

FIELD OF DENTISTRY: ENDODONTICS AND DENTAL PATHOLOGY

MULTIDISCIPLINARY APPROACH TO RESOLVING COMPLEX PATHOLOGY IN THE UPPER CENTRAL INCISOR AS A RESULT OF TOOTH TRAUMA**Bećirović Amir^{1*}, Hodžić Melisa¹, Okić Armin², Planinić Ana³, Dorić Hakalović Dijana⁴, Grebović Adna⁵**¹Private Dental Clinic "Dr. Bećirović," Doboj Istok, F BiH²Public Health Institution "Zenica Health Center," Zenica, F BiH³Public Health Institution "Mostar Health Center," Mostar, F BiH⁴Private Dental Clinic "Širbegović Dentistry," F BiH⁵Private Specialist Dental Clinic "Dr. Edin Bukva"**ABSTRACT**

Introduction: Root resorption is the loss of hard dental tissue due to odontoclastic activity. If the resorption occurs inside the tooth, on the canal wall, it is described as internal root resorption, while resorption occurring on the external surface of the root is described as external root resorption. The etiology is unclear. Several potential predisposing factors have been suggested, including traumatic tooth injuries and pulp inflammation as a tissue response to infection approaching the resorption area.

Case Presentation: A 13-year-old female patient presented to the "Dr. Bećirović" clinic with pain and gingival swelling in the region of the upper central incisors. After clinical examination, analysis of

radiographs (RVG, CBCT), and consultation with an endodontic specialist, a treatment plan was formulated. The planned treatment included periodontal therapy, elevation of a mucoperiosteal flap, repair of external resorption on tooth 11 (using MTA and a collagen resorbable membrane) to ensure a "clean" endodontic space. The complete endodontic treatment protocol was followed, and final canal obturation was performed using the main gutta-percha point (30/04) and a warm gutta-percha system. Following endodontic treatment and control radiographs, the tooth was restored with a composite filling.

Conclusion: Tooth resorption is a pathological reaction that, if left untreated, leads to tooth loss. The goal of therapy is to stop the resorptive process and preserve tooth structures. After the therapy, the patient was symptom-free (pain, swelling). Control radiographs showed recovery of the surrounding bone of tooth 11, providing hope that the multidisciplinary approach to treating the resorption of tooth 11 was successful and yielded positive results. The patient requires further monitoring, with control radiographs to be taken in six months and again in one year.

Keywords: Trauma, MTA, irrigation, obturation, monitoring.

OBLAST STOMATOLOGIJE: DENTALNA IMPLANTOLOGIJA

**SUDSKO-MEDICINSKE IMPLIKACIJE
U DENTALNOJ IMPLANTOLOGIJI
S PRIKAZOM SLUČAJEVA IZ PRAKSE****Željka Lovrić**

Privatna ordinacija dentalne medicine, Zagreb

SAŽETAK

Sve veća potreba i želja pacijenata za kvalitetnijom rehabilitacijom usne šupljine rezultirala je pravim „bumom“ u postavljanju dentalnih implantata. Istaknimo da je pritom potrebno dobro planirati, voditi brigu o indikacijama i primjenjivati implantoprotetičke protokole kako bi rezultati bili funkcijski i estetski zadovoljavajući te se poštovala etička načela i zakonske odredbe.

Nepoštovanje etičkih, stručnih i znanstvenih načela te nedostatan informiranje pacijenta o potencijalnim rizicima, komplikacijama i neuspjesima, ali i nesavjestan i neodgovoran rad terapeuta, nakon rehabilitacije usne šupljine dentalnim implantatima dovodi do sve većeg broja tužbi pacijenata. Jasnije smjernice i upute trebale bi pomoći pacijentu da realno procijeni što može očekivati kad je riječ o terapiji i pojednostavniti odnos s doktorom. Dobro dokumentiranje svakoga pojedinog slučaja, potpisivanje informiranog pristanka za terapiju i detaljno usmeno objašnjenje o protokolima i ishodima liječenja itekako mogu pomoći terapeutu u slučaju sudskog procesa i vještačenja.

Prikazana su tri slučaja iz sudske prakse za koja su obavljena vještačenja. Opisane su kirurške i protetičke komplikacije koje su se dogodile i što se u pojedinim vještačenjima smatra pogreškom, a što očekivanom komplikacijom.

Pokušali su se razgraničiti i pojmovi liječničke pogreške i liječničke komplikacije.

Doprinos rada bio bi smanjivanje ili izbjegavanje naknadnih nesuglasica i problema u jasnije definiranim protokolima o radu.

Ključne riječi: dentalna implantologija, tužbe pacijenata, zakonske odredbe

FIELD OF DENTISTRY: DENTAL IMPLANTOLOGY

**FORENSIC IMPLICATIONS IN DENTAL
IMPLANTOLOGY WITH A
CASE REPORT FROM PRACTICE****Željka Lovrić**

Private dental practice, Zagreb

ABSTRACT

The growing need and desire of patients for better rehabilitation of the oral cavity has resulted in a real "boom" in the placement of dental implants. It should be noted that at the same time good planning is required in order to take care of the indications and to apply implant-prosthetic protocols to get the results that are functionally and aesthetically satisfactory and to respect the ethical principles and legal provisions.

Non-compliance with ethical, professional and scientific principles and insufficient informing of the patient about potential risks, complications and failures, but also the unscrupulous and irresponsible work of the therapist, after the rehabilitation of the oral cavity with dental implants leads to an increasing number of patient complaints. Clearer guidelines and instructions should help the patient realistically assess what to expect when it comes to therapy and simplify the relationship with the doctor. Good documentation of each individual case, signing an informed consent for therapy and a detailed oral explanation of the protocols and outcomes of treatment can certainly help the therapist in the case of litigation and expertise.

Three cases from court practice for which expertise was performed are presented. The surgical and prosthetic complications that occurred are described showing what was a mistake and what expected complication.

Attempts were also made to distinguish between the concepts of medical error and medical complication.

The contribution of the work would be reducing or avoiding subsequent disagreements and problems in more clearly defined work protocols.

Key words: dental implantology, patient lawsuits, legal provisions

OBLAST STOMATOLOGIJE: DJEČIJA STOMATOLOGIJA

HIPODONCIJA DONJIH STALNIH CENTRALNIH SJEKUTIĆA -DIJAGNOSTIČKI I TERAPIJSKI IZAZOVI**Hanela Gojak¹, Nejla Krdžalić², Dženita Šljivić -Talić³, Elvedina Prlja¹**¹ Javna ustanova Dom zdravlja Sarajevskog kantona, Bosna i Hercegovina² Javna zdravstvena ustanova Dom zdravlja „Izudin Mulabećirović-Izo“, Tešanj, Bosna i Hercegovina³ Javna zdravstvena ustanova Dom zdravlja Lukavac, Bosna i Hercegovina**SAŽETAK**

Uvod: Hipodoncija je nepravilnost broja zuba, tačnije nedostatak do šest zuba, ne računajući treće molare. Češća je u stalnoj nego u mliječnoj denticiji, neznatno više prisutna kod djevojčica, češća u mandibuli nego u maksili.

Cilj: prikazati ne tako čestu hipodonciju donjih stalnih centralnih sjekutića, uz još uvijek prisutne donje mliječne centralne sjekutiće kod zdrave osmogodišnje djevojčice, izolovan slučaj bez ostalih sistemskih oboljenja i genetske predispozicije.

Metode: djevojčica dolazi na pregled, bez subjektivnih tegoba. Klinički smo utvrdili različite donje sjekutiće, što nas navodi da detaljnije utvrdimo razlog takve kliničke slike. Roditelji navode da nije bilo klimanja i ispadanja donjih mliječnih centralnih sjekutića i negativnu genetsku predispoziciju za hipodonciju. Uradimo rtg, OPG snimak, koji nam potvrde sumnju na hipodonciju donjih stalnih centralnih sjekutića. Uviđa se kompleksnost dalje terapije, shodno položaju zuba, funkcionalnim i estetskim izazovima.

Diskusija: hipodoncija donjih centralnih sjekutića se vrlo rijetko opisuje na našem podneblju. Najčešće je prisutna kod azijske populacije, gdje je opisuje kao autohtonu osobinu. Prevalenca kod indijske djece je 26,30% za prve i druge sjekutiće donje vilice, kod španjolske 4,22% za centralne, dok se kod turske, katarske, iranske djece rijetko opisuje.

Zaključak: hipodoncija donjih centralnih inciziva predstavlja vrlo izazovan estetski i funkcionalni problem, koji zahtijeva multidisciplinarni pristup, dugotrajno i učinkovito planiranje liječenja u skladu sa uzrastom i individualnim zahtjevima djeteta

Ključne riječi: hipodoncija, donji sjekutići

FIELD OF DENTISTRY: PEDIATRIC DENTISTRY

HYPODONTIA OF THE LOWER PERMANENT CENTRAL INCISORS – DIAGNOSTIC AND THERAPEUTIC CHALLENGES**Hanela Gojak¹, Nejla Krdžalić², Dženita Šljivić -Talić³, Elvedina Prlja¹**¹ Public Health Institution Health Center of Sarajevo Canton, Bosnia and Herzegovina² Public Health Institution Health Center "Izudin Mulabećirović-Izo", Tešanj, Bosnia and Herzegovina³ Public Health Institution Health Center Lukavac, Bosnia and Herzegovina**ABSTRACT**

Introduction: Hypodontia is a dental anomaly characterized by the absence of up to six teeth, excluding third molars. It is more common in the permanent dentition than in the primary dentition, slightly more prevalent in females, and occurs more frequently in the mandible than in the maxilla.

Objective: To present the uncommon case of hypodontia of the lower permanent central incisors, with the presence of lower primary central incisors in a healthy eight-year-old girl. This is an isolated case without other systemic diseases or genetic predispositions.

Methods: The patient presented for an initial dental assessment without any subjective complaints. Clinically, we observed different lower central incisors, prompting further investigation to determine the cause of this clinical presentation. The parents reported no history of mobility or loss of the primary lower central incisors and a negative family history for hypodontia. An X-ray (OPG) was performed, confirming the suspicion of hypodontia of the lower permanent central incisors. The complexity of further treatment was noted, considering the position of the teeth, as well as functional and aesthetic challenges.

Discussion: Hypodontia of the lower central incisors is rarely described in our region. It is more commonly observed in Asian populations, where it is considered an indigenous trait. The prevalence of hypodontia in Indian children is 26.30% for the first and second lower incisors, while in Spanish children it is 4.22% for central incisors. It is rarely described in Turkish, Qatari, and Iranian children.

Conclusion: Hypodontia of the lower central incisors presents a significant aesthetic and functional challenge, requiring a multidisciplinary approach, long-term, and effective treatment planning in accordance with the child's age and individual needs.

Keywords: hypodontia, lower incisors

OBLAST STOMATOLOGIJE: DJEČIJA STOMATOLOGIJA

PREVALENCA KARIJESA PREDŠKOLSKO I ŠKOLSKO
DJECE NA PODRUČJU OPĆINE TEŠANJNejla Krdžalić¹ Hanela Gojak²¹ JZU Dom zdravlja "Izudin Mulabecirović – Izo" Tešanj, Bosna i Hercegovina² Javna ustanova Dom zdravlja Sarajevskog kantona, Bosna i Hercegovina

SAŽETAK

Uvod: Zubni karijes je jedna od najučestalijih hroničnih bolesti djece i adolescenata. Cilj ovog rada je da se prikaže prevalenca karijesa mliječnih zuba kod djece predškolske dobi i trajnih zuba djece školske dobi na području općine Tešanj.

Materijali i metode: Istraživanje je obuhvatilo 537 djece, 175 predškolske i 362 školske dobi. Prevalenca karijesa prikazana je kod predškolske djece dobi 3 do 6 godina, te školske djece dobi 6 do 15 godina, posmatrajući parametre kao što su KEP (kep) indeks i indeks značajnosti karijesa (SiC).

Rezultati: Ukupna rasprostranjenost karijesa kod djece predškolske dobi iznosi 89,14%, a kod djece školske dobi 46,68%. Predškolska djeca imaju prosječnu vrijednost kep indeksa 5.9 i SiC indeksa 2.4. Vrijednosti kep i SiC indeksa mliječnih zuba kod trogodišnjaka iznose kep 4 / SiC 8.4, četverogodišnjaka 5.15/10.4, petogodišnjaka 6.25/12.2 i šestogodišnjaka 8.06/2.5. Školska djeca imaju prosječnu vrijednost KEP indeksa 2.06, a SiC indeksa 1.3. Vrijednosti KEP i SiC indeksa trajnih zuba kod šestogodišnjaka iznose KEP 0.04 / SiC 0.11, sedmogodišnjaka 0.74/2.23, osmogodišnjaka 1.66/3.76, devetogodišnjaka 1.98/3.66, desetogodišnjaka 2.3/4.54, jedanaestogodišnjaka 2.5/4.86, dvanaestogodišnjaka 2.33/4.53, trinaestogodišnjaka 2.61/5.66, četrnaestogodišnjaka 4.69/9.25 i petnaestogodišnjaka 1.75/3. Kod djece školske dobi mogli su se uočiti dominantno prisutni kariozni mliječni zubi što direktno utiče na veću incidencu nastanka karijesa na okolnim mladim trajnim zubima.

Zaključak: Dobijeni rezultati pokazali su visoku prevalencu karijesa, odnosno postojanje velikog broja karioznih i nesaniranih zuba mliječne i trajne denticije kod djece na području općine Tešanj što ukazuje na potrebu za efikasnijim mjerama prevencije i boljom organizacijom primarne stomatološke zaštite.

Ključne riječi: karijes, KEP indeks, SiC indeks, djeca, prevalence

FIELD OF DENTISTRY: PEDIATRIC DENTISTRY

DENTAL CARIES PREVALENCE IN PRESCHOOL AND
SCHOOL CHILDREN IN TEŠANJ MUNICIPALITYNejla Krdžalić¹ Hanela Gojak²¹ The Public Institution Health Centre "Izudin Mulabecirović – Izo" Tešanj, Bosnia and Herzegovina² The Public Institution Health Centre of Sarajevo Canton, Sarajevo, Bosnia and Herzegovina

ABSTRACT

Introduction: Dental caries is one of the most common chronic diseases of children and adolescents. The aim of this study was to determine the caries prevalence of primary teeth in preschool children and permanent teeth in school children in Tešanj municipality.

Materials and method: The research included 537 children, 175 preschool children and 362 school children. The prevalence of caries was shown in preschool children aged 3 to 6 years, and school children aged 6 to 15 years, observing parameters such as DMFT (dmft) index and caries significance index (SiC).

Results: The total prevalence of caries in preschool children is 89.14%, and in school children it is 46.68%. Preschool children have an average value dmft index of 5.9 and an average SiC index of 2.4. The values of the dmft index and SiC index of deciduous teeth in three-year-olds are dmft 4/ SiC 8.4, in four-year-olds 5.15/10.4, in five-year-olds 6.25/12.2 and in six-year-olds 8.06/2.5. School children have an average value DMFT index of 2.06 and SiC index of 1.3. The values of the DMFT and SiC of permanent teeth in six-year-olds are DMFT 0.04/ SiC 0.11, seven-year-olds 0.74/2.23, eight-year-olds 1.66/3.76, nine-year-olds 1.98/3.66, ten-year-olds 2.3/4.54, eleven-year-olds 2.5/4.86, twelve-year-olds 2.33/4.53, thirteen-year-olds 2.61/5.66, fourteen-year-olds 4.69/9.25 and fifteen-year-olds 1.75/3. It is observed that carious in primary teeth in school children is dominantly present, which directly affects the higher incidence of caries in the surrounding young permanent teeth.

Conclusion: The obtained results showed a high prevalence of caries, i.e. the existence of a large number of carious and untreated primary and permanent teeth in children in Tešanj municipality. Therefore, preventive measures and primary dental care must be better implemented and organized in primary dental care.

Key words: caries, DMFT index, SiC index, children, prevalence

FIELD OF DENTISTRY: ENDODONCIJA

**DEEP SPLIT KORIJENSKOG KANALA
MANDIBULARNOG PRVOG PREMOLARA****PRIKAZ SLUČAJA****Adna Begović¹, Adna Grebović², Mirna Pašić¹, Madžida Halilović Mehinović¹, Iman Prčić³, Aida Džanković¹**¹ Stomatološki fakultet sa stomatološkim kliničkim centrom, Katedra za dentalnu patologiju s endodoncijom, Univerzitet u Sarajevu² Privatna specijalistička stomatološka ordinacija "Dr Edin Bukva"³ Nezavisni istraživač**SAŽETAK**

Uvod: Mandibularni prvi premolar obično ima jedan korijen i jedan kanal. Dvokanalne varijante čine 24% slučajeva, pri čemu se lingvalni kanal odvaja od glavnog pod ostrim uglom, najčešće u srednjoj trećini korijena, formirajući tzv. h-tip ili deep split. Cilj ovog rada je prikazati endodontsko liječenje mandibularnog prvog premolara sa deep split konfiguracijom korijenskog kanala.

Prikaz slučaja: Pedesetjednogodišnji pacijent se javio zbog boli u regiji zuba 44. Kliničkim pregledom utvrđen je kompozitni ispun II klase (OD), intraoralna fistula bukalno, perkutorna osjetljivost i blaga mobilnost zuba. Na RVG snimku je uočena apikalna radiolucenca dimenzija 7 mm, ali i račvanje glavnog korijenskog kanala po principu deep split-a. Prisustvo kompleksne morfologije zahtijevalo je modifikaciju standardnog protokola instrumentacije, s fokusom na značajno proširenje glavnog kanala do mjesta račvanja, kako bi se omogućila adekvatna obrada i opturacija oba kanala. Glavni korijenski kanal je instrumentiran mašinski do dimenzija 35/.06, dok je lingvalni kanal instrumentiran ručno do dimenzija 20/.02, uz obilnu irigaciju NaOCl. Apliciran je Ca(OH)₂, a nakon 10 dana pristupilo se definitivnom punjenju odgovarajućim gutaperkama i silerom na bazi epoksi smola. Prije aplikacije, gutaperke su ohlađene primjenom EndoFrost-a, s ciljem lakšeg unošenja u korijenske kanale. Nakon opturacije glavnog kanala, gutaperka je presječena na mjestu račvanja, kako bi se omogućila jednostavnija aplikacija gutaperke u lingvalni kanal. Kontrolni snimak nakon mjesec dana pokazao je znakove cijeljenja periapikalnog tkiva.

Zaključak: Prepoznavanje, instrumentacija i opturacija mandibularnih prvih premolara sa deep split korijensko-kanalnom morfologijom predstavlja izazov u endodontskoj terapiji. Upotrebom operativnog mikroskopa, modificiranim pristupom instrumentaciji i opturaciji značajno se povećava šansa za uspješnost endodontskog tretmana.

Gljučne riječi: mandibularni prvi premolar, deep split, morfologija korijenskog kanala, endodontski tretman

FIELD OF DENTISTRY: ENDODONTIC

**DEEP SPLIT OF ROOT CANAL IN MANDIBULAR
FIRST PREMOLAR****A CASE REPORT****Adna Begović¹, Adna Grebović², Mirna Pašić¹, Madžida Halilović Mehinović¹, Iman Prčić³, Aida Džanković¹**¹ Faculty of Dentistry with Dental Clinical Center, Department of Dental Pathology and Endodontics, University of Sarajevo² Dental office "Dr Edin Bukva"³ Independent researcher**ABSTRACT**

Introduction: Mandibular first premolar typically has one root and one canal. Two-canal variants occur in 24%, where the lingual canal diverges sharply from the main canal, usually at the midroot, which results in an h-type or deep split morphology. This case report aims to present the endodontic treatment of a mandibular first premolar with deep split configuration.

Case report: A 51-year-old patient presented with pain in the region of tooth 44. Clinical examination revealed a class II composite filling (OD), an intraoral fistula buccally, percussion sensitivity, and mild tooth mobility. An RVG image showed apical radiolucency measuring 7 mm, and a deep split bifurcation of the main root canal. Due to this complex morphology, the standard instrumentation protocol required modification. A significant enlargement of the main canal to the bifurcation level was necessary in order to adequately treat both canals. The main canal was rotary instrumented (35/.06), while the lingual canal was treated with hand files (20/.02) and abundant NaOCl irrigation. Ca(OH)₂ was applied and after 10 days, obturation was performed with gutta-percha and an epoxy resin-based sealer. The gutta-percha was cooled with EndoFrost for easier adaptation. After obturation, it was cut at the bifurcation point to facilitate placement of the gutta-percha in the lingual canal. A follow-up RVG after one month indicated periapical healing.

Conclusion: Identification, instrumentation and obturation of mandibular first premolar with a deep split pose significant challenges in endodontic treatment. The use of an operating microscope, along with a modified approach to instrumentation and obturation, increases the likelihood of a successful endodontic treatment.

Keywords: mandibular first premolar, deep split, root canal morphology, endodontic treatment

FIELD OF DENTISTRY: ENDODONCIJA

GERONTOSTOMATOLOGIJA**- IZAZOVI ENDODONTSKOG LIJEČENJA****Ineta Šehović¹, Selma Čosović², Adisa Goga Filipović³, Merisa Repeša Komarica⁴, Džejma Suljić Hujic⁵**¹ Klinika za dentalnu patologiju i endodonciju, Stomatološki fakultet sa Stomatološkim kliničkim centrom² Prijemna ambulanta, Stomatološki fakultet sa Stomatološkim kliničkim centrom Univerziteta u Sarajevu³ JU Dom zdravlja sa stacionarom Kakanj, ambulanta opšte stomatologije⁴ Rendgen kabinet, Stomatološki fakultet sa Stomatološkim kliničkim centrom Univerziteta u Sarajevu⁵ Klinika za paradontologiju i oralnu medicinu, Stomatološki fakultet sa Stomatološkim kliničkim centrom**SAŽETAK**

Uvod: Gerontostomatologija je grana dentalne medicine koja se bavi proučavanjem procesa starenja, preventivnim i terapijskim postupcima svih oboljenja dentofacijalne regije kod osoba starije životne dobi. Prema Svjetskoj zdravstvenoj organizaciji (SZO) osobe starije od 65.godina pripadaju populaciji starije životne dobi.

Zubna pulpa starijih osoba razlikuje se od pulpe mlađih po broju vlakana i stanica. S godinama volumen pulpe se smanjuje, dolazi do procesa odlaganja dentina koji može biti ubrzan iritacijom pulpe karijesom, restauracijama i paradontalnom bolešću, što može onemogućiti uspješnost endodontskog tretmana.

Materijal i metode: Pacijenti starije životne dobi javili su se na Kliniku za Dentalnu patologiju i endodonciju zbog potrebe za saniranjem zubala. Nakon što je proveden kompletan klinički pregled i anamneza glavnih tegoba, te upotpunjena medicinskom anamnezom i rendgen dijagnostikom pacijenti su podvrgnuti dvoseansnom endodontskom tretmanu.

Rezultati: Kroz slučajeve iz kliničke prakse prikazat ćemo vam neke od endodontskih tretmana kod pacijenata starije životne dobi.

Zaključak: Bez obzira na sve promjene koje se dešavaju na zubima pacijenata starije životne dobi potrebno je sanirati akutni problem poput bola kao i nadoknaditi gubitak zuba u cilju poboljšanja oralnog zdravlja pacijenata. Svakom zubu treba pristupiti individualno i odlučiti o daljem toku tretmana u korist pacijenta.

Ključne riječi: Gerontostomatologija, endodontski tretman, starosne promjene, OPG, RVG

FIELD OF DENTISTRY: ENDODONTIC

GERIATRIC DENTISTRY**– ENDODONTIC TREATMENT CHALLENGES****Ineta Šehović¹, Selma Čosović², Adisa Goga Filipović³, Merisa Repeša Komarica⁴, Džejma Suljić Hujic⁵**¹ Clinic for Dental Pathology and Endodontics, Faculty of Dentistry with the Dental Clinical Center² Pre-Admission Clinic of the Faculty of Dentistry with the Dental Clinical Center of the University of Sarajevo³ Kakanj Public Institution Health Center with an Inpatient Clinic, General Dentistry Clinic⁴ X-ray Cabinet, Faculty of Dentistry with the Dental Clinical Center of the University of Sarajevo⁵ Clinic for Periodontology and Oral Medicine, Faculty of Dentistry with the Dental Clinical Center of the University of Sarajevo**ABSTRACT**

Introduction: Geriatric dentistry is a branch of dental medicine focuses on studying the aging process and implementing preventive and therapeutic procedures for all diseases affecting the dentofacial region in older individuals. According to the World Health Organization (WHO), individuals aged 65 and older are considered part of the elderly population.

There is a difference in the number of fibers and cells in the dental pulp between older and younger individuals. The pulp volume decreases with age, leading to increased dentin deposition, which can be accelerated by pulp irritation caused by caries, restorations, or periodontal disease, potentially resulting in unsuccessful endodontic treatment.

Material and methods: Older patients presented to the Clinic for Dental Pathology and Endodontics for dental restoration. After a comprehensive clinical examination, an evaluation of their primary complaints, a medical history review, and x-ray diagnostics, the patients underwent a two-session endodontic treatment.

Results: Through clinical case examples, we will demonstrate various endodontic treatments for older patients.

Conclusion: Despite the changes that occur in the teeth of older patients, it is essential to address acute issues such as pain and to compensate for tooth loss to improve their oral health. Each tooth should be treated individually, with the subsequent treatment plan tailored to the patient's best interests.

Keywords: Geriatric dentistry, endodontic treatment, age-related changes, OPG, RVG

FIELD OF DENTISTRY: ENDODONCIJA

**VERTIKALNA FRAKTURA KORIJENA NAKON
ENDODONTSKOG LIJEČENJA ZUBA**

PRIKAZ SLUČAJA

**Madžida Halilović Mehinović¹, Edina Čolaković²,
Mirna Pašić¹, Adna Begović¹, Samra Korać¹**¹ Univerzitet u Sarajevu, Stomatološki fakultet sa stomatološkim kliničkim centrom, Katedra za dentalnu patologiju s endodoncijom² Privatna specijalistička ordinacija sa polivalentnom stomatološkom praksom „RES DENTAL“ Sarajevo**SAŽETAK**

Uvod: Vertikalna fraktura korijena (VFK) predstavlja potpuni ili nepotpuni uzdužni prijelom korijena zuba, najčešće kod endodontski tretiranih postranih zuba koji nastaje kao posljedica jatrogenih faktora ili ekstenzivnih mastikatornih sila. Rana dijagnoza je važna jer se na taj način može izbjeći nepotreban tretman i prekomjerni gubitak kosti. Ekstrakcija zuba sa VFK obično je tretman izbora.

Cilj ovog rada je prikazati značaj kombinacije sveobuhvatnog kliničkog i radiografskog pregleda u pravovremenoj dijagnostici potpune VFK nastale dvije godine nakon endodontskog liječenja zuba #16.

Prikaz slučaja: Na Katedru za dentalnu patologiju s endodoncijom javila se 47-godišnja pacijentica upućena zbog zamjene ispuna II klase na zubu #16. Anamnestički pacijentica navodi da je bez bola, a zub je endodontski liječila prije dvije godine.

Kliničkim pregledom se primijeti blaga pomičnost zuba (stepen 1), bez otoka gingive, fistule i perkutorne osjetljivosti. Uradi se periapikalni snimak zuba i uoči se radiolucenca cijelom dužinom mezijalnog korijena zuba oblika slova „J“, te adekvatno endodontsko punjenje. Odluči se u potpunosti ukloniti ispun na zubu nakon čega se u furkaciji korjenova uoči frakturna linija u meziodistalnom pravcu cijelom dužinom dna pulpne komore. Fraktura se potvrdi pregledom operativnim mikroskopom (Carl Zeiss Meditec AG, Germany). Na osnovu kliničkog pregleda i analize snimka postavljena je dijagnoza potpune vertikalne frakture korijena zuba #16, te je zub indiciran za ekstrakciju.

Zaključak: Dijagnostika VFK predstavlja izazov jer klinički znakovi upućuju na neuspjeli endodontski tretman ili oboljenje parodonticijuma, a frakturna linija većinom nije uočljiva na radiogramu. Definitivna dijagnoza se može postaviti eksplorativnom endodontskom hirurgijom. Stomatolozi trebaju voditi računa o prevenciji VKF koristeći konzervativne endodontske i postendodontske restaurativne procedure.

Ključne riječi: vertikalna fraktura korijena, endodontsko liječenje, periapikalna lezija, operacioni endodontski mikroskop, ekstrakcija

FIELD OF DENTISTRY: ENDODONTIC

**VERTICAL ROOT FRACTURE FOLLOWING
ENDODONTIC TREATMENT OF A TOOTH**

CASE REPORT

**Madžida Halilović Mehinović¹, Edina Čolaković²,
Mirna Pašić¹, Adna Begović¹, Samra Korać¹**¹ University of Sarajevo, Faculty of Dentistry with Dental Clinical Center, Department of Dental Pathology with Endodontics² Private specialist clinic with multi-disciplinary dental practice „RES DENTAL“ Sarajevo**ABSTRACT**

Introduction: Vertical root fracture (VRF) is a longitudinally oriented complete or incomplete fracture of the root of a tooth, most commonly in endodontically treated posterior teeth, resulting from iatrogenic factors or extensive masticatory forces. Early diagnosis is crucial as it can prevent unnecessary treatment and excessive bone loss. The first choice of management for teeth with VRF is extraction.

This study aimed to highlight the importance of comprehensive clinical and radiographic examinations for the timely diagnosis of complete VRF two years after endodontic treatment of tooth #16.

Case report: A 47-year-old female patient was referred to the Department of Dental Pathology and Endodontics for replacement of a Class II restoration on tooth #16. The patient was asymptomatic and had received endodontic treatment two years prior. Clinical examination revealed slight mobility of the tooth (degree 1) with no gingival swelling, fistula, or percussion sensitivity. The periapical radiograph was taken, revealing a radiolucency along the entire length of the mesial root in the shape of letter „J“, with appropriate endodontic filling. It was decided to completely remove the restoration of the tooth, observing a fracture line in the furcation of the roots running mesiodistally throughout the entire length of the pulp chamber floor. Fracture was confirmed using an operating microscope (Carl Zeiss Meditec AG, Germany). On the basis of clinical examination and radiographic analysis, complete vertical root fracture of tooth 16 was diagnosed, and extraction was indicated.

Conclusion: The diagnosis of VRF is challenging for dentists because of the similarity of clinical signs with failed endodontic treatment or periodontal disease, and the fracture line is often difficult to identify on radiographs. A definitive diagnosis can be established through exploratory endodontic surgery. Dentists should be mindful of preventing VRF by employing conservative endodontic and post-endodontic restorative procedures.

Keywords: vertical root fracture, endodontic treatment, periapical lesion, operating endodontic microscope, extraction

OBLAST STOMATOLOGIJE: OPŠTA STOMATOLOŠKA PRAKSA

RAZVOJNA MORFOLOŠKA ANOMALIJA ZUBA - FUZIJAHasan Sefo¹, Ifeta Džuho-Muratagić¹, Emir Ljaljević²,
Lamija Rustempašić³, Ernad Hurić³, Eldin Papračanin³¹ JU Dom zdravlja Kantona Sarajevo² P.S.O. dr. Ljaljević Emir³ Nezavisni istraživači**SAŽETAK**

Uvod: Fuzija, odnosno stopljeni zub, predstavlja proces spajanja dva odvojena zubna zametka tokom embrionalnog razvoja, u fazi kada kruna još nije potpuno mineralizirana. Ova anomalija može biti potpuna ili djelomična. Potpuna fuzija podrazumijeva zajednički dentin krune i korijena, dok se djelomična fuzija dijeli na: fuziju korijena (sa podijeljenom caklinom, ali sa zajedničkim dentinskim korijenom) i fuziju krune (sa zajedničkom caklinom). Iako etiologija ove pojave nije u potpunosti razjašnjena, pretpostavlja se da je posljedica dejstva fizičkih sila tokom razvoja, što uzrokuje nekrozu epitelnog tkiva koje razdvaja zubne zametke.

Cilj rada: Cilj rada je prikazati karakterističan izgled ove strukturne anomalije, u cilju olakšavanja dijagnostičkog procesa u svakodnevnoj stomatološkoj praksi.

Materijali i metode: U ordinaciju za opštu stomatologiju JU Dom zdravlja KS (O.J. Ilidža) javila se na pregled osmogodišnja pacijentica B.D., 2016.god. u pratnji majke. Kliničkim pregledom uočen je slučaj fuzije zuba 82 i 83. Palpacijom je utvrđena mobilnost zuba, dok je zub 42 bio u fazi lingvalne erupcije. Na temelju heteroanamnestičkih podataka, nisu uočene kontraindikacije za ekstrakciju zuba. S obzirom na stanje u usnoj šupljini, odlučeno je da se izvrši ekstrakcija zuba kako bi se stvorio prostor za nesmetanu erupciju zuba 42. Pacijentici su date upute da pomoću jezika lagano pomiče zub 42 prema labijalnoj strani, kako bi se osigurao njegov pravilni položaj u zubnom nizu.

Zaključak: Razvojne morfološke anomalije zuba u mliječnoj denticiji se prema epidemiološkim studijama nalaze u 0,5-1% slučajeva. Nadamo se da će ovaj prikaz slučaja pomoći kolegama kliničarima prilikom postavljanja dijagnoze.

Ključne riječi: razvojna anomalija, fuzija, mliječna denticija

FIELD OF DENTISTRY: GENERAL DENTISTRY PRACTICE

RAZVOJNA MORFOLOŠKA ANOMALIJA ZUBA - FUZIJAHasan Sefo¹, Ifeta Džuho-Muratagić¹, Emir Ljaljević²,
Lamija Rustempašić³, Ernad Hurić³, Eldin Papračanin³¹ JU Dom zdravlja Kantona Sarajevo² P.S.O. dr. Ljaljević Emir³ Nezavisni istraživači**ABSTRACT**

Introduction: Fusion or fused tooth is defined as the merging of two separate tooth germs during embryonic development when the crown is not fully mineralized. Fusion can be either complete or partial. Complete fusion is characterized by a common dentin of both the crown and root, while partial fusion is subdivided into: root fusion (divided enamel with a shared dentinal root) and crown fusion (shared enamel). The etiology is not fully understood, but it is believed to result from the influence of physical forces during development, leading to necrosis of the epithelial tissue that separates the tooth germs.

Aim: The aim of this study is to present the characteristic appearance of this structural anomaly to facilitate easier diagnosis in clinical practice.

Materials and Methods: An eight-year-old patient, B.D., presented for examination at the general dentistry clinic of the Public Health Institution Health Center KS (O.J. Ilidža) in 2016, accompanied by her mother. Clinical examination revealed fusion of teeth 82 and 83. Upon palpation, the tooth was found to be mobile, and tooth 42 was erupting lingually. Heteroanamnestic information did not indicate any contraindications for tooth extraction. Given the oral condition, the extraction was performed to create space for the unhindered eruption of tooth 42. The patient was instructed to use her tongue to push tooth 42 labially to ensure its proper alignment in the dental arch.

Conclusion: Developmental morphological anomalies of teeth in the primary dentition are reported in 0.5-1% of cases, according to epidemiological studies. It is hoped that this case presentation will assist clinical colleagues in making an accurate diagnosis.

Keywords: developmental anomaly, fusion, primary dentition

OBLAST STOMATOLOGIJE: ORALNA HIRURGIJA

PRIPREMA PACIJENATA SA UROĐENIM KOAGULOPATIJAMA ZA ORALNOHIRURŠKI ZAHVAT

Sadeta Šečić¹, Dženana Gusinjac¹,
Anela Hardaga- Muzurović²

¹ Univerzitet u Sarajevu Stomatološki fakultet sa stomatološkim kliničkim centrom; Katedra za oralnu hirurgiju sa dentalnom implantologijom

² Univerzitet u Sarajevu Stomatološki fakultet sa stomatološkim kliničkim centrom; Klinika za oralnu hirurgiju

SAŽETAK

Uvod: Poremećaji krvarenja – koagulopatije su vrste poremećaja sa zajedničkom karakteristikom produženog krvarenja. Urođeni poremećaji krvarenja mogu zahvatiti bilo koju fazu hemostaze, što uključuje malformacije krvnih sudova, abnormalnu strukturu i funkciju trombocita te nedostatak koagulacijskih i von Willebrandovog faktora. Cilj autora je da kroz slučaj iz vlastite kazuistike ukažu na praktične smjernice za sigurno izvođenje oralnohirurških zahvata kod pacijenata sa koagulopatijama, a što uključuje i obaveznu hematološku pripremu pacijenta te postoperativno praćenje.

Materijal i metode : U radu je prikazan i opisan oralnohirurški zahvat, ekstrakcija zuba 36, kod pacijentice sa dijagnozom von Willebrandove bolesti. Indikacija za ekstrakciju zuba je postavljena na osnovu anamneze, kliničkog pregleda i analizom OPG snimka. Pacijentica je prethodno hospitalizirana i pripremljena za intervenciju na hematološkom odjelu KCUS. Nakon hirurške ekstrakcije zuba 36, primjenjene su hemostatske mjere, te je pacijentici ordinirana antibiotska terapija u trajanju od 7 dana.

Rezultati: Oralnohirurška intervencija izvedena je bez intraoperativnih i postoperativnih komplikacija. Rana je uredno zacijelila per primam, bez znakova produženog krvarenja ili potrebe za dodatnim hemostatskim mjerama.

Zaključak: Multidisciplinarna saradnja između doktora dentalne medicine, oralnog hirurga, hematologa od presudog je značaja u tretmanu pacijenata s poremećajem krvarenja. Osiguravanje sigurnog izvođenja oralnohirurških zahvata kod ovakvih pacijenata zahtijeva pažljivo planiranje, precizan terapijski plan i praćenje, čime se omogućava povoljan klinički ishod i minimiziraju potencijalne komplikacije.

Ključne riječi: koagulopatije, ekstrakcija zuba, von Willebrandova bolest, multidisciplinarna saradnja.

FIELD OF DENTISTRY: ORAL SURGERY

PREPARATION OF PATIENTS WITH CONGENITAL COAGULOPATHIES FOR ORAL SURGICAL PROCEDURES

Sadeta Šečić¹, Dženana Gusinjac¹,
Anela Hardaga- Muzurović²

¹ University of Sarajevo, Faculty of Dentistry with Dental Clinical Center, Department of Oral Surgery with Dental Implantology

² University of Sarajevo, Faculty of Dentistry with Dental Clinical Center, Oral Surgery Clinic

ABSTRACT

Introduction: Bleeding disorders, coagulopathies are conditions characterized by prolonged bleeding. Congenital bleeding disorders can involve any phase of hemostasis, including malformations of blood vessels, abnormal platelet structure and function, or deficiencies in coagulation factors such as von Willebrand factor. The aim of this study is to provide practical guidelines for safe performance of oral surgical procedures in patients with coagulopathies. This includes mandatory hematological preparation and postoperative monitoring.

Materials and methods: This paper presents an oral surgical procedure – the extraction of tooth 36 – in a patient with von Willebrand disease. The indication for extraction was chronic periapical infection, confirmed through radiographic and clinical findings. The patient was hospitalized preoperatively and managed at the Hematology Department of the Clinical Center University of Sarajevo. During preparation, antibiotics were administered over 7 days.

Results: The oral surgical procedure was performed without intraoperative or postoperative complications. The wound healed properly by primary intention without signs of prolonged bleeding or the need for additional hemostatic measures.

Conclusions: Multidisciplinary collaboration among dentists, oral surgeons, and hematologists is crucial in the treating patients with bleeding disorders. Proper planning, precise therapeutic management, and close monitoring ensure favorable clinical outcomes and minimize complications, enabling the safe execution of oral surgical procedures in this patient population.

Keywords: Coagulopathies, tooth extraction, von Willebrand disease, multidisciplinary collaboration.

OBLAST STOMATOLOGIJE: ORALNA HIRURGIJA

VELIKE CISTE VILIČNIH KOSTIJU - DIJAGNOSTIČKI I TERAPIJSKI PRISTUP

Džejla Bećirović¹, Anela Hardaga - Muzurović²¹ Privatna stomatološka ordinacija „Dr. Irma Topal“² Univerzitet u Sarajevu Stomatološki fakultet sa stomatološkim kliničkim centrom; Klinika za oralnu hirurgiju

SAŽETAK

Uvod: Velike ciste viličnih kostiju predstavljaju značajan klinički entitet u oralnoj i maksilofacijalnoj hirurgiji. Najčešće su odontogenog porijekla i karakterišu se prisustvom patološke šupljine ispunjene tečnim ili polutečnim sadržajem, obavijene epitelom. Pravovremena i precizna dijagnostika ključni su faktori u sprečavanju progresije lezije i očuvanju okolnih anatomskih struktura. Cilj ovog rada je da prikaže dijagnostičke metode i hirurške pristupe u tretmanu velikih cisti viličnih kostiju, uz analizu kliničkih slučajeva iz vlastite kazuistike.

Materijal i metode: U radu su prikazana tri slučaja pacijenata koji su upućeni na Kliniku za oralnu hirurgiju zbog simptoma povezanih sa prisustvom cističnih lezija u viličnim kostima. Klinička evaluacija obuhvatila je anamnezu, detaljan stomatološki pregled i radiološke pretrage. Dijagnostika je potvrđena histopatološkom analizom. Terapija je hirurška, koja je podrazumjevala enukleaciju cistične ovojnice i sanaciju zuba uzročnika gdje je to bilo indikovano.

Rezultati: Kod svih pacijenata, savremena radiološka dijagnostika je omogućila preciznu procjenu veličine, položaja i odnosa cistične formacije prema okolnim anatomskim strukturama. Postoperativni tok kod pacijenata bio je uredan, bez komplikacija i sa uspješnim ishodom cijeljenja. Patohistološka analiza je potvrdila dijagnozu odontogenih cisti.

Zaključak: Na osnovu prikazanih slučajeva može se zaključiti da pravovremena i precizna dijagnostika velikih cističnih lezija viličnih kostiju te adekvatan hirurški tretman ne samo da sprečavaju progresiju i destrukciju vilične kosti, nego predstavljaju i zlatni standard u terapiji ovih lezija, omogućavajući potpunu sanaciju pacijenta uz minimizaciju rizika od recidiva.

Ključne riječi: odontogene ciste, radiološka dijagnostika, hirurški tretman, velike koštane lezije.

FIELD OF DENTISTRY: ORAL SURGERY

LARGE JAWBONE CYSTS - DIAGNOSTIC AND THERAPEUTIC APPROACH

Džejla Bećirović¹, Anela Hardaga - Muzurović²¹ Private dental ordination „Dr. Irma Topal“² University of Sarajevo Faculty of Dentistry with dental clinical center; Clinic for oral surgery

ABSTRACT

Introduction: Large jawbone cysts represent a significant clinical entity in oral and maxillofacial surgery. They are most often of odontogenic origin and are characterised by the presence of a pathological cavity filled with liquid or semi-liquid content, covered with epithelium. Timely and accurate diagnostics, are the key factors in preventing lesion progression and preserving surrounding anatomical structures. The aim of this paper is to present diagnostic methods and surgical approaches in the treatment of large jawbone cysts, with an analysis of clinical cases from our own casuistics.

Materials and methods: This paper presents three cases of patients who were referred to the Clinic for Oral Surgery due to symptoms associated with the presence of cystic lesions in the jawbone. Clinical evaluation included anamnesis, detailed dental examination and radiological examinations. The diagnosis was confirmed by histopathological analysis. The treatment was surgical, which included enucleation of the cystic envelope and restoration of the causative tooth where indicated.

Results: In all patients, modern radiological diagnostics enabled precise assessment of the size, position and relation of the cystic formation to the surrounding anatomical structures. The postoperative course in the patients was orderly, without complications and with a successful healing outcome. Pathohistological analysis confirmed the diagnosis of odontogenic cysts.

Conclusion: Based on the presented cases, it can be concluded that timely and precise diagnostics of large cystic lesions of the jawbones and adequate surgical treatment not only prevent the progression and destruction of the jawbone, but also represent the gold standard in the therapy of these lesions, enabling complete recovery of the patient while minimizing the risk of recurrence.

Keywords: odontogenic cysts, radiological diagnostics, surgical treatment, large bone lesions.

OBLAST STOMATOLOGIJE: ORALNA HIRURGIJA

ZNAČAJ STOMATOLOGA I CBCT DIJAGNOSTIKE U DIJAGNOSTICIRANJU MAKSIARNIH SINUSITISA: SLUČAJ USPJEŠNOG TRETMANA NAKON NEUSPJELE OTORINOLARINGOLOŠKE TERAPIJE

Sadeta Šečić¹, Edita Redžović¹,
Elvana Sobo², Faruk Ljaljević²

¹ Katedra za oralnu hirurgiju sa dentalnom implantologijom, Stomatološki fakultet sa Stomatološkim kliničkim centrom, Univerzitet u Sarajevu

² Klinika za oralnu hirurgiju sa dentalnom implantologijom, Stomatološki fakultet sa Stomatološkim kliničkim centrom, Univerzitet u Sarajevu

SAŽETAK

Uvod: Maksilarni sinusitis (MS) je upala maksilarnog sinusa uzrokovana bakterijama, virusima, gljivicama, prisustvom alergijskih reakcija, neoplazmi, a može biti i zubnog porijekla kada se govori o odontogenom maksilarnom sinusitisu (OMS). Dijagnoza OMS-a uključuje detaljnu anamnezu, klinički pregled, radiološku dijagnostiku kao što je CBCT dijagnostika.

Cilj rada je pokazati važnost multidisciplinarnog pristupa i utjecaj stomatologa i CBCT dijagnostike u ključnoj dijagnozi MS i njenom ispravnom liječenju.

Studija slučaja pokazuje 47-godišnju pacijenticu koja je konstantno posjećivala doktora medicine i otorinolarinologa zbog jednostranog upornog bola u desnom maksilarnom sinusu, glavobolje, pritiska, otoka, iscjetka iz nosa i slanog sadržaja u grlu. Pacijentica je liječena visokim dozama antibiotika, ali bez rezultata. Po preporuci porodičnog doktora došla je na pregled na naš fakultet. Kliničkim pregledom i CBCT dijagnostikom ustanovljen je periapikalni proces iznad maksilarnih desnih molara koji je protrudirao u sinus i palatum i uočen je jednostrano zasjenjen desni maksilarni sinus. Postavljena je dijagnoza DMS i odlučeno je da se vade molari i istovremeno izvrši operacija sinusa. Postoperativni kontrolni pregledi su pokazali uspješnost tretmana.

Zaključak: MS zahtjeva multidisciplinarni pristup, a stomatolog treba da bude dio tima sa otorinolarinologom kako bi se postavila tačna dijagnoza. CBCT dijagnostika stomatologu pruža brojne mogućnosti i ključni je korak u identifikaciji dentalnog uzročnika i prevenciji neracionalne upotrebe antibiotika, jer bez uklanjanja uzročnika infekcije dolazi do neuspjele terapije MS.

Ispravna dijagnoza je ključ uspjeha!

Ključne riječi: maksilarni sinusitis, CBCT dijagnostika, uticaj stomatologa, multidisciplinarni pristup

FIELD OF DENTISTRY: ORAL SURGERY

ROLE OF DENTIST AND CBCT DIAGNOSTICS IN THE DIAGNOSIS OF MAXILLARY SINUSITIS: SUCCESSFUL TREATMENT AFTER OTORINOLARYNGOLOGIST THERAPY FAILURE

Selma Sadeta Šečić¹, Edita Redžović¹,
Elvana Sobo², Faruk Ljaljević²

¹ Department of Oral Surgery with Dental Implantology, Faculty of Dentistry with Dental Clinical Center, University of Sarajevo

² Clinic of Oral Surgery with Dental Implantology, Faculty of Dentistry with Dental Clinical Center, University of Sarajevo

ABSTRACT

Introduction: Maxillary sinusitis (MS) is inflammation of the maxillary sinus caused by bacteria, viruses, fungi, presence of allergic reactions, neoplasms and can be by dental origin when talking about odontogenic maxillary sinusitis (OMS). Diagnosis of OMS includes a detailed history, clinical examination, radiological diagnostics such as CBCT diagnostics.

The objective of the paper is to show the importance of a multidisciplinary approach and the influence of the dentist and CBCT diagnostics in the key diagnosis of MS and its correct treatment

Case study shows a 47-year-old female patient who constantly visited a medical doctor and an otolaryngologist due to unilateral persistent pain in the right maxillary sinus, headache, facial pressure, swelling, nasal discharge and salty content in the throat. Patient was treated with high doses of antibiotics but without results. On the recommendation of her family doctor, she came to our Faculty on examination. Clinical examination and CBCT diagnostic established a periapical process above the maxillary right molars that protruded into the sinus and palate and it was observed unilateral shaded right maxillary sinus. The diagnosis of DMS was made and it was decided to extract the molar and simultaneously perform sinus surgery. Postoperative control results demonstrated the effectiveness of the treatment.

Conclusion: MS requires a multidisciplinary approach and dentist should be part of the team with the otorhinolaryngologist in order to establish correct diagnosis. CBCT diagnostics provides dentists with numerous opportunities and are a key step in identifying the dental causative agent and preventing the irrational use of antibiotics, as MS therapy is ineffective without removing the causative agent of the infection.

Correct diagnosis is the key to success!

Key words: maxillary sinusitis, CBCT diagnostics, role of dentist, multidisciplinary approach.

OBLAST STOMATOLOGIJE: ORALNA HIRURGIJA

KERATOCISTE VILICA – ZNAČAJ PATOHISTOLOŠKE DIJAGNOSTIKE

PRIKAZ SLUČAJA IZ VLASTITE KAZUISTIKE

Elvana Sobo¹, Faruk Ljaljević¹, Nermina Ibradžić²

¹ Univerzitet u Sarajevu, Stomatološki fakultet sa stomatološkim kliničkim centrom; Klinika za oralnu hirurgiju

² Dom zdravlja Bihać

SAŽETAK

Uvod: Keratociste su tvorevine koje se javljaju u rijetkim slučajevima, pretežno u mandibuli. Karakteriše ih to što su vrlo agresivne u destrukciji koštanog tkiva i sklone su recidivima i malignom alteriranju. U cilju sprječavanja recidiva nužno je u toku operativnog zahvata odstraniti cistu u cijelosti i ukloniti veći dio koštanog tkiva.

Cilj: Cilj ovog rada je pokazati značaj patohistološke verifikacije uzorka uklonjene lezije i značaj pravilnog hirurškog protokola.

Materijali i metode: U radu je predstavljen slučaj osamnaestogodišnje pacijentice, koja se javila na Kliniku zbog otoka u području angulusa mandibulae, te pojave „balona“ distalno od drugog molara.

Urađeni su klinički pregled i 3D CBCT snimak, na kojem je uočljiva rtg svjetlina u području angulusa mandibulae koja odgovara cističnoj leziji. Unutar iste uočljiva je rtg tamnina koja odgovara impaktiranom trećem molaru.

U toku hirurškog tretmana urađena je ekstrakcija zuba 37, zatim enukleacija cistične lezije in toto, sa impaktiranim zubom.

Uklonjena patološka promjena poslana je na ph verifikaciju.

Rezultat: Ovaj slučaj je imao pozitivan ishod; postoperativni tok je uredan što se verifikuje i rtg dijagnostikom.

Zaključak: Ph dijagnostika značajna je u tretiranju patoloških stanja, naročito u slučaju dijagnoze keratociste, što ima značaj u praćenju postoperativnog toka i eventualnih komplikacija.

Ključne riječi: treći molari, ph dijagnostika, keratocista, hirurški protokol.

OBLAST STOMATOLOGIJE: ORALNA HIRURGIJA

KERATOCYST OF THE JAW – THE SIGNIFICANCE OF PATHOHISTOLOGICAL DIAGNOSIS

PRESENTATION OF A CASE FROM ONE'S CASUISTRY

Elvana Sobo¹, Faruk Ljaljević¹, Nermina Ibradžić²

¹ University of Sarajevo, Faculty of Dentistry with Dental Clinical Center; Clinic for Oral Surgery

² Health Center Bihać

ABSTRACT

Introduction: Keratocysts are formations that occur in rare cases, mainly in the mandible. They are characterized by being very aggressive in the destruction of bone tissue and are prone to recurrence and malignant alteration. In order to prevent recurrence, it is necessary to remove the cyst completely and remove a large part of the bone tissue during surgery.

The aim of this paper is to demonstrate the importance of histopathological verification of the removed lesion sample and the importance of a proper surgical protocol.

Materials and methods: The paper presents the case of an eighteen-year-old patient, who came to the clinic because of swelling around the angulus of the mandible, and the appearance of a "balloon" distal to the second molar.

A clinical examination and a 3D CBCT scan were performed, which showed a radiolucent area in the mandibular angle corresponding to a cystic lesion. Within the lesion, a radiolucent area corresponding to an impacted third molar was observed.

During the surgical treatment, tooth 37 was extracted, followed by enucleation of the cystic lesion in toto, with the impacted tooth.

The removed pathological change was sent for ph verification.

Result: This case had a positive outcome; the postoperative course was uneventful, as verified by X-ray diagnostics.

Conclusion: Ph diagnostics are important in the treatment of pathological conditions, especially in the case of a keratocyst diagnosis, which is important in monitoring the postoperative course and possible complications.

Keywords: third molars, ph diagnostics, keratocyst, surgical protocol

OBLAST STOMATOLOGIJE: ORALNA MEDICINA

NOVI NEPRIJATELJ ORALNOM I OPĆEM ZDRAVLJU: SNUS I NIKOTINSKE VREĆICE**Adna Muslić¹, Alma Kovačević^{1,2}**¹ Univerzitet Sarajevska škola za nauku i tehnologiju, Stomatološki fakultet, Sarajevo, Bosna i Hercegovina² JU Srednja zubotehnička škola Sarajevo, Sarajevo, Bosna i Hercegovina**SAŽETAK**

Uvod: obzirom na sve češću upotrebu snusa, bezdimnog duhanskog proizvoda koji sadrži nikotin, te oralnih nikotinskih vrećica među srednjoškolcima, raste zabrinutost zbog njihovog uticaja na zdravlje. Iako se često predstavljaju kao sigurnija alternativa cigaretama, upotreba ovih proizvoda, uglavnom nekontrolisanog sadržaja, može negativno uticati na opće i oralno zdravlje, uzrokujući vrtoglavicu, mučninu, tahikardiju, te oralne promjene kao što su: gingivalne recesije, hiperkeratoza, diskoloracije i ulceracije. Njihova dostupnost u Bosni i Hercegovini je u stalnom porastu, dok zakonska regulativa i nadzor nisu adekvatno usklađeni. Cilj ovog istraživanja je analizirati prevalenciju upotrebe snusa i nikotinskih vrećica među srednjoškolcima, kao i njihovo znanje o negativnim efektima ovih proizvoda na oralno zdravlje.

Materijal i metode: Presječno epidemiološko istraživanje je provedeno među srednjoškolcima tokom marta 2025. godine, koristeći anonimni anketni upitnik izrađen putem Google Forms platforme.

Rezultati: Istraživanje je provedeno u srednjim školama Kantona Sarajevo na uzorku od 191 ispitanika. Redovnu upotrebu snusa ili nikotinskih vrećica prijavilo je 47 ispitanika (24,6%), dok ih je 74 (38,7%) barem jednom probalo navedene proizvode. Među redovnim korisnicima, 38 (80,9%) je primijetilo promjene u usnoj šupljini, a 33 ispitanika (70,2%) prijavilo je opće zdravstvene tegobe povezane s korištenjem ovih proizvoda. Pored toga, 46 ispitanika (62,2%) koji su ih barem jednom isprobali izjavilo je da bi ih preporučili prijateljima.

Zaključak: Rezultati ukazuju na potrebu za efikasnijim preventivnim mjerama, jačom regulativom i edukativnim programima s ciljem smanjenja dostupnosti i podizanja svijesti o potencijalnim zdravstvenim rizicima.

Ključne riječi: snus, oralne nikotinske vrećice, srednjoškolci, oralno zdravlje.

OBLAST STOMATOLOGIJE: ORALNA HIRURGIJA

THE NEW THREAT TO ORAL AND OVERALL HEALTH: SNUS AND NICOTINE POUCHES**Adna Muslić¹, Alma Kovačević^{1,2}**¹ University Sarajevo School of Science and Technology, Sarajevo Medical School - Dentistry, Sarajevo, Bosnia and Herzegovina² Secondary Dental School Sarajevo, Sarajevo, Bosnia and Herzegovina**ABSTRACT**

Introduction: The increasing use of snus, a smokeless tobacco product containing nicotine, and oral nicotine pouches among high school students has raised concerns about their impact on health. While marketed as safer alternatives to cigarettes, the use of these products, which mostly contain uncontrolled substances, can negatively affect both general and oral health, causing dizziness, nausea, tachycardia, and oral changes such as gingival recession, hyperkeratosis, discoloration, and ulcerations. The growing prevalence of these products in Bosnia and Herzegovina, alongside inadequate regulation, intensifies these concerns. This study aims to analyze the prevalence of these products among high school students and their awareness of potential negative effects on oral health.

Material and methods: A cross-sectional epidemiological study was conducted among high school students in March 2025 using an anonymous questionnaire created via Google Forms.

Results: The study was conducted in secondary schools in the Sarajevo Canton with a sample of 191 respondents. Regular use of snus or nicotine pouches was reported by 47 respondents (24.6%), while 74 respondents (38.7%) had tried them at least once. Among regular users, 38 (80.9%) noticed changes in their oral cavity, and 33 (70.2%) reported general health issues. Additionally, 46 (62.2%) of those who had tried them at least once stated they would recommend these products to friends.

Conclusion: The results emphasize the need for more effective preventive measures, stronger regulation, and educational programs to reduce availability and raise awareness of potential health risks.

Key words: snus, oral nicotine pouches, high school students, oral health.

FIELD OF DENTISTRY: ORTODONCIJA

EVALUACIJA PRECIZNOSTI DIGITALNOG I MANUELNOG MJERENJA ODNOSA VELIČINE ZUBA I DUŽINE ZUBNOG LUKA

Adna Kobašlija, Azra Jelešković, Lejla Redžepagić Vražalica, Alisa Tiro, Vildana Džemidžić

Univerzitet u Sarajevu, Stomatološki fakultet sa stomatološkim kliničkim centrom, Katedra za Ortodonciju

SAŽETAK

Cilj: Cilj ovog rada jeste prikazati utvrđivanje tačnosti mjerenja Nance prostorne analize dobijenih pomoću intraoralnog skenera u poređenju sa standardnim mjerenjima na gipsanom modelu.

Materijali i metode: Za realizaciju ovog istraživanja, definisan je uzorak. Uzorak na kojem se vršilo istraživanje činilo je 20 ispitanika. Svi ispitanici morali su ispunjavati sljedeće kriterije:

- Da nisu ortodontski tretirani
- Da imaju kompletiranu stalnu denticiju
- Da su zubi bez karijesa
- Da su zubi bez restauracija na aproksimalnim površinama

Svim ispitanicima sprovedeno je intraoralno skeniranje i digitalna analiza sa ciljem prikazivanja zubnih nizova gornje i donje vilice, meziodistalnih promjera stalnih zuba i međuviličnih odnosa. Nakon toga sprovedeno je ručno mjerenje meziodistalnih promjera pomoću šublera na gipsanim modelima ispitanika, te mjerenje Nance prostorne analize. Na kraju je izvršeno poređenje rezultata dobijenih digitalnom analizom sa rezultatima manualnog mjerenja na gipsanim modelima.

Zaključak: Primjena intraoralnog skenera u ortodonciji je jednostavnija i ugodnija za pacijente u odnosu na metodu uzimanja otisaka, posebno kod djece. Intraoralni sken zuba i okolnih struktura poboljšava i olakšava proces analize u svrhu dijagnostike i planiranja terapije. Za razliku od gipsanih modela koji zahtijevaju prostor za odlaganje, sa intraoralnim skenerom svi podaci su na jednom mjestu u digitalnoj formi.

Ključne riječi: intraoralni scan, Nance, meziodistalni promjer

FIELD OF DENTISTRY: ORTHODONTICS

ACCURACY EVALUATION OF DIGITAL AND MANUAL MEASUREMENTS BETWEEN TOOTH SIZE AND DENTAL ARCH LENGTH

Adna Kobašlija, Azra Jelešković, Lejla Redžepagić Vražalica, Alisa Tiro, Vildana Džemidžić

University of Sarajevo, Faculty of Dentistry with Dental Clinical Center, Department of Orthodontics

ABSTRACT

The aim: The aim of this paper is to demonstrate accuracy of Nance spatial analysis measurements using an intraoral scanner in comparison with standard measurements on a plaster model.

Material and methods: To conduct this research, a sample was defined. The sample consisted of 20 respondents. All respondents had to meet the following criteria:

- That they have not undergone orthodontics treatment
- That they have complete permanent dentition
- That the teeth are caries-free
- That the teeth are without restorations on the proximal surfaces

All subjects underwent intraoral scanning and digital analysis with the aim of showing the dental rows of the upper and lower jaws, mesiodistal diameters of permanent teeth, and maxillomandibular relationship. After that, manual measurement of mesiodistal diameters using calipers on plaster casts of the subjects was performed, as well as Nance spatial analysis measurements. Finally, the results obtained by digital analysis were compared with the results of manual measurement on plaster casts.

Conclusion: The use of intraoral scanning in orthodontics is simpler and more comfortable for patients compared to the impression method, especially in children. Intraoral scanning of teeth and surrounding structures improves and facilitates the analysis process for the purpose of diagnosis and treatment planning. Unlike plaster models that require storage space, with an intraoral scanner all data is in one place in digital form.

Key words: intraoral scan, Nance, mesiodistal diameter

FIELD OF DENTISTRY: ORTODONCIJA

EKSTRAKCIJE U SKLOPU ORTODONTSKOG TRETMANA

Azra Mujagić-Ademović, Anisa Kadrić,
Hana Tabaković, Alisa Tiro

Katedra za Ortodonciju Stomatološkog fakulteta sa stomatološkim
kliničkim centrom Univerziteta u Sarajevu

SAŽETAK

Uvod: Iako već desetljećima kontroverzna tema, ekstrakcija stalnih zuba je u današnje vrijeme nerijetko neophodan dio sveobuhvatne ortodontske terapije s ciljem postizanja stabilne i funkcionalne okluzije i poboljšanja estetike. Definitivna odluka o sprovođenju ekstrakcije terapije donosi se na osnovu analize parametara kao što su: uzrast pacijenta, tip rasta pacijenta, izgled profila lica, inklinacija sjekutića, nedostatak prostora po zubnom luku, mogućnost ekspanzije zubnih lukova, tonusa muskulature usana i obraza, te pacijentovog stava prema ovom vidu terapije i mogućnosti saradnje.

Cilj istraživanja je procijeniti učestalost ekstrakcionog u odnosu na neekstrakcioni plan ortodontskog tretmana kod pacijenata koji su ortodontski obrađeni na Katedri za Ortodonciju Stomatološkog fakulteta sa stomatološkim kliničkim centrom u Sarajevu u zadatom vremenskom periodu.

Materijali i metodi: Studijom retrospektivnog karaktera uključen je 301 pacijent koji je liječen na Katedri za Ortodonciju Stomatološkog fakulteta u Sarajevu u periodu od oktobra 2023. do februara 2025. godine. Za potrebe ovog istraživanja analizirani su digitalni ortopantomogramski snimci, laterolateralni kefalogrami, studijski modeli, te fotografije pacijenata.

Rezultati pokazuju da je od ukupno 301 pacijenta u gore navedenom periodu ekstrakciona terapija jednog ili više zuba bila planirana kod 55 pacijenata od čega su 20 bili dječaci, a 35 djevojčice starosne dobi 11 do 20 godina.

Zaključak: Ovim istraživanjem zaključujemo da je 18,27% ispitanika imalo potrebu za ekstrakcijom jednog ili više stalnih zuba u sklopu ortodontske terapije. Ekstrakcije su bile učestalije kod pripadnika ženskog spola uzrasta 15-16 godina.

Zubne ekstrakcije su neophodne u tretmanu brojnih malokluzija. Ipak, one zahtijevaju temeljito razumijevanje fiziologije erupcije, okluzije i estetike lica, kao i dugotrajnu stabilnost rezultata.

Ključne riječi: ekstrakcija, ortodontska terapija, okluzija, estetika

FIELD OF DENTISTRY: ORThODONTICS

TOOTH EXTRACTION IN ORTHODONTICS

Azra Mujagić-Ademović, Anisa Kadrić,
Hana Tabaković, Alisa Tiro

Department of orthodontics Faculty of Dentistry with Dental
Clinical Centre University of Sarajevo

ABSTRACT

Introduction: Although a controversial topic for decades, the extraction of permanent teeth is increasingly an essential part of comprehensive orthodontic treatment aimed at achieving a stable and functional occlusion and improving aesthetics. The final decision regarding the implementation of extraction therapy is made based on the analysis of parameters such as the patient's age, growth pattern, facial profile appearance, incisor inclination, lack of space in the dental arch, potential for arch expansion, lip and cheek muscle tone, and the patient's attitude towards this type of therapy and their ability to cooperate.

Objective: The aim of the study is to assess the frequency of extraction-based versus nonextraction orthodontic treatment plans in patients treated at the Department of Orthodontics, Faculty of Dentistry with Dental Clinical Center in Sarajevo, during a specified time period.

Materials and methods: This retrospective study included 301 patients treated at the Department of Orthodontics, Faculty of Dentistry, Sarajevo, from October 2023 to February 2025. For the purposes of this research, digital orthopantomograms, lateral cephalograms, study models, and patient photographs were analyzed.

Results: The results show that out of the total 301 patients during the aforementioned period, extraction therapy for one or more teeth was planned for 55 patients, of which 20 were boys and 35 were girls, aged 11 to 20 years.

Conclusion: This study concludes that 18,27% of the participants required extraction of one or more permanent teeth as part of their orthodontic treatment. Extractions were more frequent in female patients aged 15-16 years. Tooth extractions are necessary in the treatment of various malocclusions. However, they require a thorough understanding of eruption physiology, occlusion, facial aesthetics, and long-term stability of the results.

Keywords: extraction, orthodontic treatment, occlusion, aesthetics

FIELD OF DENTISTRY: ORTODONCIJA

ATIPičNI OBLICI HIPODONCIJE

Milica Galić, Ina Mujić, Ana-Maria Grgić,
Lejla Redžepagić-Vražalica, Amele Kadić

Katedre/Klinika za ortodonciju Stomatološkog fakulteta sa
stomatološkim kliničkim centrom, Univerziteta u Sarajevu

SAŽETAK

Uvod: Hipodoncija je urođeni nedostatak jednog do šest zuba. Uzrok hipodoncije je obično nejasan, ali uglavnom se povezuje s genetskim poremećajima i s uticajem određenih faktora okoline koji djeluju tokom razvoja. Hipodoncija se kao anomalija može pojaviti kod zdravih ljudi, ali se javlja i kod sindroma, kao i kod rascjepa nepca. Hipodoncija pojedinih zuba trajne denticije je 1,37 puta češća kod žena nego kod muškaraca. Na Stomatološkom fakultetu u Sarajevu 2019. godine je provedeno istraživanje o učestalosti hipodoncije, kojim je utvrđena prevalenca hipodoncije od 3,42%. Postoje određene teorije koje objašnjavaju nesindromsku hipodonciju, kao što je Duhlberg-ova. Prema ovoj teoriji zubni niz se sastoji od genetski stabilnih i labilnih zuba. Mezijalni zubi u svakoj grupi su stabilni, a distalniji zub iste grupe je labilan i najčešće zahvaćen hipodoncijom. Najčešće nedostaju umnjaci, gornji lateralni sjekutići i drugi premolari.

Hipodoncija donjih umnjaka je toliko česta, da se danas smatra normalnom pojavom.

Cilj ove prezentacije je bio prikazati slučajeve atipične hipodoncije, odnosno nedostatak genetski stabilnih zuba.

Materijali i metode koji su korišteni u svrhu ovog istraživanja su ortopantomografski snimci snimljeni na Stomatološkom fakultetu sa stomatološkim kliničkim centrom u Sarajevu.

Rezultati: Od 382 pregledana OPG snimka, na njih 7 je pronađena atipična hipodoncija. Od toga, kod četiri pacijenta nedostaju stalni drugi molari. Očnjaci i prvi premolari nedostaju kod ukupno tri pacijenta, te gornji centralni sjekutić kod jednog.

Zaključak: Pacijentima sa hipodoncijom mogu se javiti poteškoće pri žvakanju i govoru te narušena estetika. Liječenje zahtjeva multidisciplinarni pristup koji je individualno prilagođen svakom pacijentu.

Ključne riječi: hipodoncija, atipični nedostatak zuba, ortodoncija

FIELD OF DENTISTRY: ORTHODONTICS

ATYPICAL FORMS OF HYPODONTIA

Milica Galić, Ina Mujić, Ana-Maria Grgić,
Lejla Redžepagić-Vražalica, Amele Kadić

Department of orthodontics Faculty of Dentistry
with Dental Clinical Centre, University of Sarajevo

ABSTRACT

Introduction: Hypodontia is a congenital deficiency of one to six teeth. The cause of hypodontia is usually unclear, but it's commonly connected to genetic malformations and the influence of environmental factors due to their influence during growth and development. Hypodontia can occur alongside healthy individuals and conditions such as syndromes and cleft palate. Hypodontia in permanent dentition is 1.37 times more common in women than in men. In 2019, at the Faculty of Dentistry of Sarajevo, research was conducted to evaluate the prevalence of hypodontia, and the results estimated a prevalence of 3.42%. Some theories, such as Duhlberg's, explain non-syndromic hypodontia. According to this theory, a dental arch consists of genetically stable and unstable teeth, where the tooth located more mesially is genetically stable, and the tooth located more distally in the dental arch is genetically labile and is more frequently affected by hypodontia. The most commonly missing teeth are third molars, maxillary lateral incisors, and maxillary second premolars. Hypodontia of mandibular third molars is so common that it's a normal phenomenon.

The aim of this paper was to present atypical hypodontia, the absence of genetically stable teeth.

Materials and methods: This research was conducted at the Faculty of Dentistry, University of Sarajevo, using radiographs of patients referred for the orthodontic examination.

Results: Out of 382 reviewed OPG images, atypical hypodontia was found in 7 of them. Four of them have missing permanent second molars. Canines and first premolars are missing in a total of three, and upper central incisor in one patient.

Conclusions: Patients with hypodontia may face mastication difficulties and aesthetic problems. Treatment of hypodontia includes a multidisciplinary approach that is individually adapted for each patient.

Keywords: hypodontia, atypical hypodontia, orthodontics

FIELD OF DENTISTRY: ORTODONCIJA

EKSTRAKCIJA ZUBA U ORTODONCIJI - NAJČEŠĆI RAZLOZI ZA EKSTRAKCIJU I VRSTA ZUBA

Aida Hamzi Kaljanac, Nerma Krdžalić, Zerina Sačak, Naida Karalić, prof. Vildana Džemidžić

Klinika i Katedra za Ortodonciju
Stomatološki fakultet sa stomatološkim kliničkim centrom
Univerziteta u Sarajevu

SAŽETAK

Uvod: Ekstrakcija u okviru ortodontske terapije je relativno česta intervencija. Više je razloga zbog kojih se pristupa ekstrakciji iz ortodontskih razloga - nedostatak prostora za smještaj zuba, kamuflažni tretman skeletnih diskrepanci, strukturne i razvojne anomalije zuba.

Cilj: Utvrditi broj ekstrakcionih slučajeva u odnosu na neekstrakcione slučajeve, kao i razloge ekstrakcije i vrstu ekstrahiranih zuba.

Materijali i metode: Za potrebe ovog istraživanja analizirani su dijagnostički protokoli pacijenata na Klinici za ortodonciju Stomatološkog fakulteta sa stomatološkim kliničkim centrom Univerziteta u Sarajevu. Studijom retrospektivnog karaktera uključeno je 364 pacijenta Klinike za ortodonciju Stomatološkog fakulteta sa stomatološkim kliničkim centrom Univerziteta u Sarajevu kod kojih je planirana ortodontska terapija u periodu od septembra 2023. do februara 2025. godine.

Rezultati: Rezultati analize su pokazali da od 364 pacijenata kod kojih je planirana ortodontska terapija, kod 35 pacijenata je planirana ekstrakcija jednog ili više zuba.

Među 35 ekstrakcionih slučajeva najčešći razlozi za ekstrakciju zuba u okviru ortodontskog tretmana su bili: zbijenost zuba (nedostatak prostora), bimaksilarna protruzija, kamuflažni tretman, asimetrije, karijes, impakcije zuba (nepovoljan položaj), dentalne anomalije (prekobrojni zubi, atipični zubi). U odnosu na vrstu zuba, najčešće je bila zastupljena ekstrakcija: prvi premolari – 25 pacijenata, drugi premolari – 3 pacijenta, lateralni sjekutić – 3 pacijenta, očnjak – 4 pacijenta.

Zaključak: Najčešći razlozi za ekstrakciju su bili: zbijenost zuba i asimetrija. A najčešće je bila zastupljena ekstrakcija gornjih prvih premolara.

Primjena ekstrakcije zahtijeva veliki oprez, poznavanje rasta i razvoja kraniofacijalnog kompleksa, razumijevanje denticije i okluzije, i pažljivo planiranje ortodontske terapije.

Ključne riječi: Ortodoncija, ortodontska terapija, ekstrakcija zuba.

FIELD OF DENTISTRY: ORThODONTICS

TOOTH EXTRACTION IN ORTHODONTICS – MOST COMMON REASONS FOR EXTRACTION AND TYPE OF TOOTH

Aida Hamzi Kaljanac, Nerma Krdžalić, Zerina Sačak, Naida Karalić, prof. Vildana Džemidžić

Clinic and Department of Orthodontics
University of Sarajevo - Faculty of Dentistry with Dental Clinical Center

ABSTRACT

Introduction: Tooth extraction in orthodontic treatment is relatively frequent intervention. There are many reasons for tooth extraction in orthodontic treatment, the lack of space for placing the teeth, camouflage treatment of skeletal discrepancies, structural and developmental anomalies of teeth.

Aim: Determine the number of extraction cases in relation to non-extraction cases, reasons for extraction and what teeth have been extracted.

Materials and methods: For the purpose of this research, the diagnostic protocols of patients that have been treated in Clinic for Orthodontics of Faculty of Dentistry with Dental Clinical Center have been analyzed. In this study of retrospective character 364 patient who were treated in Clinic for Orthodontics of Faculty of Dentistry with Dental Clinic Center during the period of September 2023. till February 2025. have been included.

Results: Out of 364 patients, extraction treatment of one or more teeth has been carried out for 35 patients. Most common reasons for tooth extraction in orthodontic treatment are: crowding, bimaxillary protrusion, camouflage, dental asymmetry, caries complications, impaction, dental anomalies. Most frequently extracted teeth are: first premolars (25), second premolars (3), canines (4), lateral incisors (3).

Conclusion: The most common reasons for extraction were: tooth crowding and asymmetry.

The most common extracted teeth were upper first premolars.

Extraction as a part of orthodontic treatment requires caution, knowledge of the growth and development of the craniofacial complex, understanding dentition and occlusion and careful planning of orthodontic therapy.

Key words: Orthodontics, orthodontic therapy, tooth extraction.

FIELD OF DENTISTRY: PARODONTOLOGIJA

PROCJENA ORALNE HIGIJENE U PREVENCIJI GINGIVITISA KOD STUDENTSKE POPULACIJE STOMATOLOŠKOG I DRUGIH FAKULTETA UNIVERZITETA SARAJEVO

Ema Jakubović¹, Azra Prcanović¹, Amina Osmančević¹, Sanja Hadžić², Indira Mujić Jahić², Arma Muharemović²,

¹ Studenti 6. godine Stomatološkog fakulteta sa stomatološkim kliničkim centrom u Sarajevu

² Katedra za Oralnu medicinu i parodontologiju, Stomatološki fakultet, Univerzitet u Sarajevu

SAŽETAK

Uvod: Gingivitis izazvani lošom oralnom higijenom uz karijes zuba su najčešća oboljenja među školskom i studentskom populacijom. Edukacija studenata o njihovom oralnom zdravlju podiže svijest o oralnoj higijeni kao najbitnijoj mjeri prevencije pojave gingivitisa.

Cilj: Cilj istraživanja je analizirati navike održavanja oralne higijene i pravilnost primjene oralnih higijenskih metoda među studentima Stomatološkog fakulteta i studenata sa drugih fakulteta Univerziteta u Sarajevu, s posebnim naglaskom na procjenu važnosti održavanja oralne higijene u prevenciji gingivitisa.

Materijali i metode: U istraživanje je uključeno 30 studenata Stomatološkog fakulteta i 30 studenata sa drugih fakulteta Univerziteta u Sarajevu. Dob ispitanika je u rasponu od 21 do 26 godina. Svi ispitanici su prije pregleda potpisati informirani pristanak za dobrovoljno učestvovanje. Podaci koji su se uzimali prilikom pregleda unešeni su u posebno osmišljene radne kartone, za ovo istraživanje.

Istraživanje je provedeno na studentskim vježbama tokom ljetnog semestra 2023/2024. godine. Inkluzioni kriteriji su bili da su studenti sistemski zdravi, da ne uzimaju neku terapiju. Ekskluzioni kriteriji da studenti imaju neko sistemsko oboljenje, i da su pod terapijom.

Po tipu istraživanja radi se o presječnom istraživanju (cross-sectional study).

Svim ispitanicima su postavljena pitanja o štetnim navikama, o načinima sprovođenja oralne higijene i redovnim posjetama stomatologu, te im je urađen klinički pregled gingive, određivanje parodontalnih indeksa i testova koji se koriste u dijagnostičke svrhe.

Rezultati: Rezultati će biti statistički analizirani i obrađeni u programu SPSS Statistics 21.0. i prodiskutovani sa rezultatima drugih autora, publikovanih u relevantnim bazama podataka.

Zaključak: U zaključku bit će navedene bitne činjenice proizašle iz rezultata i diskusije.

Ključne riječi: student, oralna higijena, loše navike.

FIELD OF DENTISTRY: PERIODONTOLOGY

ASSESSMENT OF ORAL HYGIENE IN THE PREVENTION OF GINGIVITIS AMONG STUDENTS OF THE FACULTY OF DENTISTRY AND OTHER FACULTIES AT THE UNIVERSITY OF SARAJEVO

Ema Jakubović¹, Azra Prcanović¹, Amina Osmančević¹, Sanja Hadžić², Indira Mujić Jahić², Arma Muharemović²,

¹ 6th-year students, Faculty of Dentistry with Dental Clinical Center, Sarajevo

² Department of Oral Medicine and Periodontology, Faculty of Dentistry, University of Sarajevo

ABSTRACT

Introduction: Gingivitis caused by poor oral hygiene, along with dental caries, is one of the most common diseases among school and university students. Educating students about their oral health raises awareness of oral hygiene as the most important preventive measure against gingivitis.

Objective: The aim of this study is to analyze oral hygiene habits and the proper application of oral hygiene methods among students of the Faculty of Dentistry and students from other faculties of the University of Sarajevo, with a special emphasis on assessing the importance of oral hygiene in the prevention of gingivitis.

Materials and Methods: The study included 30 students from the Faculty of Dentistry and 30 students from other faculties of the University of Sarajevo, aged between 21 and 26 years. Before the examination, all participants signed an informed consent form for voluntary participation. The collected data were recorded in specially designed work charts for this research.

The study was conducted during student practical exercises in the summer semester of the 2023/2024 academic year. Inclusion criteria required that students be systemically healthy and not undergoing any therapy. Exclusion criteria included students with systemic diseases or those receiving therapy.

This study is a cross-sectional study. All participants were asked questions about harmful habits, oral hygiene practices, and regular dental visits. A clinical examination of the gingiva was performed, along with periodontal index assessments and diagnostic tests.

Results: The results will be statistically analyzed using SPSS Statistics 21.0 and compared with findings from other studies published in relevant databases.

Conclusion: The conclusion will highlight key findings derived from the results and discussion.

Keywords: student, oral hygiene, bad habits.

FIELD OF DENTISTRY: PREVENTIVNA STOMATOLOGIJA

SOFTVERSKA RJEŠENJA U PREVENCIJI DENTALNIH OBOLJENJA: ULOGA APLIKACIJE "NUTRI" U KONTROLI ORALNE HIGIJENE I ISHRANE DJECE

Adis Salihefendić

Privatna stomatološka ordinacija "A-Dent" Gračanica

SAŽETAK

Uvod: Istraživanje analizira utjecaj digitalnih rješenja u prevenciji dentalnih oboljenja kod djece, s fokusom na aplikaciju za praćenje prehrane i oralne higijene razvijene u Bosni i Hercegovini.

Cilj. Procijeniti efikasnost "Nutri" aplikacije u poboljšanju pH pljuvačke, smanjenju plaka i redukciji unosa šećera.

Materijali. Korištena je mobilna aplikacija "Nutri", vaga InBody 720 za analizu tjelesnog sastava, test trakice za pH pljuvačke, ultra soft dentalne četkice kao i paste za zube (1400 ppm) za sve ispitanike. Podaci su prikupljeni na početku i kraju istaživanja.

Metode. U osmosedmičnom istraživanju učestvovalo je 40 djece (12-17 godina), podijeljenih u dvije grupe. Eksperimentalna grupa (n=20) koristila je aplikaciju za digitalno praćenje, dok je kontrolna grupa (n=20) imala štampani plan ishrane i higijene. Za određivanje dentalnog plaka korištena je O'Leary metoda plak kontrolnog indeksa (PCI). Stomatolog je na početku istraživanja svim ispitaicima dao upute za pravilno pranje zuba.

Rezultati. Prosječna pH vrijednost pljuvačke povećala se za 12% u eksperimentalnoj grupi, dok je u kontrolnoj porasla za 5% (p=0.03). PCI se smanjio za 50% u eksperimentalnoj, dok je u kontrolnoj grupi smanjenje iznosilo 27.5% (p=0.02). Plak je smanjen kod 90% ispitanika u eksperimentalnoj grupi i 60% u kontrolnoj (p=0.01). Dosljednost pridržavanju preporuka bila je veća kod djece koja su koristila aplikaciju (p<0.01).

Zaključak. Istraživanje potvrđuje da digitalni alati ovog tipa mogu poboljšati prehrambene kao i navike redovnog održavanja oralne higijene. Omogućeno je preciznije praćenje ishrane, oralne higijene, brža komunikacija i kontrola ključnih parametara.

Ključne riječi: digitalno zdravlje, oralna higijena, prehrana, prevencija

FIELD OF DENTISTRY: PREVENTIVE DENTISTRY

SOFTWARE SOLUTIONS IN THE PREVENTION OF DENTAL DISEASES: THE ROLE OF THE "NUTRI" APPLICATION IN MONITORING ORAL HYGIENE AND NUTRITION IN CHILDREN

Adis Salihefendić

Private dental practice "A-Dent" Gračanica

ABSTRACT

Introduction. This study analyzes the impact of digital solutions in preventing dental diseases in children, focusing on an application for monitoring diet and oral hygiene developed in Bosnia and Herzegovina.

Objective. To assess the effectiveness of the "Nutri" application in improving saliva pH, reducing plaque, and decreasing sugar intake.

Materials. The study utilized the "Nutri" mobile application, InBody 720 scale for body composition analysis, saliva pH test strips, ultra-soft toothbrushes, and fluoride toothpaste (1400 ppm) for all participants. Data were collected at the beginning and end of the study.

Methods. The eight-week study included 40 children aged 12–17, divided into two groups. The experimental group (n=20) used the application for digital tracking, while the control group (n=20) followed a printed dietary and oral hygiene plan. The O'Leary Plaque Control Index (PCI) method was used for plaque assessment. At start of the study, the dentist provided all participants with instructions on proper toothbrushing techniques.

Results. The average saliva pH increased by 12% in the experimental group compared to 5% in the control group (p=0.03). PCI decreased by 50% in the experimental group and by 27.5% in the control group (p=0.02). Plaque reduction was observed in 90% of participants in the experimental group and 60% in the control group (p=0.01). Adherence to dietary and hygiene recommendations was significantly higher among children using the application (p<0.01).

Conclusion. This study confirms that digital tools of this type can improve dietary habits and regular oral hygiene practices. They enable more precise monitoring.

Keywords: digital health, oral hygiene, diet, prevention

FIELD OF DENTISTRY: PREVENTIVNA STOMATOLOGIJA

STAVOVI I ZNANJA STUDENATA STOMATOLOŠKOG FAKULTETA SA STOMATOLOŠKIM KLINIČKIM CENTROM O INTERDENTALNIM ČETKICAMA

Zerina Kučina¹, Samra Alić¹,
Adna Kobašlija², Nina Marković¹

¹Katedra za preventivnu stomatologiju i pedodontiju, Stomatološki fakultet sa stomatološkim kliničkim centrom Univerziteta u Sarajevu, Bosna i Hercegovina

²Katedra za ortodontiju, Stomatološki fakultet sa stomatološkim kliničkim centrom Univerziteta u Sarajevu, Bosna i Hercegovina

SAŽETAK

Uvod: Zubni plak predstavlja zajednicu mikroorganizama smještenu na zubnim površinama i ujedno je glavni etiološki uzročnik u nastanka karijesa i parodontopatija. Ne postoji sredstvo koje dovodi do potpunog uklanjanja zubnog plaka, ali kumulativnim djelovanjem većeg broja sredstava njegova patogenost se može značajno smanjiti. Mehanička kontrola plaka podrazumijeva korištenje manuelne četkice za zube, zubnog konca i interdentalnih četkica. Četkica za zube nije u mogućnosti ukloniti plak u interdentalnim prostorima, zbog toga je potrebno koristiti i dodatna sredstva za njegovo uklanjanje.

Cilj: Utvrditi stavove studenata Stomatološkog fakulteta sa stomatološkim kliničkim centrom u Sarajevu vezane za upotrebu interdentalnih četkica, kao i povezanost navedenih stavova sa godinom studija koju studenti pohađaju.

Ispitanici i metode: Istraživanje je uključivalo studente integriranog studija Stomatološkog fakulteta sa stomatološkim kliničkim centrom u Sarajevu, čiji su stavovi vezani za interdentalne četkice ispitivani putem anketnog upitnika.

Rezultati: U rezultatima će biti prikazana distribucija odgovora studenata i studentica u odnosu na godinu integriranog studija, koju trenutno pohađaju. Distribuirani odgovori ukazati će na stepen studentskog znanja i korelaciju sa godinom studija.

Zaključak: Sticanjem znanja studenti raspolazu informacijama, koje će kasnije kroz praksu prenositi pacijentima u cilju očuvanja optimuma oralnog zdravlja i sprečavanja nastanka oralnih oboljenja. Tokom studija stiču znanja i o sredstvima, koja se koriste za redukciju prisustva plaka u usnoj šupljini.

Ključne riječi: interdentalne četkice, znanje, stavovi, studenti

FIELD OF DENTISTRY: PREVENTIVE DENTISTRY

ATTITUDES AND KNOWLEDGE OF STUDENTS AT THE FACULTY OF DENTAL MEDICINE WITH THE DENTAL CLINICAL CENTER ON INTERDENTAL BRUSHES

Zerina Kučina¹, Samra Alić¹,
Adna Kobašlija², Nina Marković¹

¹Department for Preventive Dentistry and Pedodontics, School of Dental Medicine with Dental Clinical Center, University of Sarajevo, Bosnia and Herzegovina

²Department of Orthodontics, Faculty of Dental Medicine with Dental Clinical Center, University of Sarajevo, Bosnia and Herzegovina

ABSTRACT

Introduction: Dental plaque represents a community of microorganisms located on dental surfaces and is also the main etiological cause of caries and periodontitis. There is no agent that leads to the complete removal of dental plaque, but with the cumulative action of a large number of agents, its pathogenicity can be significantly reduced. Mechanical plaque control involves the use of a toothbrush, dental floss and interdental brushes. A toothbrush is not able to remove plaque in interdental spaces, so it is necessary to use additional means to remove it.

Aim: To determine the attitudes of students at the Faculty of Dental Medicine with the Dental Clinical Center in Sarajevo related to the use of interdental brushes, as well as the connection of these attitudes with the year of study they attend.

Participants and methods: The research included students of the Faculty of Dental Medicine with the Dental Clinical Center, whose attitudes related to interdental brushes were examined through a questionnaire.

Results: The results will show the distribution of students' responses in relation to the year of study they are currently attending. The distributed responses will indicate the level of student knowledge and its correlation with the year of study.

Conclusion: Students are getting knowledge, which they will transfer to the patients with the aim of preserving oral health and prevention of oral diseases. Besides that, they also acquire knowledge about means used to i dental plaque reduction in oral cavity.

Keywords: interdental brushes, knowledge, attitudes, students

FIELD OF DENTISTRY: : RESTAURATIVNA I ADHEZIVNA STOMATOLOGIJA

**UTICAJ IZLOŽENOSTI PLAVOJ SVJETLOSTI IZ
POLIMERIZACIJSKIH LAMPI NA ZDRAVLJE OKA:
PRAKSA MEĐU STOMATOLOZIMA****Mirna Pašić¹, Samra Korać¹, Adna Begović¹,
Madžida Halilović Mehinović¹, Iman Prčić²**¹Katedra za dentalnu patologiju s endodoncijom, Univerzitet u Sarajevu

Stomatološki fakultet sa stomatološkim kliničkim centrom, Sarajevo, Bosna i Hercegovina

² Nezasvisni istraživač**SAŽETAK**

Izlaganje oka visokom intenzitetu plave svjetlosti polimerizacijskih lampi kroz duži vremenski period može dovesti do oštećenja retine. Oštećenja oka mogu nastati kao rezultat direktne, akcidentalne ekspozicije plavoj svjetlosti ili kao kumulativni efekat rasutih svjetlosnih talasa usljed nekorištenja adekvatne zaštite.

Cilj ovog rada je ispitati praksu stomatologa o upotrebi zaštitnih barijera tokom polimerizacije te prikazati moguće štetne efekte plave svjetlosti na zdravlje.

Istraživanje je sprovedeno anonimnim anketiranjem stomatologa na području Kantona Sarajevo, u državnim ustanovama i privatnim ordinacijama. Od ukupno 120 anketa, 108 stomatologa (90%) je dostavilo popunjen upitnik.

Istraživanje je pokazalo da četvrtina ispitanih stomatologa ni na koji način ne štiti oči od polimerizacijske svjetlosti, dok najveći procenat (67%) smatra da će oči zaštititi time što ne gleda u svjetlost. Svega 8% ispitanika koristi adekvatnu zaštitu tokom polimerizacije i to u vidu zaštitnih naočala. Analiza sprovedene ankete je izvršena i u odnosu na godine radnog iskustva pri čemu je utvrđeno da stomatolozi sa preko 20 godina radnog iskustva ne koriste nikakvu zaštitu pri polimerizaciji.

Rezultati ankete su pokazali nedostatke u svakodnevnoj praksi lične zaštite anketiranih stomatologa. U okviru edukacijskih programa stomatolozima je potrebno skrenuti pažnju na potencijalne štetne efekte polimerizacijskih lampi, kao i na zdravstvene posljedice koje mogu nastati usljed nezaštićenog izlaganja plavoj svjetlosti.

Ključne riječi: polimerizacijske lampe, plava svjetlost, zaštitne naočale, retina, anke

FIELD OF DENTISTRY: RESTORATIVE AND ADHESIVE DENTISTRY

**THE IMPACT OF LIGHT-CURING UNITS BLUE
LIGHT EXPOSURE ON EYE HEALTH: PRACTICE
AMONG DENTISTS****Mirna Pašić¹, Samra Korać¹, Adna Begović¹,
Madžida Halilović Mehinović¹, Iman Prčić²**¹Department of Restorative Dentistry with Endodontics, University of Sarajevo

Faculty of Dentistry with Dental Clinical Center, Sarajevo, Bosnia and Herzegovina

² Independant researcher**ABSTRACT**

Prolonged exposure of the eye to high-intensity blue light from light-curing units (LCUs), can lead to retinal damage. Eye damage may result from direct accidental exposure to blue light or from the cumulative effect of scattered light waves due to inadequate or no eye protection.

The aim of this study was to assess the practices of dentists regarding the use of protective barriers during polymerization and to determine the potential adverse effects of LCUs blue light.

An anonymous survey examined dentists in Canton Sarajevo who work in state institutions and private practices. A total of 120 surveys were distributed, and 108 dentists (90%) completed and returned the questionnaires.

The findings indicated that a quarter of the surveyed dentists did not use any form of eye protection against polymerization light. The majority (67%) of the participants believed that avoiding direct exposure to light provided sufficient eye protection. Only 8% of respondents ensured adequate eye protection with protective glasses during polymerization. The survey analysis also included years of work experience and showed that dentists with over 20 years of work experience did not use eye protection during polymerization.

The analysis of the survey revealed certain shortcomings in the daily personal protection practices of the surveyed dentists. We find it essential for educational programs to highlight the potential harmful effects of LCUs, particularly the health consequences of unprotected exposure to blue light.

Keywords: Light-curing units, blue light, protective glasses, retina, questionnaire.