8.1. LASER REMOVAL OF GINGIVAL TATTOOS - CASE REPORT

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Introduction: Pigmented changes in the oral mucosa represent a broad group of lesions of different etiopathogenesis. The purpose of this paper is to present the laser procedure on the gingival tattoo that incurred after removal of the metal post and core. **Case report:** A patient (44 years) came to the Department of Periodontology at the Faculty of Dentistry in Zagreb due to the discoloration of the gingiva in the upper anterior teeth region which was also an esthetic concern for her. The patient is systemically and periodontally healthy and does not smoke. She states that the lesion occurred several years ago during the removal of an old metal post and core from the tooth 11. The tattoo was limited to the attached gingiva of a thicker phenotype. The procedure was done under local anesthesia with Gemini[®] 810 + 980 (dual-wavelength soft tissue diode laser, Ultradent Products, Inc.). Laser settings were predetermined under the listed procedure - gingivectomy (average power 1.2W, respectively 1.0W at 810nm + 1.3W at 980nm), with an initiated single use tip. In total, five areas were treated, of which the deepest were around the tooth 11. The laser achieved satisfactory hemostasis and the tissues were left to heal *per secundam*. During control appointments (1 day, 7 days and 3 months), normal postoperative healing was observed. **Discussion:** Based on lack of literature and without clear guidelines, it is difficult for a clinician to decide which is the best procedure for the gingival tattoo removal. In this case, we decided against a surgical procedure that would include a free connective tissue graft and a subsequent gingivoplasty. Regardless of *per secundam* healing, it was decided that the diode laser treatment was a better treatment option because it was less invasive and had the additional effect of biostimulation. **Conclusion:** Removing gingival tattoos with a diode laser is a predictable and safe procedure that can achieve optimal aesthetic results.

9.1. DIGITALLY GUIDED PERIODONTAL CROWN LENGTHENING SURGICAL PROCEDURE WITH PROSTHETIC REHABILITATION - A CASE REPORT

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Introduction: Dental clinicians must overcome many obstacles when trying to reestablish perfect relationship between clinical crown and soft tissues that have already been altered. There are many known techniques for the treatment of a "gummy smile" and improving smile esthetics, but the procedure itself presents many challenges. One of the problems is the precision of references for predictable soft and hard tissue reduction, so that the final result is the same as the initial design that was presented to the patient. **Case presentation:** A 36 yrs. male patient presented himself to the clinic, with the main request to improve the look of his smile having bigger and whiter teeth. Following digital protocol, it was possible to fabricate a crown lengthening surgical guide that will serve for precise gingivectomy and osteotomy based on the digital mockup. The same design was then used for fabrication of the provisional and final restorations with very high predictability. Immediately after surgical crown lengthening procedure was performed, provisional restorations were bonded and left in place for 6 months. After the healing and maturation period, final prosthetic phase was done following MIPP protocol. **Results and conclusion:** Stable soft tissue architecture was maintained throughout all the phases. Surgical crown lengthening guide served as very precise tool for tissue reduction and the final outcome did not significantly differ from the initially presented and approved smile design. Patient satisfaction with the final result was very high and the protocol itself showed good reliability and predictability for dental clinicians.

njem periosta kako bi ekspoziranost membrane bila manja. Prije završnog zatvaranja rane neresorptivnim koncem postavljene su L-PRF membrane. Na ranu je stavljena antibiotska mast i parodontni zavoj. Pacijent je svaki tjedan dolazio na kontrolu te je nakon dva tjedna uklonjena gornja membrana i konci, a dva tjedna kasnije uklonjena je donja, veća membrana; rana je ostavljena da zacijeli *per secundam intentionem*, a uredno je zacijelila nakon 6 tjedana od zahvata.

8.2. LASERSKO UKLANJANJE GINGIVNE TETOVAŽE – PRIKAZ SLUČAJA

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Uvod: Pigmentirane promjene oralne sluznice predstavljaju široku skupinu lezija različite etiopatogeneze. Svrha ovog rada je prikazati laserski postupak kod gingivne tetovaže nastale nakon uklanjanja metalne nadogradnje. **Prikaz slučaja:** Pacijentica (44 godine) dolazi na Zavod za parodontologiju Stomatološkog fakulteta u Zagrebu zbog diskoloracije gingive gornjih prednjih zubi koja joj predstavlja estetski problem. Pacijentica je sistemski i parodontološki zdrava i ne puši. Navodi da je promjena nastala prije nekoliko godina prilikom uklanjanja stare metalne nadogradnje iz zuba 11. Tetovaža je bila ograničena na pričvrstnu gingivu debljeg fenotipa. Zahvat je napravljen pod lokalnom anestezijom s uređajem Gemini[®] 810 + 980 (diodni laser s dvostrukom valnom duljinom, Ultradent Products, Inc.). Postavke lasera su bile predodređene pod nazivom zahvata – gingivektomija (prosječne snage 1.2W, odnosno 1.0W pri 810nm + 1.3W pri 980nm), korišten je inicirani jednokratni nastavak. Ukupno je tretirano pet područja, od kojih su najdublja bila oko zuba 11. Laserom je postignuta zadovoljavajuća hemostaza te su tkiva prepuštena *per secundam* cijeljenju. Na kontrolnim pregledima (1 dan, 7 dana i 3 mjeseca) utvrđen je uredan postoperativni tijek i cijeljenje. **Rasprava:** Temeljem manjka literature i bez jasnih smjernica, kliničaru je teško odlučiti koji je najbolji postupak za uklanjanje gingivne tetovaže. U ovom slučaju se odustalo od kirurškog postupka koji bi uključivao vezivni transplantat s nepca i naknadni zahvat gingivoplastike. Bez obzira na *per secundam* cijeljenje, smatralo se da bi za pacijenticu bilo manje invazivno lezije tretirati laserom te iskoristiti njegov dodatni biostimulativni učinak. **Zaključak:** Uklanjanje gingivnih tetovaža diodnim laserom predstavlja predvidljiv i siguran zahvat kojim se mogu postići optimalni estetski rezultati.

9.2. DIGITALNO NAVODENO PARODONTNO PRODULJENJE KLINIČKE KRUNE S PROTETSKOM REHABILITACIJOM -PRIKAZ SLUČAJA

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Uvod: Puno je prepreka koje kliničari moraju savladati prilikom ponovnog uspostavljanja narušenog idealnog odnosa između krune zuba i mekih tkiva. Poznate su brojne tehnike u terapiji *gummy smile*-a i estetike osmijeha, međutim sam zahvat predstavlja brojne izazove. Jedan od problema predstavlja preciznost referentnih linija za predvidljivo uklanjanje mekog i tvrdog tkiva, kako bi finalni rezultat bio identičan inicijalnom dizajnu koji je prezentiran pacijentu i prihvaćen od strane pacijenta. **Prikaz slučaja:** Muški pacijent, 36 god. dolazi u ordinaciju dentalne medicine sa željom većih i bjeljih zuba. Uz računalne programe za planiranje i dizajniranje, te 3D printere, slučaj je isplaniran i virtualni finalni rezultat je prezentiran pacijentu već prilikom prvog pregleda. Slijedeći digitalni protokol moguće je izraditi kiruršku šablonu za produljenje kliničke krune, koja će nam poslužiti za precizno provođenje gingivektomije i osteotomije, prateći digitalnu ili analognu probnu masku koju je pacijent prihvatio. Isti dizajn je kasnije poslužio za izradu privremenih i definitivnih nadomjestaka s jako visokom predvidljivošću. Isti dan nakon završene kirurške faze produljenja kliničke krune, privremeni nadomjestci su postavljeni i ostavljeni u ustima kroz 6 mjeseci. Nakon završene faze cijeljenja, odradena je finalna protetska rehabilitacija slijedeći MIPP (Minimalno invazivni protetski protokol) protokol. **Rezultati i zaključak:** Stabilna arhitektura mekih tkiva zadržana je kroz cijelu terapiju. Kirurška šablonu poslužila je kao vrlo precizan alat za redukciju tkiva i finalni se rezultat nije značajno razlikovao od početno prihvaćenog dizajna. Pacijentovo zadovoljstvo završenom terapijom je jako veliko, a protokol se pokazao jako pouzdanim i predvidljivim za kliničara.

10.1. DIGITALLY GUIDED IMPLANTOLOGY LEADING TO A SCREW RETAINED PROSTHETIC SOLUTION MADE BEFORE DENTAL IMPLANT PLACEMENT

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Aim: A clinical case report of the immediate loading of dental implants with temporary screw retained bridge made prior to implant placement using a software for digitally guided implantology and 3D-printed surgical templates for fully guided implant placement. **Procedure:** After digitally superimposing the CBCT scan and scanned saddle model, digital preoperative planning of the ideal dental implant position in relation to the digital tooth set-up was performed. Based on the planning design, two identical surgical templates for fully guided implantology were 3D printed. Using the first surgical template, the implant placement procedure was performed in a dental laboratory where implant laboratory replicas were fixed in the template guided positions and screw retained temporary bridge was milled. The implants were intraorally placed in the predetermined positions fully guided by the second sterilized surgical template, and were immediately loaded with pre-fabricated screw retained bridge. The time from the beginning of the surgical procedure to the prosthetic loading is minimized. **Results:** By fast and predictable implant placement, we can provide the patient with a temporary screw retained implant supported bridge within a minimum period of time without postoperative impressions and additional time to make a temporary prosthetic solution. **Conclusions:** Assuming that patients do not come to dental office to get dental implants, but to get teeth, using digital implantation, with the integration of all available contemporary methods, CBCT scans, digital scanners, digital planning software and 3D printers, we can provide the patient with the maximum predictable prosthetic solution before the surgery itself.

11.1. HEREDITARY GINGIVAL FIBROMATOSIS - CASE REPORT

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Hereditary gingival fibromatosis (HGF), also known as elephantiasis gingivae, hereditary gingival hyperplasia, and hypertrophic gingiva, is a genetic disorder characterized by a progressive enlargement of the gingiva. It is inherited as autosomal dominant trait and has an incidence of 1:175000. It is a rare benign oral condition characterized by slow and progressive enlargement of both maxillary and mandibular attached gingiva. It may develop as an isolated disorder but can feature along with a syndrome. This case report presents 17-year old male patient who was referred by an orthodontist to Dental Polyclinic Zagreb in December of 2017 because of gingival enlargement in lower jaw that compromised further orthodontic therapy (repositioning of braces). Anamnestically patient already had gingival enlargement before the beginning of the therapy. His mother also suffered from the gingival enlargement. Patient is otherwise healthy, only medication he took was Roaccutane for acne skin problem. He stopped taking Roaccutane two months prior to second gingival surgery. Following convectional initial periodontal treatment, first gingival surgery performed was internal bevel gingivectomy in lower jaw. Condition was stable after 7 months. After completion of orthodontic therapy (November 2018) internal bevel gingivectomy plus full thickness mucoperiosteal flap surgery in upper jaw was performed. Patient is undergoing follow up every three months in Dental Polyclinic Zagreb. No recurrence was observed during the follow-up.

12.1. PERIODONTAL REGENERATIVE SURGICAL CARE OF TWO-WALLED PERIODONTAL BONY DEFECT - CASE REPORT

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Introduction: The first attempts of the periodontal regeneration were made using a membrane, while today membranes are used with different growth factors and bone replacement materials. Regenerative surgery changes the prognosis of the teeth from hopeless to

10.2. DIGITALNO VOĐENOM IMPLANTOLOGIJOM DO PROTETSKOG RJEŠENJA IZRADENOG PRIJE SAME UGRADNJE DENTALNIH IMPLANTATA

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Cilj: Prikaz slučaja imedijatnog opterećenja dentalnih implantata privremenim protetskim radom fiksiranim vijcima izrađenim prije samog postavljanja dentalnih implantata pomoću programa za digitalno vođenu implantologiju i 3D printanih kirurških vodilica za potpuno vođenu implantologiju. **Postupak:** Nakon digitalnog preklapanja CBCT-a i skeniranog sadrenog modela, pristupilo se digitalnom preoperativnom planiranju idealne pozicije dentalnih implantata u odnosu na digitalnu postavu zuba. Na osnovu planiranja 3D printerom isprintane su dvostruke kirurške šablone za potpuno vođenu implantologiju. Pomoću jedne šablone postupak ugradnje implantata proveden je u dentalnom laboratoriju, laboratorijske replike implantata su fiksirane u šablonu određenim pozicijama te je izrađen protetski rad metodom freziranja. Postupak ugradnje dentalnih implantata vođen drugom steriliziranom kirurškom šablonom ponovljen je u ustima pacijenta, meko tkivo ekscidrirano je *punch* metodom, prepariranje ležišta dentalnih implantata vođeno je posebno dizajniranim sustavom svrdala i vodilica. Implantati su ugrađeni na predviđene pozicije potpuno vođeni kirurškom šablonom te su imedijatno po ugradnji opterećeni prethodno izrađenim protetskim radom. Vrijeme od početka kirurškog postupka do protetskog rada je maksimalno skraćeno. **Rezultati:** Brzim i predvidljivim postupkom ugradnje dentalnih implantata pacijentu se omogućuje protetska opskrba u minimalnom roku bez naknadnog postoperativnog uzimanja otisaka i vremena za izradu privremenog protetskog rješenja. **Zaključak:** Vođeci se mišlju da pacijent u ordinaciji dentalne medicine ne dolazi po dentalne implantate, nego po zube, digitalno vođenom implantologijom te integracijom svih raspoloživih modernih metoda, CBCT-a, skenera, softvera za digitalno planiranje i 3D printera, možemo omogućiti pacijentu maksimalno predvidljivo protetsko rješenje izrađeno i prije samog operativnog zahvata.

11.2. NASLJEDNA GINGIVNA FIBROMATOZA - PRIKAZ SLUČAJA

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Nasljedna gingivna fibromatoza također znana kao elefantijaza gingivae, nasljedna gingivna hiperplazija ili hipertrofična gingiva nasljedni je gingivni poremećaj karakteriziran progresivnim povećanjem gingive. Nasljeđuje se autosomno dominantno. Incidencija je 1:175000. To je rijetko, benigno oralno stanje karakterizirano sporim i progresivnim povećanjem maksimalne i mandibularne pričvrstne gingive. Može se razviti kao izolirani poremećaj ili u kombinaciji sa nekim sindromima. Ovdje je dan prikaz slučaja 17-godišnjeg pacijenta koji je upućen od strane ortodonta u Stomatološku polikliniku Zagreb u prosincu 2017. godine radi hipertrofije gingive i donjoj čeljusti koje je ometalo daljnju ortodontsku terapiju (repozicioniranje bravica). Ortodont navodi da je pacijent imao hipertrofiju gingive i prije početka ortodontske terapije. Pacijentova majka također ima isto stanje gingive u obje čeljusti. Pacijent je dobio općedržavstvenog stanja i jedino uzima terapiju Roaccutane tablete za liječenje kožnih akni. Kao nuspojavu navodi suhoću i ispucalost usnica. Prestao je istu uzimati dva mjeseca prije druge operacije gingive. Nakon uobičajene inicijalne parodontološke obrade napravljena je prva operacija, unutarnja gingivektomija u donjoj čeljusti. Stanje je bilo stabilno nakon sedam mjeseci. Po završetku ortodontske obrade (studeni 2018.) napravljena je unutarnja gingivektomija i operacija reznja pune debljine u gornjoj čeljusti. Pacijent dolazi na kontrolne preglede svaka tri mjeseca u Stomatološku polikliniku Zagreb. Za sada nema recidiva na operiranim područjima.

12.2. PARODONTOLOŠKO REGENERATIVNO KIRURŠKO ZBRINJAVANJE DVOZIDNOG KOŠTANOG DEFEKTA – PRIKAZ SLUČAJA

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Uvod: Prvi pokušaji regeneracije parodonta napravljeni su pomoću membrana dok se danas uz membrane koriste i različiti faktori rasta te koštani nadomjesni materijali. Regenerativna kirurgija mijenja prognozu zuba od beznačajnog do održivog te su dugoročni

sustained, and long-term results have shown that in most cases the obtained attachment can be retained. Case report: Patient R.P. at the age of 50. The presence of periodontitis was confirmed by radiological and clinical examination. Baseline probing depths for tooth 21 were 16mm mesially, 15mm buccally, 7mm distally and 15mm palatally with the presence of pus. Frontal teeth were splinted using composite and Ribond fiber (3mm) and initial therapy was performed. Re-evaluation probing depths were identical to the measurements at the day of surgery (13mm mesially, 12mm buccally, 6mm distally, 12mm palatally). The tooth root was treated with PREF gel (EDTA) and the enamel matrix proteins. Afterwards, a two-walled bony defect was fully filled with the xenogenic bone substitute, covered with collagen membrane and the flap was closed with multiple interrupted sutures. At the last appointment after 18 months, clinical and radiographic examination showed complete bone fill around the tooth root, without the presence of residual periodontal pockets. The probing depths showed values 4mm mesially, 3mm buccally, 2mm distally and 3mm palatally. Conclusion: Regenerative surgery provides positive outcomes in proper implementation and thus prolongs the longevity of the tooth in the mouth, which is the primary goal of periodontology.

13.1. IS THE 2017 CLASSIFICATION OF PERIODONTAL DISEASES CLINICIAN-FRIENDLY? REVIEW OF THE CLASSIFICATION THROUGH CASE ANALYSIS

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Periodontitis is a chronic inflammatory disease associated with bacterial dysbiosis and affecting the supporting structures of the tooth. The 1999 Classification of periodontitis differentiated aggressive and chronic periodontitis as two different forms of disease, yet due to considerable overlap between them, their diagnosis very often proved to be a challenge for clinicians. The new 2017 Classification groups these disease forms under a single category, periodontitis, with a further classification framework based on staging and grading. This case report presents a 29-year old male patient referred for periodontal treatment, with generalized pocketing of 4 and 5mm, FMPS 80% and FMBS 79%, horizontal bone loss in the coronal third, non-smoker, HbA1c 5,1%. He was diagnosed with generalized mild chronic periodontitis (1999) / generalized periodontitis stage II, grade B (2017) Through the analysis of this clinical case we address the criticism and objections to the 1999. classification. Furthermore, we address the multidimensionality of the 2017. classification which does not only take into account the severity and the extent of the disease, but also complexity (of case management) and risk (more progressive disease and/or less predictable/poor answer to periodontal therapy). Irrespective of the new classification's intricacy, with adequate guidance, such as the already available e-toolkits, the new classification is relatively easy to implement in daily practice.

14.1. DIFFUSE PIGMENTATION OF THE ATTACHED GINGIVA: CASE REPORTS OF PHYSIOLOGICAL, RACIAL HYPERPIGMENTATION AND SMOKER'S MELANOSIS

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Brown pigmentation of the oral mucosa is most commonly caused by the presence of the melanin pigment, produced by the melanocytes in the basal layers of the epithelium. Clinical representation (the coloration and the extent of the pigmentation) and its cause (physiological or pathological) can greatly vary. This poster presentation reports 4 patients primarily referred for the treatment of periodontitis, but also presenting with asymptomatic, diffuse pigmentations of the gingiva. Patient 1 is a female of African origin with dark brown, diffuse pigmentation of the attached gingiva and areas of the buccal mucosa. Diagnosed as physiological, racial hyperpigmentation, it was of no concern for the patient, thus requiring no further treatment. Patients 2 and 3 reported dissatisfaction with the brown appearance of the maxillary and mandibular attached gingiva on the labial sides of the canines and incisors. Medical history revealed patients were smoking up to 20 cigarettes/day. By excluding other factors, final diagnosis was smoker's melanosis. Intraoral examination of Patient 4 revealed diffuse pigmentation of the frontal areas of the attached gingiva in both jaws, of which patients was unaware, diagnosed as smoker's melanosis. Interestingly, patient was a former smoker, having ceased smoking 3 years prior, without the expected disappearance of the pigmentation. Gingival depigmentation for aesthetic pur-

rezultati pokazali da dobiveni pričvrstak možemo u većini slučajeva i zadržati. Prikaz slučaja: Pacijentu R.P. u dobi od 50 godina radiološko – kliničkim pregledom utvrdi se prisutnost parodontitisa. Dubine sondiranja za zub 21 prije inicijalne parodontne terapije su iznosile 16mm mezijalno, 15 mm bukalno, 7 mm distalno i 15mm palatinalno uz prisutnost gnoja. Učini se inicijalna terapija uz povezivanje prednjih zuba pomoću kompozitnog splinta korištenjem Ribond vlakana od 3mm i na reevaluciji se dobiju dubine sondiranja od 13mm mezijalno, 12mm bukalno, 6 mm distalno i 12 mm palatinalno. Korijen zuba se parodontološki obradi i tretira PREF gelom (EDTA) i proteinom caklinskog matriksa, te se u dvozdini koštani defekt postavi autologna kost, u potpunosti ispunjeni defekt sa ksenogenim koštanim nadomjestkom, prekrrije se kolagenom membranom preko koje se fiksira režanj s više pojedinačnih šavova, a pacijentu se na kraju zahvata ordinira antibiotik. Zadnja kontrola nakon 18 mjeseci - kliničkim pregledom i sondiranjem utvrdi se u potpunosti regenerirana kost oko korijena zuba, bez prisutnosti parodontnih džepova što se potvrdi i radiološkim nalazom. Dubine sondiranja su pokazivale vrijednosti 4mm mezijalno, 3 mm bukalno, 2mm distalno i 3mm palatinalno. Zaključak: Regenerativna kirurgija daje pozitivne ishode kod pravilnog provođenja te se time produžuje dugotrajnost zuba u ustima što je primarni cilj parodontologije, očuvanje zuba i svih tkiva oko njega.

13.2. JE LI NOVA KLASIFIKACIJA PARODONTNIH BOLESTI 2017. PRILAGOĐENA KLINIČARIMA? ANALIZA KROZ PRIKAZ SLUČAJA

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Parodontitis je kronična upalna bolest povezana s promjenama u sastavu bakterijskog biofilma, koja vodi do posljedičnog gubitka kliničkog pričvrsta i alveolarne kosti. Klasifikacija parodontnih bolesti iz 1999. godine razlikovala je i definirala agresivni i kronični parodontitis kao dva zasebna oblika bolesti, no njihova se dijagnoza zbog preklapanja pojedinih odrednica bolesti često pokazala kao izazov za kliničare. Nova Klasifikacija iz 2017. godine ova dva oblika bolesti ujedinjava u jednu kategoriju, parodontitisa, uz daljnju klasifikaciju temeljenu na određivanju stadija i razreda. Ovaj prikaz slučaja predstavlja 29-godišnjeg pacijenta upućenog na parodontno liječenje, s generaliziranim džepovima od 4 i 5 mm, FMPS 80% i FMBS 79%, horizontalni gubitkom kosti u koronalnoj trećini, nepušaču, HbA1c 5,1%. Dijagnosticiran mu je generalizirani početni kronični parodontitis (1999.) / generalizirani parodontitis, stadij II, razred B (2017.). Analizom ovog kliničkog slučaja napravljen je osvrt na kritike i primjedbe na klasifikaciju iz 1999. godine. Nadalje, predstavljena je višedimenzionalnost klasifikacije iz 2017. godine koja ne uzima u obzir samo težinu te opseg i distribuciju bolesti, već i složenost (koja ima utjecaja na pristup liječenju i skrbi) i rizik (od progresije bolesti i/ili od manje predvidljivog / lošeg odgovora na parodontno liječenje). Bez obzira na složenost nove klasifikacije, uz njeno pobliže upoznavanje i upotrebu već dostupnih e-alata, doktori dentalne medicine trebali bi je relativno jednostavno moći primijeniti u svakodnevnoj kliničkoj praksi.

14.2. DIFUZNA PIGMENTACIJA PRIČVRSNJE GINGIVE: PRIKAZI SLUČAJEVA FIZIOLOŠKE, RASNE HIPERPIGMENTACIJE I PUŠAČKE MELANOZE

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Smeđe, crno ili sivo pigmentirana sluznica usne šupljine najčešće je uzrokovana prisutnošću pigmenta melanina, kojeg stvaraju melanociti u bazalnim slojevima epitela. Klinička slika (boja i proširenost pigmentacije) i njezin uzrok (fiziološki ili patološki) mogu uvelike varirati. Ova poster prezentacija predstavlja slučajeve 4 pacijenta primarno upućenih zbog liječenja parodontitisa te s klinički prisutnim asimptomatskim, difuznim pigmentacijama gingive. Pacijent 1 je žena afričkog podrijetla s tamno smeđom, difuznom pigmentiranom pričvrstnom gingivom i područjima bukalne sluznice. Dijagnosticirana kao fiziološka, rasna hiperpigmentacija, nije zabrinjavala pacijenticu te stoga nije bilo potrebe za daljnjim liječenjem i njenim uklanjanjem. Pacijenti 2 i 3 izrazili su nezadovoljstvo smeđe pigmentiranom gingivom gornje i donje čeljusti na labijalnim stranama očnjaka i sjekutića. Uzimanjem anamneze utvrđeno je da pacijenti puše do 20 cigareta dnevno te je isključivanjem drugih čimbenika utvrđena konačna dijagnoza pušačke melanoze. Intraoralnim pregledom Pacijenta 4 uočena je difuzno proširena pigmentacija prednjih područja gingive u obje čeljusti koje pacijent nije bio svjestan, a također odgovara pušačkoj melanozi. Iako je pacijent bivši pušač (ne puši unatrag 3 godine), nije došlo do očekivanog smanjenja ili nestanka pigmentacije. Estetska depigmentacija gingive može se provesti različitim tehnikama liječenja na zahtjev pacijenta. Nadalje, pušačima treba pružiti potporu u pre-

poses can be carried out by several different treatment techniques. Furthermore, smokers should be supported in smoking-cessation and informed about its potential in pigmentation reduction. Dental professionals should be able to diagnose pigmentations correctly and plan treatment accordingly.

15.1. CLINICAL CROWN LENGTHENING USING PROPORTION GAUGES

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Clinical crown lengthening is one of the treatment procedures of plastic periodontal surgery, performed in order to correct anatomical, developmental, traumatic defects of the alveolar mucosa or bones. Indications for performing crown lengthening are multiple. Firstly, nowadays, aesthetics is something aimed at and represents one of the main goals to satisfy, especially in cases of teeth length asymmetry and gummy smile. The gummy smile is amongst common complaints of patients whose gingival display is excessive when smiling, characterized by gingival display of 3 or more mm. Patients with thin gingival phenotype can undergo crown lengthening and reduce excessive gingival display with the gingivectomy and gingivoplasty. If a patient has thick gingival phenotype and bone growth on the ridge, crown lengthening is not possible by performing the gingivectomy and gingivoplasty, but by bone recontouring performing osteoplasty. The patient came to the Periodontology Department due to short teeth and excessive gingival display issues. Clinical check-up showed that it is a type of thick gingival phenotype, and that besides the gingivectomy, ostectomy and osteoplasty are needed as well. By the aid of special callipers for aesthetic crown lengthening, ideal teeth proportions have been established, i.e. the teeth width amounts to 80% of the teeth length. By the aid of periodontal probe, places of incision height were marked and cross incisions of marginal gingiva were made by a scalpel, the excised gingiva was removed and a mucoperiosteal flap was elevated in order to perform ostectomy, which would satisfy the biological width for better harmony between the gingiva and osteoplasty. Mucoperiosteal flap was repositioned and sutured with 5-0 sutures.

16.1. THE TREATMENT OF PATHOLOGIC TOOTH MIGRATION IN PATIENT WITH PERIODONTITIS STAGE IV GRADE C

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In adults, advanced periodontal loss can cause pathological tooth migration (PTM). Different etiologic factors are important in the expression of the PTM such as bone loss, followed by tooth loss and gingival inflammation. Prevalence of PTM among periodontal patients has been reported to range from 30.03% to 55.8%. Reports revealed that spontaneous correction of PTM can occur after initial periodontal therapy, especially in the case of early or moderate chronic periodontitis. However, in the case of severe chronic periodontitis, spontaneous corrections are less likely to occur. 39-year old patient was referred to Department of Periodontology, School of Dental Medicine Zagreb. The patient reported problems with chewing ability, migration and tooth mobility. Clinical examination revealed deep probing depths with tooth loss, masticatory dysfunction and bite collapse and diagnosis of Periodontitis stage IV grade C was made. Initial periodontal treatment was carried out to stabilize the periodontal tissues and stop the progression of the disease. After the initial periodontal therapy the aim was to move the tooth 23 buccally since the tooth 23 was in cross bite and had very pronounced palatal position. To perform the planned orthodontic movement occlusal vertical dimension (OVD) had to be temporarily increased with composite and the retrusion of migrated lower incisors was done with orthodontic elastics bands which closed the diastema and provided necessary space for correction of the teeth in upper jaw. In treating PTM, a preventing step such as permanent splitting should be considered as a part of the treatment procedure.

stanku pušenja i obavijestiti ih o mogućnosti posljedičnog smanjenja pigmentacije. Doktor dentalne medicine bi trebali moći ispravno dijagnosticirati pigmentacije sluznice usne šupljine i sukladno planirati liječenje.

15.2. PRODULJENJE KLINIČKE KRUNE METODOM ESTETSKIH MJERKI

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Kliničko produljenje krune jedan je od terapijskih postupaka plastične parodontne kirurgije, kako bi se korigirali anatomski, razvojni, traumatski defekti alveolarne mukoze ili kosti. Indikacije za produljenje kliničke krune su višestruke. Prije svega danas je estetika nešto čemu se teži i predstavlja jedan od glavnih ciljeva koji se pokušavaju zadovoljiti, posebno u slučajevima asimetrije dužine zuba i *gummy smile*-a. *Gummy smile* česta je pritužba pacijenata kojima je prilikom osmjeha pretjerano vidljiva gingiva te takav osmjeh karakterizira vidljivost gingive od 3 ili više mm. Pacijentima s tankim fenotipom gingive produljenje krune zuba i smanjenje pretjerano vidljive gingive moguće je postići gingivektomijom i gingivoplastikom. Ukoliko pacijent ima gingivu debelog fenotipa i koštane izbočine na grebenu, izlaganje anatomske krune nije moguće gingivektomijom i gingivoplastikom, već rekulturiranjem kosti osteoplastikom. Pacijentica se javila na Zavod za parodontologiju zbog pritužbe na kratke zube i pretjerane vidljivosti gingive. Kliničkim pregledom ustanovljeno je da se radi o debelom fenotipu gingive te da su uz gingivektomiju potrebne osteotomija i osteoplastika. Pomoću specijalnih mjerkli za estetsko produljenje krune ustanovljene su idealne proporcije zuba tj. da širina zuba iznosi 80 % duljine zuba. Pomoću parodontološke sonde označena su mjesta visine incizije te su skalpelom napravljene križne incizije marginalne gingive, učinjena gingivektomija te je podignut mukoperiostealni režanj kako bi se učinila osteotomija koja zadovoljava biološku širinu u svrhu postizanja harmonije gingive i osteoplastika. Mukoperiostealni režanj je reponiran u novi položaj te je zašiven koncem 5-0.

16.2. TERAPIJA PATOLOŠKE MIGRACIJE ZUBI KOD PACIJENTA S PARODONTITISOM STADIJ IV RAZRED C

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U odraslih gubitak pričvrstnog aparata može dovesti do patološke migracije zubi (PTM). Različiti etiološki faktori mogu dovesti do patološke migracije zubi: gubitak kosti, gubitak zubi te upala gingive. Prevalencija PTM-a među parodontološkim pacijentima kreće se u rasponu između 30.03% do 55.8%. Neka istraživanja navode mogućnost spontane korekcije PTM-a nakon inicijalne parodontološke terapije, osobito u slučajevima blagog do umjerenog kroničnog parodontitisa. Međutim, u slučaju teškog kroničnog parodontitisa manje je vjerojatno da će doći do spontane korekcije. 39- godišnji pacijent upućen je od strane svog stomatologa na Zavod za Parodontologiju. Stomatološkog fakulteta u Zagrebu. Pacijent se žali na tegobe prilikom žvakanja, te na pomičnost i pokretljivost zubi. Kliničkim pregledom utvrđena je patološka dubina sondiranja povezana s gubitkom pričvrtka, nepravilnim zagrizom uslijed gubitka zubi i smanjenom vertikalnom dimenzijom te je postavljena dijagnoza Parodontitis Stadij IV, razred C. Inicijalna parodontološka terapija provedena je kako bi se stabiliziralo parodontno tkivo i zaustavilo daljnje napredovanje bolesti. Nakon inicijalne parodontološke terapije cilj je bio da se zub 23 pomakne bukalno jer je zub 23 bio u križnom zagrizu te postavljen palatinalno. Radi planiranog ortodontskog pomicanja zubi bilo je potrebno privremeno povisiti zagriz kompozitom dok su pomoću ortodontskih gumica retrudirani donji sječutići radi zatvaranja dijasteme i osiguravanja potrebnog prostora za korekciju položaja zubi u gornjoj čeljusti. Poboljšanje estetskog izgleda lica nakon korekcije PTM-a značajno je doprinijelo motiviranju pacijenta da se redovito uključuje u potpurnu terapiju uz dobru oralnu higijenu.