Summary of Poster Presentations and Oral Presentations from the First Congress of Dental Medicine Studies in Mostar

Edited by: Davor Planinić and Ines Musa Trolić

Oral Presentations

1. Changes in the Impact of Malocclusion on the Lives of Adolescents During Comprehensive Orthodontic Treatment

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Introduction: The aim of the research was to examine the extent to which the treatment of malocclusion affects the lives of adolescents.

Participants and methods: The sample consisted of 50 participants, who were patients of the Clinical Hospital Center Rijeka, aged 11-18 years (median 15; interquartile range 13-16), of which 56% were female. They were treated with labial fixed appliances. The participants independently completed the Malocclusion Impact Questionnaire before the start of orthodontic treatment, after three months and after one year of treatment. Occlusal characteristics were recorded using the Index of Orthodontic Treatment Need (dental and aesthetic components) and the Little's Irregularity Index.

Results: There was a significant reduction in the impact of malocclusion on life in the first three months of orthodontic treatment (from 8.5 to 6.5; $p=0.007$; $r=0.379$), but there was no major decline in the following nine months. Normative need for therapy (dental health component) did not significantly decrease in the first three months but did between the third and 12th months ($p=0.001$). The crowding of incisors in the maxilla and mandible dropped in both periods ($p\leq0.024$). The aesthetic need for therapy from the patient's perspective diminished in the first three months ($p<0.001$) but not significantly thereafter. Over the course of one year of treatment, the diminishment in impaired smile aesthetics from the patient's perspective was positively linearly associated with the drop in the impact of malocclusion on life, with a moderate effect size ($r=0.394$; $p=0.028$).

Conclusion: Improving the aesthetics of adolescents' smiles during a year of malocclusion treatment enhances their quality of life. Normative reduction in the degree of malocclusion is not associated with an improvement in the quality of life.

Key words: adolescents, malocclusion, orthodontic therapy, aesthetics.

2. The Influence of Dental Aesthetics on Oral Health-Related Quality of Life in Children in Herzegovina

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Introduction: The psychosocial status of an individual can be significantly influenced by the presence of malocclusions, given their impact on physical and mental health, and consequently, on the quality of life. The psychometric impact of dental aesthetics questionnaire (PIDAQ) is a psychometric instrument used to assess the impact of orthodontic malocclusions on patients' quality of life and the need for orthodontic therapy. The aim of this study was to examine differences in the psychosocial status of patients based on the need for orthodontic treatment.

Materials and methods: The research was conducted at the Health Center Mostar with a total sample of 76 patients, divided into two age groups: children (10-13 years) and adolescents (14-16 years) who had never undergone orthodontic treatment. Two examiners assessed the need for orthodontic therapy using the aesthetic and dental components of the Index of Orthodontic Treatment Need (IOTN). After a dental examination, participants completed the PIDAQ questionnaire.

Results: In the examined groups, no statistically significant correlations were found. The results of our study indicate that individuals with more severe malocclusions experience a weak psychological impact, which does not affect their self-confidence. However, there is a certain degree of aesthetic concern, albeit not statistically significant, consistent with previous research.

Conclusion: Questionnaires assessing the impact of malocclusions on the psychosocial condition of patients can provide more specific guidance for future research on depicting the full range of emotions crucial for personality assessment during the growing-up period.

Key words: PIDAQ, psychosocial status, malocclusion.

3. Cone-Beam Computer Tomography and Intraoral Scanning in Gnathometric Measurements of Jaw Models

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Introduction: The introduction of cone-beam computer tomography (CBCT) devices into clinical practice has enabled 3D diagnostics and virtual planning with reduced radiation exposure. The integration of intraoral scanners allows for the single-visit production of orthodontic prosthetic replacements and restorations. Digital models enable precise measurements of tooth and dental arch width and length, as well as Bolton discrepancies, overbites and overlaps. CBCT establishes simpler and more cost-effective communication with dental laboratories, facilitating the quick transfer of digital data, ultimately resulting in fewer inaccuracies in the steps of orthodontic device fabrication. This research aims to determine if there are statistically significant differences in the accuracy of jaw models obtained by CBCT compared to those obtained by intraoral scanning.

Methods: The study included 30 jaw models obtained from intraoral scans with Omnicam AC (Dentsply Sirona) and 30 models attained by CBCT with Ortophos (Dentsply Sirona). Reference points were defined for a precise comparison of both software systems. The posterior maxillary width represents the distance between opposing intersections of central and buccal fissures of the upper first molars, and the anterior mandibular width indicates the gap between opposing distal vestibular contact points of the first lower premolars. STL-converted models were analyzed in the orthodontic software OnyxCeph.

Results: Positive statistically significant correlations of a high degree were demonstrated between measurements. A statistically significant level of agreement was found among different measurements, indicating result consistency for both measurement methods in the same patients.

Conclusion: The reliability of both imaging modalities has been proven, with a preference for intraoral scanning due to its non-invasiveness and superior resolution of anatomical structures during analysis.

Key words: CBCT, intraoral scanner, digital dentistry.

4. Radiological Analysis of Cystic Lesions in the Jaw

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Introduction: A cyst is a spherical cavity embedded in tissue, consisting of two layers: an outer connective tissue layer and an inner epithelial one, along with liquid or soft content. There are different classifications of cysts in the jaw, with radicular cysts being the most common. Radicular cysts are inflammatory jaw cysts located at the root tips of teeth with infected or necrotic pulp. Diagnosis of a cyst requires clinical, cytological and mandatory histopathological examinations as well as radiological findings to confirm the diagnosis. Cyst therapy involves surgical treatment.

Materials and methods: All panoramic radiographs taken in the radiology department in Mostar between 2020 and 2022 were reviewed. A total of 101 radiological images of potential radicular cysts in the jaw were identified. The criteria for a radicular cyst consisted of radiological findings with a well-defined radiolucent lesion with the root apex inside the cyst lumen. The analysis and comparison encompassed the following for treated and untreated teeth: cyst content and transition zone, in addition to periodontal space and lamina dura, including for the contralateral tooth, and resorption and separation.

Results: Significant statistical differences in radicular cysts between treated and untreated teeth were found in terms of cyst content, transition zone and lamina dura. Cysts in treated teeth mostly exhibited a mineralized matrix in the content, a narrow and more pronounced transition zone and a normal lamina dura. In contrast, cysts in untreated teeth mostly showed osteolysis in the content, a less pronounced transition zone and an intensified lamina dura.

Conclusion: Endodontically treated teeth with radicular cysts exhibit more favorable conditions for tissue healing and recovery compared to teeth that have not been previously treated.

Key words: radicular cyst, radiological findings, jaw cyst therapy.

5. Prognostic Determination of Impacted Canines

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Introduction: Impacted and retained teeth are fully developed teeth within the bone that have not erupted into their proper position or found their way into the dental arch. Mechanical obstacles can include dense bone, thick and fibrous mucosa and supernumerary teeth, as well as cysts, tumors, etc. Diagnosis is confirmed through a clinical examination supported by radiographic imaging.

Materials and methods: The study included all orthopantomographic images of patients aged 12 to 60 taken for diagnostic purposes and extracted from the database of the Health Center Mostar. After collecting images and establishing a diagnosis of impacted canines in 52 patients, further research involved measuring four prognostic factors. Based on the rules of the vertical third, the measurements included horizontal overlap of the adjacent tooth, vertical height of the canine, angle formed with the central line and the position of the impacted canine apex.

Results: No statistically significant difference was found regarding the gender of the subjects, but females predominated. There were more impacted canines in the upper jaw compared to the lower one, with a statistically significant difference. The study showed the highest average amount of crown overlap horizontally with the adjacent incisor, with no significant difference. The highest vertical heights of canine crowns were observed, with a statistically significant difference. The sample had the most favorable angulations of canine crowns toward the midline, without a statistically significant difference. The highest average positions of the canine apex toward the midline were noted, with a statistically significant difference. There were no statistically significant gender differences regarding the four prognostic factors. Prognostic factors related to upper and lower impacted canines also did not reveal statistically significant differences.

Conclusion: This study did not find a high rate of impacted canines in the Herzegovina region. Impaction was more prevalent in females, without a significant difference. Participants had significantly more impactions in the upper jaw than in the lower jaw. Prognoses were mostly good and average, with fewer poor prognostic factors.

Key words: impaction, canine, prognosis.

6. Tooth Height Measurement on Plaster and 3D-Printed Models

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Introduction: Orthodontics, as a branch of dentistry, has a comprehensive impact on the health of the dentoalveolar complex and the general health of the patient. The use of dental study models is fundamental for the accurate diagnosis, planning and monitoring of orthodontic therapy. Plaster dental models have advantages such as easy production and affordability. However, they are prone to storage difficulties and frequent breakage. On the other hand, printed models are created based on digital impressions stored and printed using 3D printers. Printed models stand out for their precision, durability and resistance to breakage and deterioration. The quality of printed models is influenced by the printer's quality and type, the type of resin utilized for model fabrication, the operator's knowledge and the scanners forming the image file. This research aims to determine if there is a difference in tooth height measurement on plaster and 3D-printed models.

Materials and methods: The study included 20 plaster and 20 3D-printed models, with one plaster and one printed model for each patient, featuring a complete set of teeth in both jaws. Measurement was performed using a digital caliper. Before measuring, points for tooth height measurement were marked with a marker. The measurement procedure covered the teeth in both jaws, starting from the first permanent molar on one side to the first permanent molar on the other side of the jaw.

Results: The results collected in this study demonstrate a high degree of correlation and consistency between plaster and 3D-printed models.

Conclusion: The 3D-printed study models showed an advantage in easier handling during measurement but did not exhibit significant deviation during tooth height measurement. Considering the high degree of correlation and consistency between 3D-printed and plaster models, measuring either of these models enables quality orthodontic diagnosis and therapy.

Key words: plaster models, printed models, 3D printers, digital orthodontics.

7. Oral Hygiene Habits of Patients with Implant Prosthetics

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Introduction: The purpose of oral hygiene is to prevent the onset of diseases and contribute to oral health. Personal oral hygiene is crucial in preventing peri-implantitis, a pathological condition involving inflammation of the connective tissue and bone around implants. Oral biofilm forms more rapidly around titanium implants than around natural teeth. Therefore, understanding the role of oral hygiene as a key component of dental implant success is essential. Personal oral hygiene must begin at the time of implant placement and should be modified using various oral hygiene aids for the peri-implant region. In addition to personal oral hygiene, the role of dental hygienists and proper professional cleaning and instrumentation of implants with curettes and scalers is crucial for osseointegration.

Materials and methods: All participants received two questionnaires: one in which they answered questions about personal oral hygiene before the placement of implant prosthetics, and another which covered newly acquired oral hygiene habits after the placement of implant prosthetics. The questions related to oral hygiene products, professional treatments in the dental office, unpleasant oral symptoms and brushing technique. Statistical data analysis included comparing oral hygiene habits in patients with implant prosthetics before and after the placement of implant prosthetics.

Results: After the placement of implant prosthetics, participants significantly more often used interdental brushes and soft or ultra-soft toothbrushes in combination with the circular brushing technique and a water flosser. They also experienced significantly fewer unpleasant oral symptoms such as bad breath, dental pain and bleeding gums. Newly acquired oral hygiene habits resulted in a significantly reduced need for professional treatments in the dental office (tartar removal and scraping and polishing of tooth roots).

Conclusion: The initial hypothesis that patients have significantly different and improved oral hygiene habits after the placement of implants compared to old oral hygiene habits before implant prosthetic therapy was confirmed.

Key words: oral hygiene, oral hygiene habits, dental implants, peri-implantitis.

8. The Impact of Smoking on Oral Health – The Attitudes and Knowledge of Dental Doctors and Students of Dental Medicine in Mostar

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Introduction: According to the World Health Organization (WHO), tobacco smoking is classified as one of the leading causes of mortality worldwide. It is estimated that approximately 6 million people die annually due to the consequences of smoking. A 2007 study found that 40% of male and 39.5% of female dental medicine students in the Federation of Bosnia and Herzegovina are smokers. The harmful effects of smoking on oral health are numerous, including reduced saliva flow, lower saliva pH, increased frequency of cavities and tooth discoloration, hairy tongue, smoker's palate, smoker's melanosis, oral precancerous lesions, oral cancer and periodontitis.

Materials and methods: The study was conducted among students at the School of Dental Medicine at the University of Mostar and dental doctors (DDM) working in the city of Mostar. The participants filled out an anonymous questionnaire. A total of 50 students from the lower years of study (first three years), 47 students from the higher years (last three years) and 54 DDM were surveyed. To assess participants' knowledge of the impact of smoking on oral health, 13 statements with possible answers (yes, no or I don't know) were used. Attitudes were evaluated with 16 statements for which the participants indicated their level of agreement on a scale from 1 to 5, where 1 represents strongly disagree and 5 indicates strongly agree.

Results: Students in lower years showed the poorest knowledge, while students in higher years demonstrated the highest number of correct answers. No statistically significant difference was found between the responses of students in higher years and DDM. The most diverse responses were obtained on the topics of motivational interviewing and pharmacotherapy.

Conclusion: A significant statistical difference in knowledge was found between students in higher and lower years of study. Students in higher years demonstrated much better knowledge than those in lower years. Knowledge about the harmful effects of tobacco on health is satisfactory; however, additional education on topics such as pharmacotherapy for tobacco dependence and smoking cessation counseling is needed.

Key words: smoking, tobacco harm, oral health.

Poster Presentations

1. **Corpora aliena: Foreign Bodies as the Cause of Acute Periodontal Pocket Infection – Case Report**

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Introduction: Acute infection of the periodontal pocket (periodontal abscess) is a necrotic purulent inflammation caused by a periradicular route in existing pockets where the drainage of contents is disturbed. An additional complicating factor can be foreign bodies (*corpora aliena*), which can be anything, including remnants of teeth, parts of bone or residues of hard food.

Case report: Patient A.D. (55 years old) presented at the Admission Office of the School of Dentistry with Clinical Center in Sarajevo with sporadic and pulsating pain in the region of tooth 17, accompanied by an evident external facial swelling on the right side and difficulty opening the mouth during speech and chewing. The reported symptoms have been present for the last two days. Other dental and medical history is unremarkable. On the same day, antibiotic therapy with "Duoclav" 1000 mg is prescribed. A 2D X-ray orthopantomogram is taken, revealing rarefied bone in the alveolar septum region of tooth 17 from the distal side. Teeth 17 and 18 are endodontically treated with large multi-surface fillings. Percussion sensitivity is noted during clinical examination. After three days of antibiotic therapy, the patient returns for a check-up. During clinical examination of the periodontal pocket, a foreign body is observed in the mentioned region and is immediately removed, leading to instant subjective relief. Subgingival curettage of the affected region is performed to eliminate inflammatory parameters of the mentioned periodontal pocket.

Conclusion: In the presence of a foreign body as the cause of dental or periodontal infections, it is essential to promptly remove the foreign body and prescribe antibiotic therapy to prevent the spread of infection and potential systemic complications.

Key words: *corpora aliena*, periodontal pocket, periodontal abscess.

2. The Significance of Digital Orthopantomogram in Establishing a Correct Diagnosis

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Introduction: A digital orthopantomogram is a two-dimensional radiographic representation of the maxillofacial region, providing high-quality radiographic images with clear resolution of bone structures at a low radiation dose.

Case report: Patient I.B., 26 years old, sought medical attention due to pain and swelling in the lower jaw on the right side and difficulty opening the mouth. Clinical examination revealed intact teeth in the upper and lower jaw. Further diagnostic measures included a digital orthopantomogram, which diagnosed an impacted tooth 48 with pericoronal radiolucency and the presence of supernumerary premolars bilaterally in the lower jaw. Through this case, the importance of a digital orthopantomogram in establishing a correct diagnosis and guiding further treatment in patients, as well as detecting anomalies not visible during clinical examination, is demonstrated. Due to appropriate therapy, the patient was referred for oral surgery.

Conclusion: A digital orthopantomogram is an indispensable diagnostic tool allowing for a rapid and precise diagnosis, providing a broader clinical and radiographic view of the patient. As it offers insight into the entire oral region, it enables the discovery of rare genetic anomalies and numerous pathological conditions in patients that are not visible during clinical examination.

Key words: digital orthopantomogram, rare tooth anomalies, pericoronitis, supernumerary teeth.

3. Avulsion of Maxillary Incisor with Incomplete Root Growth and Development – Case Report

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Introduction: The case of an eight-year-old patient illustrates the process of replantation and revascularization of an avulsed incisor with incomplete root growth and development. The case is relevant due to the increasing frequency of dental trauma in children and young individuals. The materials and methods used adhere to the clinical protocol for avulsion of a permanent tooth with incomplete root growth and development.

Case presentation: The patient visits the Dental Service due to the avulsion of tooth 11. The extra-alveolar time of the tooth is longer than one hour, and it was brought in an inadequate medium (paper tissue). Bone structures are immobile, and there are no soft tissue injuries observed. Infiltration anesthesia is administered to the patient. The avulsed tooth with incomplete root growth and development is rinsed with saline and replanted. A wire composite splint is placed from tooth 13 to 23. Antibiotic Panklav (5 ml every 12 hours for seven days) is prescribed, and tetanus protection is administered. During follow-up visits, the tooth is slightly mobile, with no change in color or soft tissues. The splint is left in place for four weeks with a check-up at seven to 14 days. In the next visit, the splint is removed. A fistula above tooth 11 is noticed, and external root resorption is visible on a targeted X-ray. Revascularization therapy is indicated. In the first phase, anesthesia, trepanation, extensive flushing with saline and the application of antibiotic paste (Medazol 400 mg and citral 250 mg) into the root canal are required. A cotton pellet is placed, and the opening is closed with SIC. After 14 days, the fistula disappears. Local infiltration anesthesia without a vasoconstrictor is employed, and the antibiotic paste is removed with extensive rinsing. The canal is dried, and bleeding is encouraged from the periapical area with Hoedsterm 20, stopped with a sterile cotton pellet (five minutes) to form a clot onto which calcium hydroxide paste is placed. The cavity is closed with SIC. After 14 days, the calcium hydroxide is rinsed, mineral trioxide aggregate (MTA) paste is applied and a moist cotton pellet is left closed with SIC until the next visit. The final step is the removal of the cotton pellet and composite filling.

Conclusion: Revascularization is a lengthy process, and the results will be seen through clinical and radiological monitoring over a year, corresponding to root growth and development.

Key words: avulsion, revascularization, replantation, incomplete root development.

4. Implant-Prosthetic Therapy of Edentulous Mandible with Individual Bar – Case Report

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Introduction: Patients with an edentulous lower jaw often struggle with wearing a complete lower denture. The main issues are usually weak retention and stabilization of the prosthesis, which complicate and reduce chewing function, impacting the patient's quality of life and self-confidence.

Case presentation: Three months after the extraction of remaining teeth in the lower jaw, the patient was proposed a therapy with two implants and the creation of an individual bar, which would serve as an anchor for a removable implant-prosthetic restoration. The procedure involves a ridge incision in the canine region, lifting the mucoperiosteal flap between the canine and lateral incisor. Due to the hard bone, the alveolus is prepared to a depth of 12 mm using a 3.5 mm wide drill for two 3.5 - 10 Bredent blueSKY implants. The patient is prescribed amoxicillin 500 mg for the next five days (3x1), and cold compresses and analgesics are provided as needed. Mouth rinses with oral antiseptics (chlorhexidine) are recommended, and instructions are given for cleaning with a cotton swab soaked in chlorhexidine. After three months of implant placement, the implants are uncovered. Three weeks after the placement of healing abutments, an individual tray is made, and conventional impressions are taken. Conventional abutments of 6 mm serve as the primary part of the bar. After scanning plaster models, the technician designs the secondary part of the bar – the individual bar, incorporating "etachment" sliding (T) connections. Precise fitting of the prosthesis on the bar is essential, providing excellent retention and stabilization, achieving functional, aesthetic and phonetic satisfaction. With proper hygiene, long-term improvement in the quality of life is expected with this implant-supported restoration compared to the previous complete denture.

Key words: individual bar, implant-prosthetic work, computer-aided design (CAD)/computer-aided manufacturing (CAM).

5. The Application of Platelet-Rich Fibrin as an Autograft in Bone Defects – Case Report

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Introduction: The use of platelet-rich fibrin (PRF) allows for a significant increase in the concentration of growth factors, thereby accelerating the healing process by promoting fibroblast proliferation, bone regeneration, tissue vascularization, collagen formation and the mitosis of mesenchymal stem cells and osteoblasts. PRF inhibits the formation and activity of osteoclasts, exhibiting strong anti-inflammatory, analgesic and antimicrobial effects in the applied area. PRF is a preparation derived solely from the patient's blood through centrifugation, without any additional additives, making its preparation simple and safe.

Case presentation: A 60-year-old male patient was referred for endodontic treatment to our clinic. A radiological examination revealed a large cyst in the upper jaw in the frontal region incidentally. The patient reported noticing a "swollen bone" for an extended period. After cyst enucleation, the bone defect was augmented with prepared sticky bone covered by advanced PRF (APRF) membranes. Fresh PRF clots were compressed within the PRF box to obtain membranes of equal thickness. The cross-linked fibrin structure stabilizes the clot, creating a consistency that resists displacement, maintains space, prevents soft tissue invasion and progressively releases growth factors. Monitoring the patient over two years showed osteoinduction and osteoconduction in the bone defect, with nearly complete filling of the newly formed bone.

Conclusion: The simplicity of preparation, accessibility to every patient and minimal trauma are the major advantages of platelet concentrates, undoubtedly influencing faster, better and less painful tissue healing. Let us harness the power of regenerative medicine and this active biomaterial.

Key words: PRF, biomaterial, cyst, tissue regeneration.

6. Apicoectomy of the Lower Left First Molar

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Introduction: Apicoectomy is an oral surgical procedure involving the removal of infected tissue around the root apex and the apex itself of a tooth. The pathological finding and a maximum of 1/3 of the total length of the tooth root are removed. The surgical aim is to prevent the spread of inflammation, which could lead to the extraction of the affected tooth. In 10%-15% of endodontic treatments, symptoms persist or reappear. Indications for apicoectomy include root canal abnormalities, non-patent canals, broken endodontic instruments, apical third root fractures, irritating materials in the periapical area, focal infections and the presence of a cyst as well as root resorption. Apicoectomy is a viable solution to retain many teeth that would otherwise be indicated for extraction. This case describes the procedure performed for a diagnosis of chronic apical periodontitis on tooth 36.

Case presentation: The procedure was conducted under local block anesthesia on tooth 36. A corticotomy was performed to gain access to the infected periapical area, and root apex resection was carried out, removing the pathological finding. Combined oral-surgical and periodontal treatment was performed to achieve aesthetically and functionally acceptable gingival margins, considering the significant recession of the gingiva around tooth 36. The specific aspect was a unilateral relieving incision, facilitating the removal of the pathological substrate, providing good surgical results for soft tissues in regions where apicoectomy is not a frequent treatment choice.

Conclusion: Despite being a relatively straightforward surgical procedure, the importance of apicoectomy should not be underestimated, as it is the most common causal treatment for chronic odontogenic inflammation after endodontic therapy. Apicoectomy represents a viable solution with a high success rate. Before performing the procedure, it is necessary to assess the patient's dental status, the quality of previous endodontic treatment, crown stability, the time elapsed since endodontic intervention and whether there are any local or general contraindications that could compromise the procedure.

Key words: apicoectomy, unilateral relieving incision, corticotomy, pathological substrate.

7. Anodontia as Part of Ectodermal Dysplasia Syndrome

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Introduction: Ectodermal dysplasia (ED) represents a heterogeneous group of disorders characterized by the absence or incomplete development of one or more ectodermal tissues. Individuals with ED exhibit distinctive features such as a prominent forehead, protruding chin, sparse hair, etc. Orofacial characteristics include anodontia, oligodontia and hypodontia. Morphologically, the teeth have a conical appearance, and alveolar ridges are underdeveloped. The prevalence of this disorder is seven in 10,000 births. Clinically, there are hypohidrotic and hidrotic forms.

Case presentation: Eight-year-old identical twin boys were brought to our clinic by their mother due to her concern that they have no permanent teeth. According to the heteroanamnesis, the children were prematurely born at 32 weeks and have no psychophysical impairments. The father has a lack of lower central incisors. Inspection revealed that the children have sparse blue hair, almost no eyelashes, wear glasses and have brittle and frayed nails. Intraoral clinical examination revealed all primary teeth (molars cariously destroyed) with characteristic conical healthy tooth appearance and a thin and underdeveloped alveolar ridge for their age. An orthopantomogram (OPG) was indicated. After analyzing the OPG, the complete absence of succedaneous teeth (permanent dentition) was observed. The mother was referred to a tertiary institution under suspicion of ED syndrome for further diagnostics, which was confirmed through clinical examinations. At the Faculty of Medicine, Department of Pediatric and Preventive Dentistry, it was decided to attempt a conservative restoration of primary teeth using glass ionomer cements.

Conclusion: Due to the age of the patients and the current condition of primary teeth, conservative therapy was chosen in this case. However, in patients with anodontia and oligodontia, prosthetic rehabilitation is the treatment of choice for masticatory, phonetic and aesthetic functions, which is crucial for the psychophysical development of the child.

Key words: Ectodermal dysplasia, anodontia, twins.

8. Endodontic-Restorative Treatment of a Microdont Lateral Incisor

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Introduction: Microdontia is a type of developmental dental anomaly characterized by teeth of smaller dimensions. It can be localized or generalized, with significant aesthetic and functional consequences. The etiology of microdontia can be genetic and/or environmental. Therefore, the treatment of microdontia is often multidisciplinary, considering the extent and severity of microdontia, patient age, potential for further growth and aesthetic and functional expectations. The aim of this case report is to present an example of endodontic and restorative therapeutic approaches to a microdont permanent tooth in a healthy adult.

Case presentation: A 17-year-old patient presented with pain in the area of the upper right lateral incisor. Clinical examination revealed a carious lesion on the buccal surface of the tooth, sensitivity to vertical percussion and a positive tooth vitality test. Based on clinical and radiological examination, the diagnosis of pulpitis acuta (acute pulpitis) was established. All cariously changed dentin was removed, and an endodontic access cavity was shaped on the buccal side (to conserve tooth tissue). The root canal length was determined to be 19.5 mm using the Raypex 6 apex locator. Manual canal instrumentation was performed with the step-back technique up to a master apical file size 25. Before filling, the root canals were irrigated with 2.5% sodium hypochlorite, dried with paper points and filled utilizing the cold lateral condensation technique with standardized gutta-percha points and AH Plus paste. A final control radiograph confirmed the appropriate length and compactness of the filling.

Conclusion: Clinical and radiological assessment is necessary before any intervention. Despite the widespread use of mechanical endodontics nowadays, this case represents an exception. The usage of mechanical endodontics would compromise the structural integrity of the slender lateral incisor. Manual endodontics in this case required significantly more time but improved the tooth's prognosis.

Key words: microdontia, endodontics, step-back, cold lateral condensation, restorative dental medicine.

9. Restoration of Smile Aesthetics with Direct Composite Veneers

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Introduction: Modern dentistry is based on adhesive principles that allow for the restoration of decayed tooth tissues with aesthetic materials, bonding to the remaining part of the tooth crown with minimal preparation of healthy tooth tissue. Composite veneers offer a quick and simple solution, especially when ceramic replacements are unavailable due to financial constraints or the desire to avoid radical tooth grinding and irreversible loss of hard tooth tissue. The significant advantage of direct composite veneers is the ability to restore smile aesthetics in one dental visit. Other advantages include ease of correction in case of fracture and, no less importantly, a low cost compared to ceramic replacements. Composite veneers cover the entire vestibular (labial) surface of the tooth and are often done after trauma or carious destruction affecting the labial surface of the tooth.

Case presentation: After X-ray analysis, endodontic treatment and bleaching were performed on the upper lateral incisor due to significant discoloration. The "walking bleach" technique was used for bleaching. Minimal preparation, i.e., grinding of the labial surface of the tooth, was done to ensure optimal adhesion conditions, and a composite veneer was created by direct application of the composite. Good marginal closure and a dry working field were ensured by inserting a celluloid matrix into the sulcus. The materials utilized included Opalescence Endo gel (Ultradent), total etch gel for etching, Genial Bond (GC) and Genial Anterior composite in BW and YE colors (GC). An alternative to this procedure would have been the production of ceramic aesthetic crowns, which, at this point, was not acceptable to the patient for various reasons, including financial and time constraints and the refusal of radical tooth grinding.

Conclusion: Thanks to the direct composite veneer method, satisfactory smile aesthetics were achieved in a very short time without radical loss of tooth tissue.

Key words: direct composite veneer, restoration, minimal preparation, smile aesthetics, adhesion.