DIGITAL TECHNOLOGIES IN MULTIDISCIPLINARY DENTISTRY

September 9-10, 2023

National conference

with international

participation





"Artificial intelligence is not a substitute for human intelligence; it is a tool to amplify human creativity" Fei-Fei Li, American computer scientist

Dear friends, respected colleagues,

On behalf of the Moldovan Association of Stomatologists (MAS) and Organizing Committee, I am most pleased to extend a warm welcome to the National Conference with International Participation – "Digital Technologies in Multidisciplinary Dentistry" (DTMD Conference), to our members, followers and everyone involved in our association.

This exceptional conference will be held from 9th to 10th of September 2023 in Chisinau, Republic of Moldova and hosted by "Nicolae Testemitanu" State University of Medicine and Pharmacy.

I have no doubt that the conference will certainly be a special occasion for those involved in research and professional development. As it is already well-known in our profession, Digital Dentistry is not the future, but is already the present. Join us at the conference, it will be an opportunity to meet, to listen, to discuss and to share information since an exciting line-up of expert speakers including top practitioners, opinion leaders and researchers will be included.

I would like to invite you to join us at the DTMD Conference in the hospitable environment that our colleagues from "Nicolae Testemitanu" SUMPh and MAS have prepared. You will have magnificence lucky chance to enjoy the capital of the Republic of Moldova, allowing for a vibrant melting pot of cultures, architectural styles, and cuisines.

Yours sincerely, Valeriu Fala, corresponding member of Academy of Science, univ. prof. ScD, PhD, MSc President of the "Digital Technologies in Multidisciplinary Dentistry" Conference

WELCOME TO CHISINAU



The city of Chisinau, the capital of the Republic of Moldova, is located on seven hills, in the immediate proximity of the Bâc river. The first mention of Chisinau dates back to 1436. The city has a rich history and has always been an important economic center of Moldova.

Chisinau is also the cultural capital of the Republic. For over three decades, the city has hosted the "Mărțisor" international festival, the "Maria Bieşu Invites" international opera festival, the international dance competitions, in which the "Codreanca" ensemble performs brilliantly, the "Danila Prepeleac" satire and humor festival.

Chisinau has a varied architecture, with historic and modern buildings coexisting harmoniously. In the center of the city there are numerous parks that provide relaxation and meeting places for city residents. The city hosts numerous higher education institutions and is an important scientific research center.







CHISINAU INTERNATIONAL AIRPORT

Transfer time from Chisinau International Airport to the city center and vice versa is about 40 minutes depending on traffic situation.

Trolleybus: Travel route number 30 (Chisinau International Airport/The Great National Assembly Square) has 2 routes: (1) Chisinau International Airport (between 5:49 and 22:48 daily), (2) The Great National Assembly Square (between 6:00 and 22:50 daily) departs from the airport at 18-minute intervals and reaches the downtown.

Cost: approx. MDL 6 one way. Duration approx. 35-45 min.

Taxi: Taxis are available directly in front of the arrival hall at the airport and everywhere downtown. Also you can download YandexGo available on Appstore and Google Play to reach your destinations.

Cost: approx. MDL 150, from the airport to the city center and v.v.

GENERAL INFORMATION

BANK AND EXCHANGE

Banking hours, in general, are Monday, Tuesday, Wednesday, Thursday, Friday: 8:15-12:30 and 13:15-17:00.

ATMs are located outside most banks, cash can be withdrawn 24/7.

Visa, Mastercard, AMEX and Diners are accepted.

Credit cards are also accepted by numerous hotels, restaurants, shops and gas stations.

CONFERENCE ADMINISTRATION DESK

For all remaining queries, including new registrations, please ask the staff at the registration desk onsite upon arriving at the conference.

CONFERENCE LANGUAGE

The official language of the conference is Romanian.

CONFERENCE REGISTRATION

Conference registration is also possible at our Conference Administration Desk.

CURRENCY

The official currency in Republic of Moldova is MDL.

INSURANCE AND LIABILITY

All participants are encouraged to make their own arrangements for health and travel insurance as the conference organizers cannot be held responsible for any personal injury, loss, damage or accident to private property, or for additional expenses incurred as a result of delays or changes in air, rail, road or other services, strikes, sickness, weather and other causes.

SHOPPING

We highly recommend Shopping MallDova which is open from Monday to Sunday 10:00-22:00.

SMOKING

Moldovan law limits or prohibits smoking:

- In offices, schools, universities and other educational premises,
- In restaurants without smoking rooms.

TIME

Chisinau is in the East European Time zone, three hours ahead Greenwich Mean Time (GMT).

TIPPING

Service is usually included in the prices in bars and restaurants. Tips are always welcome at usually 10%.

USEFUL TELEPHONE NUMBERS

The single national service for emergency calls: 112

WEATHER

The forecast for the temperatures in Chisinau in September is between 25-30° Celsius by day, nights are cooler.



DIGITAL TECHNOLOGIES IN MULTIDISCIPLINARY DENTISTRY

PROGRAM

09.09.2023

07³⁰-09⁰⁰ REGISTRATION

OFFICIAL OPENING OF THE CONFERENCE

INVITED SPEAKERS:

- 09⁰⁰-09²⁰ **Ceban Emil**, PhD, ScD, university professor, ASM academician corresponding member, rector, "Nicolae Testemitanu" State University of Medicine and Pharmacy (Chisinau, Republic of Moldova)
- 09¹⁵-09³⁵ *Heikki Kyostila*, President, Planmeca Oy (Helsinki, Finland)
- 09³⁵-09⁴⁵ **Burlacu Valeriu**, PhD, university professor, MAS Honorary President, Department of therapeutic stomatology (Chisinau, Republic of Moldova)
- 09⁴⁵-09⁵⁵ **Groppa Stanislav**, PhD, ScD, university professor, ASM academician, head of department, Department of neurology no. 2, INCMS director, prorector for research activity (Chisinau, Republic of Moldova)
- 09⁴⁵-09⁵⁵ **Lacusta Victor**, PhD, ScD, university professor, ASM academician, head of department, Department of alternative and complementary medicine (Chisinau, Republic of Moldova)

MODERATORS:

- **Solomon Oleg** PhD, associate professor, dean, Faculty of Stomatology, MAS President, head of department, Department of prosthodontics "Ilarion Postolachi"
- **Chele Nicolae** PhD, ScD, university professor, head of department, Department of oral-maxillofacial surgery and oral implantology "Arsenie Gutan"
- **Trifan Valentina** PhD, associate professor, head of department, Department of orthodontics

ORAL COMMUNICATIONS:

- 10¹⁰-10³⁰ Jouko Nykanen, Vice President, Planmeca Oy Streamline your digital workflow (Helsinki, Finland)
- 10³⁰-10⁵⁰ Jan Moed, Chief Commercial Officer (CCO), KaVo Dental Excellence in modern dentistry (Biberach an der Riß, Germany)
- 10⁵⁰-11⁵⁰ *Marinescu-Gava Magdalena*, DDS, DMD, MSc, specialist in Oral and Maxillofacial Radiology, Finnish Student Health Foundation CBCT clinical applications and our experience with Planmeca Viso (Helsinki, Finland)

11 ⁵⁰ -12 ³⁰	GURSK MEDICA (event sponsor)
	Roshchin Evgeny, PhD, prosthodontist, orthodontist
	Digital functional diagnostics. New algorithms

12³⁰-13³⁰ *Lunch break*

MODERATORS:

Piehslinger Eva	MD, DMD, MSc, PhD, university professor
Slavicek Christian	Chairman of Vienna School of interdisciplinary Dentistry (VieSID)
Fala Valeriu	PhD, ScD, university professor, ASM academician corresponding member, head of department, Department of therapeutic stomatology
13 ³⁰ -14 ¹⁰	Piehslinger Eva , MD, DMD, MSc, PhD, university professor History of VieSID Occlusion Concept and current implementation at the Dental University Clinic of Vienna (Vienna, Austria)
14 ¹⁰ -14 ⁵⁰	<i>Slavicek Christian</i> , chairman of VieSID Instrumental and clinical instrumental Analysis within the field of Individualized Functional Dentistry in Occlusion Medicine (Vienna, Austria)
14 ⁵⁰ -16 ¹⁰	<i>Klovanets Andrii</i> , <i>MBBS</i> , <i>MSc</i> , <i>Dr. med. dent.</i> Interdisciplinary diagnosis and treatment approach integrated in modern dental practice (Zürich, Switzerland)
16 ¹⁰ -17 ¹⁰	<i>Diwakar Singh</i> BDS, MSc and <i>Deepti Garg</i> DMD, BDS, MDSc TMDs: why and how to treat (Vienna, Austria)
17 ¹⁰ -17 ⁴⁰	Tighineanu Marcela , university assistant, Department of therapeutic stomatology Cazacu Igor , university assistant, Department of orthodontics Fala Valeriu , PhD, ScD, university professor, ASM academician corresponding member, head of department, Department of therapeutic stomatology Gnathological implications in orthodontic treatment (Chisinau, Republic of Moldova)
1740-1800	Solomon Oleg , PhD, associate professor, dean, Faculty of Stomatology, MAS President, head of department, Department of prosthodontics "Ilarion Postolachi" Complex treatment methods in the dento-maxillary rehabilitation in congenital edentation (Chisinau, Republic of Moldova)
10.09.2023	
MODERATORS:	
Serhiy Radlinski	university professor, founder of the Academy of Esthetic Dentistry, clinical director of the dental office-studio APOLLONIA
Forna Norina Cons	uela PhD, ScD, MD, university professor, ICD Regent District 14 Central & Southern Europe
Uncuța Diana	PhD, ScD, associate professor, head of department, Department of dental propaedeutics " Pavel Godoroja"
Ciobanu Sergiu	PhD, ScD, university professor, head of department, Department of odontology, periodontology and oral pathology "Sofia Sîrbu"

0900-0950	Serhiy Radlinski , university professor, founder of the Academy of Esthetic Dentistry, clinical director of the dental office-studio APOLLONIA First molars in systemic dental restoration (Poltava, Ukraine)	
0950-1010	<i>Forna Norina Consuela</i> , PhD, ScD, MD, university professor, ICD Regent District 14 Central & Southern Europe ICD District 14 Central & Southern Europe – information about the organisation process (Iasi, Romania)	
1010-1050	<i>Dienha Oksana</i> , PhD, university professor, Honored Doctor of Ukraine The component of prophylaxis and its organization in the activity of dentists (Odessa, Ukraine)	
10 ⁵⁰ -11 ³⁰	Cherepynska Yuliya , PhD, associate professor, Department of conservative dentistry, Master's Degree of High School Pedagogy of Kharkiv National Medical University (KhNMU) Application of laser technologies in oral pathology (Kharkiv, Ukraine)	
11 ³⁰ -12 ⁰⁰	 Uncuţa Diana, PhD, ScD, associate professor, head of department, Department of dental propaedeutics "Pavel Godoroja" Porosencov Tatiana, PhD, associate professor, Department of dental propaedeutics "Pavel Godoroja" Ivasiuc Irina, university assistant, Department of dental propaedeutics "Pavel Godoroja" Trifan Diana, university assistant, Department of dental propaedeutics "Pavel Godoroja" The use of digital technologies in periodontology, odontology, endodontics and oral medicine (Chisinau, Republic of Moldova) 	
12 ⁰⁰ -12 ²⁵	<i>Istrati Dorin</i> , PhD, associate professor, Department of therapeutic stomatology The impact of the Digital Age in the modern endodontic treatment (Chisinau, Republic of Moldova)	
12 ²⁵ -13 ⁰⁰	Iulian Ghețiu , doctor, Smile Dent Team (event sponsor) Why digital? (Chisinau, Republic of Moldova)	
1300-1400	Lunch break	
MODERATORS:		
Railean Silvia	PhD, associate professor, head of department, Department of pediatric oral-maxillofacial surgery and pedodontics "Ion Lupan"	
Stepco Elena	PhD, associate professor, Department of pediatric oral-maxillofacial surgery and pedodontics "Ion Lupan"	
Spinei Aurelia	PhD, ScD, associate professor, Department of pediatric oral-maxillofacial surgery and pedodontics "Ion Lupan"	
1400-1420	Chele Nicolae , PhD, ScD, university professor, head of department, Department of oral- maxillofacial surgery and oral implantology "Arsenie Gutan" Chele Dumitru , university assistant, Department of oral-maxillofacial surgery and oral implantology "Arsenie Gutan" Guided Versus Conventional Implantation (Chisinau, Republic of Moldova)	

14 ²⁰ -15 ²⁰	 Groppa Stanislav, PhD, ScD, university professor, ASM academician, head of department, Department of neurology no. 2, INCMS director, prorector for research activity Gavriliuc Pavel, university assistant, Department of neurology no. 2 Fala Paula, university assistant, Department of neurology no. 1 Classic neurological examination and modern diagnostic methods in neurology (Chisinau, Republic of Moldova) 		
15 ²⁰ -15 ⁴⁰	Railean Silvia , PhD, associate professor, head of department, Department of pediatry oral-maxillofacial surgery and pedodontics "Ion Lupan" Multidisciplinary management in congenital craniofacial dysmorphism in the view of three-dimensional diagnostic imaging (Chisinau, Republic of Moldova)		
15 ⁴⁰ -16 ⁰⁰	Natalia Rusu-Radzichevici, PhD, associate professor, Department of oral-maxillofacial surgery and oral implantology "Arsenie Gutan" Surgical management of patients with toxic osteomyelitis using digital technologies (Chisinau, Republic of Moldova)		
16 ⁰⁰ -16 ²⁰	Mostovei Andrei , PhD, associate professor, Department of oral-maxillofacial surgery and oral implantology "Arsenie Gutan" Mostovei Mihail , PhD student The role of the planning stages of implanto-prosthetic rehabilitations in the aesthetic sectors (Chisinau, Republic of Moldova)		
16 ²⁰ -16 ⁴⁰	Sîrbu Dumitru , PhD, associate professor, Department of oral-maxillofacial surgery and oral implantology "Arsenie Gutan" Strîşca Stanislav , university assistant, Department of oral-maxillofacial surgery and oral implantology "Arsenie Gutan" The application of virtual assisted static surgery in OMF surgery (Chisinau, Republic of Moldova)		
1640-1700	Bolun Radu , PhD, university assistant, Department of therapeutic stomatology The role of digital technologies in the prevention and treatment of peri- implantation diseases (Chisinau, Republic of Moldova)		
17º0-17²0	Cebotaru Vasile , Kinetotherapist The State University of Physical Education and Sport Interdisciplinary approach to patients with bruxism. The evolution of temporomandibular disorders (Chisinau, Republic of Moldova)		
17 ²⁰ -18 ⁰⁰	Lacusta Victor, PhD, ScD, university professor, ASM academician, head of department, Department of alternative and complementary medicine Fala Valeriu, PhD, ScD, university professor, ASM academician corresponding member, head of department, Department of therapeutic stomatology Bordeniuc Gheorghe, PhD, university assistant, Department of therapeutic stomatology Modern diagnosis and treatment options for patients with temporomandibular disorders (Chisinau, Republic of Moldova)		

 9.09.2023

 OFFICIAL OPENING OF THE CONFERENCE

 INVITED SPEAKERS:

 09⁰⁰-09²⁰

 G9⁰⁰-09²⁰

 Ceban Emil, PhD, ScD, university professor, ASM academician corresponding member, rector, "Nicolae Testemitanu" State University of Medicine and Pharmacy (Chisinau, Republic of Moldova)

09¹⁵-09³⁵



Heikki Kyostila, President, Planmeca Oy (Helsinki, Finland)

09³⁵-09⁴⁵



Burlacu Valeriu, PhD, university professor, MAS Honorary President, Department of therapeutic stomatology (Chisinau, Republic of Moldova)

0945-0955



Groppa Stanislav, PhD, ScD, university professor, ASM academician, head of department, Department of neurology no. 2, INCMS director, prorector for research activity (Chisinau, Republic of Moldova)

 $09^{45} - 09^{55}$



Lacusta Victor, PhD, ScD, university professor, ASM academician, head of department, Department of alternative and complementary medicine (Chisinau, Republic of Moldova)

	MODERATORS:	
	Solomon Oleg	PhD, associate professor, dean, Faculty of Stomatology, MAS President, head of department, Department of prosthodontics "Ilarion Postolachi"
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	ORAL COMMUNIC	ATIONS:
10 ¹⁰ -10 ³⁰		Jouko Nykanen , Vice President, Planmeca Oy Streamline your digital workflow (Helsinki, Finland)
10 ³⁰ -10 ⁵⁰		Jan Moed, Chief Commercial Officer (CCO), KaVo Dental Excellence in modern dentistry (Biberach an der Riß, Germany)
10 ⁵⁰ -11 ⁵⁰		Marinescu-Gava Magdalena , DDS, DMD, MSc, specialist in Oral and Maxillofacial Radiology, Finnish Student Health Foundation CBCT clinical applications and our experience with Planmeca Viso (Helsinki, Finland)
	The discovery of ra dental specialty, in tures increased, tha	diography was a huge step in the development of medicine, in general, and the particular. Over time, the need to have detailed images of the anatomical struc- at would allow the planning of complex cases.
	The application of over the classic CT: footprint suitable f improved: for exam meca Ultra Low Do sate for motion-rel allow obtaining im- volume to be inves In everyday practic	CBCT in practice was quite fast, given the advantages that this method has lower purchase price, significantly lower radiation dose for the patient, small or the dental office. Disadvantages related to this technique were removed or nple, the radiation dose can be greatly reduced by technologies such as Plan- se [™] . In addition, some manufacturers have introduced algorithms to compen- ated artifacts (Planmeca CALM [™]) or metal products (Planmeca ARA [™]), which ages of exceptional quality even in the conditions suboptimal acquisition of the tigated. re, CBCT covers all aspects of the treatment plan up to post-operative examina-

tions: locating and determining the distance to vital anatomical structures, measuring the amount of alveolar bone tissue, assessing the need for a bone tissue graft or a sinus lift, more precise identification and diagnosis of periapical conditions than conventional radiography, the exact stability of the root anatomy and root canals, the study of occlusion relationships at the dental level and the temporomandibular joint (TMJ) as well as anatomy of the condyles in three dimensions, evaluation of the upper airways, monitoring the progress of the pathology as well as the success of the treatment by using multiple scans. 1150-1230



GURSK MEDICA (event sponsor) Roshchin Evgeny, PhD, prosthodontist, orthodontist Digital functional diagnostics. New algorithms

The digital way of diagnostic allows to work completely with individual information. Data from virtual models, CBCT, axiography, myography and face scan can be fully collected and formed into a virtual patient. We can work with dynamic parameters. This allows us to get more data about the chief complains of the patient. We can analyze occlusion in statics and dynamics. We can examine the position of the joints and predict a new treatment.

The new generation of digital diagnostics is starting to use AI analysis, which greatly simplifies the work with complex CBCT tracings. All information processed by the doctor can be fully exported to the laboratory.

12 ³⁰ -13 ³⁰	Lunch break	
	MODERATORS:	
	Piehslinger Eva	MD, DMD, MSc, PhD, university professor
	Slavicek Christian	Chairman of Vienna School of interdisciplinary Dentistry (VieSID)
	Fala Valeriu	MSc, PhD, ScD, university professor, ASM academician corresponding member, head of department, Department of therapeutic stomatology

 $13^{30} - 14^{10}$



Piehslinger Eva, MD, DMD, MSc, PhD, university professor **History of VieSID Occlusion Concept and current implementation at the Dental University Clinic of Vienna** (Vienna, Austria)

The Viennese Occlusion Concept was developed by Professor Rudolf Slavicek in the 80's of the last century. Professor Slavicek was studying physiologic occlusion in normal growing individuals and investigated functional movements of the mandible.

The Concept of sequential guiding with canine dominance was developed which can be realized in the full adjustable articulator. It has the great advantage that in the course of life, when the canines become abraded the first premolar helps with the guidance building a small group function. This is continued, when the first premolar becomes abraded too and the second premolars join in the group function. This is not an artificial concept, it can be found in natural dentitions of healthy individuals.

The principles of diagnosis and therapy of the VieSID concept are also taught in the student course at the Dental School in Vienna. The students practice the anamnestic investigation as well as clinical and instrumental

analysis. They have to make impressions in a dentist patient setting during the course and mount the casts with the anatomic face bow in the articulator. Split cast control is performed and the casts are analysed in the articulator. They make the CPM measurements, evaluate front guidance angle and check the occlusograms. Condylography is performed with all students and then they fabricate myopathic splints for each other and learn how to equilibrate the splints in the articulator as well as in the mouth of their colleagues. The planning and fabrication of fixed and removable prosthodontic rehabilitation as well as partial and full dentures is taught according to the principles of the Viennese concept. 14¹⁰-14⁵⁰



Slavicek Christian, chairman of VieSID Instrumental and clinical instrumental Analysis within the field of Individualized Functional Dentistry in Occlusion Medicine (Vienna, Austria)

Instrumental and clinical instrumental Analysis within the field of Individualized Functional Dentistry in Occlusion Medicine:

Individualized functional dentistry is the logical and necessary further development in the diagnostics and treatment of dental problems in complex patient cases that cannot be treated with the means of evidence-based dentistry or with insufficient success. A key element of the treatment philosophy according to Professor Rudolf Slavicek is the cybernetic scheme he developed for the masticatory organ.

From this scheme it is easy to read how complex the stomatognathic system with its diverse functions and structures is integrated into the entire organism. The occlusion with its diverse biomechanical properties plays a key role. The correct and detailed diagnosis of movement sequences, which are influenced by the hard structures of the tooth occlusions, is crucial for finding the valid diagnosis as the basis for complex treatments.

A standardized diagnostic procedure is important, which is divided into clinical, clinical-instrumental and instrumental diagnostics. This lecture explains these diagnostic and therapeutic methods of VieSID using the system from GAMMA Dental. GAMMA offers complete documentation software for the clinical findings, as well as a Condylography system for recording the movement of the lower jaw, as well as mechanical and digital tools (articulators) in instrumental diagnostics and for prosthetic reconstruction.

14⁵⁰-16¹⁰



Klovanets Andrii, *MBBS*, *MSc*, *Dr. med. dent.* Interdisciplinary diagnosis and treatment approach integrated in modern dental practice (Zürich, Switzerland)

The logical construction of the diagnosis is formed on the collection of data of all the necessary stages of diagnosis individually for each patient. Standardized diagnostic examinations reveal individual characteristics that are further combined and considered/diagnosed. The purpose of all diagnostic processes is aimed at the successful outcome of the patient.

- Initial consultation (personal conversation)
- "Small" diagnostic analysis
- "Large" diagnostic analysis
- Additional diagnostic procedures
- Interdisciplinary communication

 $16^{10} - 17^{10}$



Diwakar Singh BDS, MSc Deepti Garg DMD, BDS, MDSc Xiahoui Rausch Fan Alain Landry TMDs: why and how to treat (Vienna, Austria) Temporomandibular disorders (TMDs) are disorders affecting the masticatory muscles, temporomandibular joint (TMJ), and related structures. The most common symptoms of TMDs are pain-related and intraarticular disorders. A growing number of patients (approximately 40%) suffer from TMDs, considered the third most common stomatological disease.

Controlled mandibular repositioning (CMR) protocol (Dr. Alain Landry, Quebec, Canada) helps to reposition the mandibular condyles to recapture the displaced disc. This method utilizes the systemic approach of diagnosis and treatment protocol for the Patients with TMDs. For diagnosis, the protocol used is detailed medical and dental history, detailed clinical and functional instrumental analysis, therapeutic controlled mandibular repositioning in Condylar position variator (CPV). Afterwards fabrication of the CMR is done in Fully adjustable Articulator. The fabrication of the CMR stabilizer is usually done manually. The future aim to fabricate the stabilizer with CAD-CAM to reduce the time and cost involved in fabrication of the stabilizers.

The topic will cover different types of TMDs and their treatment with manually and digitally fabricated CMR stabilizers. The expected results are the reduction of sensitivity to muscle palpation , reduction in joint pain, establishing appropriate disc-condyle relationship.

1710-1740



Tighineanu Marcela, university assistant, Department of therapeutic stomatology **Cazacu Igor**, university assistant, Department of orthodontics **Fala Valeriu**, MSc, PhD, ScD, university professor, ASM academician corresponding member, head of department, Department of therapeutic stomatology **Gnathological implications in orthodontic treatment** (Chisinau, Republic of Moldova)

The relationship between occlusion and temporomandibular disorders, the biopsychosocial framework of temporomandibular disorders management involves a series of clinical implications for orthodontists. The transition from the classical paradigm of Opinion-Based Medicine to Evidence-Based Medicine, as well as the current trend of "personalized medicine" creates premises for the emergence and development of a new methodology for the medical practice, with the implementation of modern techniques and technologies in the field of orthodontics. An initial approach by orthodontists is needed to address how "orthopedic instability" affects the dynamic functions of the stomatognathic system, especially due to the "individual physiological tolerance and adaptation". At the same time, the stomatognathic system can adapt to different demands, within certain limits, without altering the function or structures of its components. In temporomandibular disorders patients, the orthodontic treatment implies the possession of theoretical and clinical skills regarding mandibular positions, aims of directed complex treatment and monitoring. The orthodontist must differentiate the habitual convenient occlusion from the therapeutic occlusion in order to select the appropriate treatment protocol for each clinical situation. No less important is the ability to identify and monitor dysfunctional risk factors, in order to prevent the further development of temporomandibular disorders. It is equally important to understand the processes of growth and development of the stomatognathic system, where the temporomandibular joint has a major role, and occlusion dictates the adaptation and determines the position of the teeth, this concept representing a current trend in orthodontic research.

Key-words: temporomandibular disorders, orthodontics, gnathology, occlusion, conceptual framework 1740-1800



Solomon Oleg, PhD, associate professor, dean, Faculty of Stomatology, MAS President, head of department, Department of prosthodontics "Ilarion Postolachi" Solomon Lilia, doctor Fachira Andrei, university assistant, Department of prosthodontics "Ilarion Postolachi" Solomon Olga, doctor Complex treatment methods in the dento-maxillary rehabilitation in congenital edentation (Chisinau, Republic of Moldova)

Complex treatment methods in the dento-maxillary rehabilitation in congenital edentation.

Introduction:

In the specifics of complex dental treatment, the particularities of orthodonto-orthopedic emphasize both the prophylactic and the oral rehabilitation of the dento-maxillary apparatus for congenital edentation. Respecting the functional principles helps us to form a staged treatment until we have the integrity of the dental arches and a correct functional occlusion keeping the keys and curves of occlusion in the vertical, sagittal and transverse plane.

In this paper, we will demonstrate the complex treatment of malocclusions following the Angle classification associated with congenital edentation of different Kennedy classes till full edentulism. The complex treatment aspect will end with a correct occlusal dynamics because it refers to a series of orthodonto – orthopedic that have tangent with functional occlusal rehabilitation.

Key words: Staging, occlusion, functional occlusion, malocclusion, edentation, dento-maxillary apparatus.

Material and methods.

The clinical and paraclinical examination will show us a diagnosis of the cases presented and the elucidation of a staged treatment of different age patients. The study included 48 patients, 31 women and 17 men. Patients were divided into four groups depending on the age: 6-13 years – 9 patients, 14 – 19 years 12 patients, 20 – 31 years – 11 patients and 31 – 75 years – 16 patients.

The examination of the patients in all four groups was complex and supplemented with para-clinical elements: photostatic, biometric, radiological (lateral profile teleradiography and conical beam computed tomography).

Treatment:

The stages of orthodonto-orthopedic treatment consist of the application of methods that will restore the function of the dento – maxillary apparatus by: prophylactic methods that will be performed with morphofunctional devices up to a certain age, dental malocclusions associated with the partial edentulism will be treated orthodontically and prosthetic, be replaced with partial and skeletal prostheses, implanto – prosthetic treatment will prevail in the rehabilitation of the integrity of dental arches, the treatment of complete edentulism will be performed with completely removable prostheses and with implant support.

Conclusions:

The motivation variability of staged, complex treatment in prosthetic dentistry will change the pathological occlusion in a physiological one and the edentulous prosthetic field will provide us with a series of functional prosthetic elements that will stabilize the integrity of the dental arches forming a new morphological aspect of the dento – maxillary apparatus.

10.09.2023	
MODERATORS:	
Serhiy Radlinski	university professor, founder of the Academy of Esthetic Dentistry, clinical director of the dental office-studio APOLLONIA
Forna Norina Cons	suela PhD, ScD, MD, university professor, ICD Regent District 14 Central & Southern Europe
Uncuța Diana	PhD, ScD, associate professor, head of department, Department of dental propaedeutics " Pavel Godoroja"
Ciobanu Sergiu	PhD, ScD, university professor, head of department, Department of odontology, periodontology and oral pathology "Sofia Sîrbu"
0000 0050	

0900-095



Serhiy Radlinski, university professor, founder of the Academy of Esthetic Dentistry, clinical director of the dental office-studio APOLLONIA First molars in systemic dental restoration (Poltava, Ukraine)

The bite, as an important part of the maxillofacial system and the whole body, is formed by teeth and actively affects the temporomandibular joints, the balance of the chewing muscles and the posture thanks to the cybernetic mechanism. In the bite, we highlight functionally active teeth: incisors, canines and first molars.

First molars have anatomical features such as the Crista Obliqua on the upper first molars and the distal supporting tubercle on the lower first molars to perform their functions. The combination of these special anatomical formations not only ensures the performance of the function of gnawing food, but also resists the distalization of the lower jaw.

The reproduction by dentist of these anatomical elements during the restoration of the first molars is of exceptional importance, but it is not always possible due to the wear of the remaining teeth and bite.

Restoration of the primary anatomical shape of the first molars is possible in the systematic restoration of all teeth and bite, ensuring the implementation of the concept of sequential deocclusion with canine dominance. And this is possible, both in digital and in analog reproduction of occlusion.

 $09^{50} - 10^{10}$



Forna Norina Consuela, PhD, ScD, MD, university professor, ICD Regent District 14 Central & Southern Europe ICD District 14 Central & Southern Europe – information about the organisation process (Iasi, Romania)

10¹⁰-10⁵⁰



Dienha Oksana, PhD, university professor, Honored Doctor of Ukraine The component of prophylaxis and its organization in the activity of dentists (Odessa, Ukraine) In this report, the main problems of the organization of the preventive work in dentistry will be touched upon. The identified difficulties of the implementation of preventive programs will be presented, such as the disconnection of the actions of specialists, lack of time, distrust of the effectiveness of measures and errors in the organization of work. Attention is focused on the shortage of personnel in pediatric dentistry and the age of specialists. Examples of negative experience and importance of prophylactic orientation in dentistry will be considered in a number of countries.

1050-1130



Cherepynska Yuliya, PhD, associate professor, Department of conservative dentistry, Master's Degree of High School Pedagogy of Kharkiv National Medical University (KhNMU) **Application of laser technologies in oral pathology** (Kharkiv, Ukraine)

The presentation «Application of laser technologies in oral pathology and periodontology» includes actual clinical and scientific questions about interaction of laser irradiation and the periodontal and soft oral tissues to emphasize the unique property – photobiomodulation (PBM) effect which stimulates cell proliferation and wound healing at the subcellular level. The purpose of the presentation is to demonstrate a number of surgical clinical examples of the use of lasers in invasive interventions on periodontal and soft tissues: excisional biopsy of epulis, fibroma, papilloma, lipoma, mucocele, leukoplakia, lymphangioma, transmucosal photocoagulation of vascular malformations, application in treatment of hyperkeratosis, chronic lip crack, aphthous and herpetic stomatitis, frenectomy, ankyloglossia and etc. To give an overview of the studies that indicate a synergistic effect between the use of a diode laser and antiseptics (hydrogen peroxide, betadine, sodium hypochlorite), general principles of the antimicrobial photodynamic therapy (a-PDT), interaction between the photosensitizers and photon energy, a general principle of the laser assistance new attachment procedure (LANAP), general information on the possibilities and limitations of the use of the erbium laser in conservative periodontology.

11³⁰-11⁵⁵



Uncuța Diana, PhD, ScD, associate professor, head of department, Department of dental propaedeutics "Pavel Godoroja"

Porosencov Tatiana, PhD, associate professor, Department of dental propaedeutics "Pavel Godoroja"



Ivasiuc Irina, university assistant, Department of dental propaedeutics "Pavel Godoroja" Trifan Diana, university assistant, Department of dental propaedeutics "Pavel Godoroja" The use of digital technologies in periodontology, odontology, endodontics and oral medicine (Chisinau, Republic of Moldova)

Introduction. Modern digital dentistry has developed the way dentists provide oral care to patients. Digital dentistry includes a wide range of technologies involving communication, documentation, planning and implementation of dental treatment.

Purpose. Highlighting the benefits of using digital technologies in modern dentistry.

Material and methods. The authors will present clinical cases concerning the application of digital technologies used in endodontics, odontotherapy and oral medicine – the Carl Zeiss microscope; in periodontology – electronic probe "Florida Probe" for probing and electronic storage of periodontal clinical indexis.

Results. The previously mentioned digital technologies come with a series of advantages: increased accuracy in the diagnosis and treatment of dental conditions: dental caries, pulpal and periapical pathologies, periodontal diseases, oral diseases; patient education and effective data control; effective communication through electronic data transfer: doctor-doctor, doctor-patient.

Conclusions. The use of digital technologies in dentistry contributes to increasing the quality of dental diagnosis and treatment through precision, efficiency, quality, speed and accuracy.

Keywords: digital technologies, dentistry.

11⁵⁵-12²⁰



Istrati Dorin, PhD, associate professor, Department of therapeutic stomatology **The impact of the Digital Age in the modern endodontic treatment** (Chisinau, Republic of Moldova)

Endodontics is a field of general dentistry which emphasizes aspects of root treatment and not only that, but also the re-healing of periapical tissues. Thus, being rightly called the queen of dentistry. Considering multiple ways of endodontic space management and taking into account dynamic

occlusal stress, we will tackle the influence of the digital era in complex post-treatment monitoring over time.

Endodontics is concerned with the whole picture both at the initiation of the treatment and during the medical period, in order to reap the benefits of an appropriate treatment over time, including the psychological and physical aspects of the patient.

Each initiated case is to have an opportunity for individual treatment based on a careful and correct diagnosis, following the manipulations (isolation, mechanical preparation, medicinal processing, three-dimensional obturation) aimed at offering all the conditions for the human body to restore the tissues lost during installation and activity of the pathological process.

Moreover, the complexity of the performed manipulations will facilitate the postoperative results in the long-term monitoring of patients, from one to 10, 15, 20 years.

Particularly, the discussion will develop around questions like the indication of the correct diagnosis, the choice of intra-radicular management method and the type of three-dimensional obturation in each individual case, as well as monitoring the correctness of treatment for up to 20 years of post-treatment.

1220-1300



Iulian Gheţiu, doctor, Smile Dent Team (event sponsor) **Why digital?** (Chisinau, Republic of Moldova)

From the first words spoken, we were interested in the environment in which we live, each of us gave thousands – tens of thousands of "whys" in order to find out who he is, where he is, what he is for, as a human being, and what is happening around us. Today becoming adults, dentists especially. We are no longer interested in "why?" But "HOW"? How to scan, how to prepare, how to make a design, how to determine OVD, how to appreciate a certain intermaxillary relationship, how to make a surgical guide, how to find out other ways. We want a universal recipe for all. Step 1 – 2 – 3 and I solved it. We worked according to protocol. When in fact, the protocol is only the linear distance to the objective, but roads, paths, ups and downs are a multitude. In this presentation I propose to discuss "Why?" we apply digital technologies, what does it offer us and should these be the solution for each case?

13 00- 14 00	Lunch break	
	MODERATORS:	
	Railean Silvia	PhD, associate professor, head of department, Department of pediatric oral- maxillofacial surgery and pedodontics "Ion Lupan"
	Stepco Elena	PhD, associate professor, Department of pediatric oral-maxillofacial surgery and pedodontics "Ion Lupan"
	Spinei Aurelia	PhD, ScD, associate professor, Department of pediatric oral-maxillofacial surgery and pedodontics "Ion Lupan"
14 ⁰⁰ -14 ²⁰	1	Chele Nicolae , PhD, ScD, university professor, head of department, Department of oral-maxillofacial surgery and oral implantology "Arsenie Gutan" Chele Dumitru , university assistant, Department

of oral-maxillofacial surgery and oral implantology "Arsenie Gutan"

Guided Versus Conventional Implantation (Chisinau, Republic of Moldova)

Introduction. In recent times, the evolution of computer-aided design and computer-assisted manufacturing (cad/cam) technology has brought significant advancements to the field of dentistry. Computer-assisted methods have revolutionized treatment planning and improved the precision of translating virtual plans to actual surgical procedures, surpassing the accuracy of free-hand techniques. This synergy among prosthodontists, surgeons, and dental technicians, facilitated by advanced technology, holds the potential for meticulous treatment strategies and dependable outcomes.

Aim. This study aims to assess the practical viability of surgical guides in implant-supported rehabilitations for edentulous patients.

Materials and methods. The study included 10 patients (7 men and 3 women, average age 58 ± 4.4) with varying degrees of edentulism who underwent dental implant procedures using the All-on-4 and All-on-6 concepts. The virtual planning phase was executed using Implastation software (ProDigiDent). For the study group, stackable surgical guides were custom-designed and printed with the Creo C5 3-D printer (Planmeca). In cases where viable remaining teeth were present, they were utilized to secure the guide and position fixation pins accurately. Following guide fixation, non-restorable teeth were extracted, and osteotomies were performed guided by a corresponding template. Notably, meticulous attention was given to the placement of multi-unit abutments, predetermined based on presurgical wax-up models of the intended prosthesis. Postoperative cone-beam computed tomography (CBCT) scans were scrutinized to evaluate the accuracy of implant positions concerning the initial treatment plan.

Results. Results and discussions indicated consistently successful outcomes. Implants were positioned according to the pre-established plan crafted by the medical team. Nonetheless, a minor setback was encountered when a surgical guide design proved fragile and fractured in one case. Additionally, challenges arose due to the mobility of some compromised teeth intended to support the guide, posing difficulties in fixation pin placement.

Conclusions. In conclusion, the utilization of surgical guides in dental implant placement showcases notable advantages, particularly in cases with limited available bone structure. This technique allows for precise angulation of implants, reducing the risk of complications like nerve injury. However, optimal surgical guide design and a thorough understanding of anatomical constraints are crucial factors in achieving desired outcomes.

Keywords: implantology, surgical guides, cone-beam computed tomography (cbct), dental implants, all-on-4 concept.





Groppa Stanislav, PhD, ScD, university professor, ASM academician, head of department, Department of neurology no. 2, INCMS director, prorector for research activity
Gavriliuc Pavel, university assistant, Department of neurology no. 2
Fala Paula, university assistant, Department of neurology no. 1
Classic neurological examination and modern diagnostic methods in neurology (Chisinau, Republic of Moldova)

For most of human history, diseases affecting the nervous system could only be indirectly identified by neurological signs, making clinical examination the main diagnostic tool. The neurological examination allows localization of the neurological process and helps to establish or exclude differential diagnoses. Localization is based on the clinical history and neurological exam to determine where the problem is in the nervous system.

In addition, a neurological examination gives us certainty regarding the additional imaging or electrodiagnostic tests needed to confirm or deny a pathology.

Contemporary diagnostic methods in neurology have redefined the clinical approach and accuracy in identifying central and peripheral nervous system pathologies. Among the pre-eminent investigative paradigms, Nuclear Magnetic Resonance Imaging (MRI), Electroneurography (ENG) and Electro-encephalography (EEG) figure as first-order tools in the diagnostic arsenal.

Nuclear Magnetic Resonance is a non-invasive way, based on the principles of nuclear physics, to generate detailed anatomical-morphological images of the brain and spinal cord. This technique provides insight into expansive lesions, circulatory disorders, congenital anomalies, or inflammatory processes, giving practitioners the possibility of early diagnosis and appropriate therapeutics.

Electroneurography, by capturing electrical signals emanating from nerve fibers, provides relevant diagnostic insights into the integrity and functionality of peripheral axons. It allows the identification of compressions, trauma, or neuropathic conditions, contributing substantially to the establishment of an insightful differential diagnosis and a well-directed therapeutic approach.

On the other hand, Electroencephalography records the rhythmic oscillations and electrical potential fluctuations of the cerebral mass by means of dermal electrodes. This approach reveals abnormal activity patterns like those in epilepsy, providing valuable data in adjusting therapeutic regimens and monitoring clinical progress.

In conclusion, through insightful approach and methodological integrity, Nuclear Magnetic Resonance, Electroneurography and Electroencephalography stand at the forefront of neurology investigations. These techniques provide an in-depth overview and increased precision in the evaluation of pathological entities, thereby enhancing individualized therapeutic strategies and substantially improving the quality of life of patients through informed and pertinently directed medical approaches.

Keywords: neurology, neurological examination, MRI, ENG, EEG

1520-1540



Railean Silvia, PhD, associate professor, head of department, Department of pediatric oral-maxillofacial surgery and pedodontics "Ion Lupan" **Multidisciplinary management in congenital craniofacial dysmorphism in the view of three-dimensional diagnostic imaging** (Chisinau, Republic of Moldova)

Introduction. Craniofacial deformities in children can be congenital caused by

malformations of the head and neck as well as acquired. With the advent of digital examination methods through CT, MRI, new opportunities for diagnosis of dentoalveolar, dentomaxillary and dentocranial asymmetries have appeared.

Aim. Early diagnosis of dentoalveolar, dentomaxillary craniofacial asymmetries in children with and without congenital malformations.

Materials and methods. 57 children between the ages of 9 months and 3 years were examined. with craniofacial malformations – with bone fusion pathologies as well as those with functional deformations. For the final diagnosis and planning of surgical treatment, the children were examined by CT and MRI. During the imaging examination, morphometric measurements

were performed in the three planes (sagittal, vertical, horizontal). At the same time, the examination of the muscular system was performed by myography of the masseter, temporal and tongue muscles during function with the help of the Nihon Kohden (Japan) myograph.

Results. The imaging examination of children with fusion pathology and functional deformations as well, showed asymmetries in linear and angular craniofacial indices at 6 months, with a tendency to worsen during the growth period. Morphological asymmetries were accompanied.

Conclusion. The diagnosis of morphological and functional craniofacial asymmetries in children with congenital dentoalveolar, dentomaxillary and craniofacial malformations caused by the fusion pathology of the craniofacial bones are accompanied by functional disorders that can be detected in the early periods of development and obviously with periods of early functional rehabilitation.

1540-1600



Natalia Rusu-Radzichevici, PhD, associate professor, Department of oralmaxillofacial surgery and oral implantology "Arsenie Gutan" Surgical management of patients with toxic osteomyelitis using digital technologies

(Chisinau, Republic of Moldova)

Introduction. The problem of osteomyelitis of the bones of the facial skeleton appeared in Moldova for the first time in 2006. It was found that jaw necrosis is caused by the use of narcotic substances, biphosphonates, as well as drugs used in the treatment of malignant neoplasms. In surgical treatment, good results can be achieved by using paraclinical methods of examination: orthopantomogram, jaw tomography and 3D modeling.

Material and methods. The study and monitoring of patients was carried out in the Department of oro-maxillo-facial surgery and Oral Implantology "Arsenie Gutan", Nicolae Testemitanu State University of Medicine and Pharmacy. Necrosis of jaws was detected in the studied group of patients against the background of using preparations containing phosphorus.

Results. When studying clinical cases with toxic osteomyelitis, it was revealed that pathological changes in the bone tissue of the jaws depend on the amount of narcotic drug used and the duration of use. From the words of patients and their close relatives, this narcotic drug is called Perventin (according to the scientific literature, it is a drug of the amphitamine series). In the last 3 years, patients more often take α -PVP (alpha-pyrrolidinovalerophenone, a synthetic psychostimulant of the cathinone class), which, according to our observations, has a more aggressive effect on the jaw bone tissue. The use of drugs containing phosphorus also leads to jaw necrosis: Denosumb, Sunitinib, Bevacizumab. The first symptoms of the disease begin with pain in the area of one or more teeth, then there was tooth mobility, after their removal alveolitis turning into osteomyelitis, limited or diffuse, then the inflammation spreads to the maxillary sinuses, zygomatic and temporal bones (in the case of the upper jaw), causing maxillary sinusitis, frontitis, ethmoiditis, conjunctivitis, meningitis. When the lower jaw is affected, inflammation spreads to the mediastinum, in some cases spreading to the clavicles and bones of the thorax.

In surgical treatment of osteomyelitis of the upper jaw, we mainly use tomography data of the upper jaw. And when treating the lower jaw, we use orthopantomogram data (with its help it is more accurate to determine the length of the reconstructive titanium plate), tomogram and 3D modeling (helps to create facial symmetry after resection of the jaw).

Conclusions. Using paraclinical methods of examination: orthopantomogram, jaw tomography and 3D modeling, it is possible to achieve better results of surgical treatment of toxic osteomyelitis (aesthetic and functional).

1600-1620



Mostovei Andrei, PhD, associate professor, Department of oral-maxillofacial surgery and oral implantology "Arsenie Gutan" Mostovei Mihail, PhD student The role of the planning stages of implantoprosthetic rehabilitations in the aesthetic sectors (Chisinau, Republic of Moldova)

The implant-prosthetic rehabilitation became nowadays a predictable method even if grafting procedures are required. A lot of techniques and biomaterials available creates the possibility to obtain the expected results. The goal of modern dentistry is to create the most aesthetical dental restoration for the patient. However, implant-prosthetic rehabilitations in esthetic zone are still a challenge. First, the soft tissue stability plays the main role instead of the bone one. From another point, any difference in zenith, emergency profile or texture of the soft tissue may affect significantly the esthetic result. Such issues became a failure even if the bone level and implant are placed according to the requirements. Moreover, the increase of surgeries number to improve peri-implant conditions in esthetic zone may also worsen the results. Hence, the planning procedure plays the most important role. The specialty literature proposes a variety of indices that help specialists to evaluate the complexity of clinical case and predictability of future restorations. Some of them are: Peri-Implant and Crown Index, Implant Crown Aesthetic Index, Pink Esthetic Score/White Esthetic Score and SAC ITI Tool (Straightforward, Advanced, Complex). The usage of such tools can help specialists to evaluate correctly the difficulty level and complexity of the cases and avoid failures.

The study was axed on 12 patients (aged between 25 and 45 years old). All cases were 1 and 2 implant restorations in the esthetic area of the upper jaw. From 12 cases 6 were with missing central incisors 5 with lateral incisors and 1 canine. The SAC classification was applied in order to assess the predictability of treatment which included 12 parameters required for assessment prior to implant placement. Each parameter was scored from 1 to 3, the closer to value 3, the higher is the esthetic risk and lower the success rate. The other score applied after provisional crown insertion was the Furhauser pink esthetic score (PES) which includes 7 parameters for evaluation of treatment results in time. The score was periodically assessed at 6 and 12 months after placement of prosthetic restorations.

Conclusions. The use of assessment tool prior to surgery provides a vision of mostly common causes of esthetic failures in single tooth restorations in the esthetic area of maxilla. The esthetic risk parameters help specialists to evaluate the risks and possible ways of its diminishing even before treatment. The PES/WES scores provide an insight into the predictability of prosthetic restoration which is a key factor of treatment planning in order to obtain both surgical and prosthetic approaches for optimal results. After results evaluation, it was observed that the smaller number of surgeries creates less scars and decrease the risks for esthetic failures.

Key-words. prosthetic restoration, Pink Esthetic Score, White Esthetic Score.

1620-1640



Sîrbu Dumitru, PhD, associate professor, Department of oral-maxillofacial surgery and oral implantology "Arsenie Gutan" *Strîşca Stanislav*, university assistant, Department of oral-maxillofacial surgery and oral implantology "Arsenie Gutan" The application of virtual assisted static surgery in OMF surgery

(Chisinau, Republic of Moldova)

Virtual surgical planning (VSP) has emerged as a transformative tool in the field of oral and maxillofacial surgery (OMFS), revolutionizing the way complex craniofacial procedures are conceptualized and executed. This comprehensive review aims to provide an overview of the current state of VSP in OMFS, highlighting its applications, benefits, challenges, and future prospects.

VSP involves the integration of advanced imaging modalities, such as computed tomography (CT) scans, magnetic resonance imaging (MRI), and three-dimensional (3D) surface scanning, to create accurate digital models of a patient's craniofacial anatomy. These models serve as the foundation for precise preoperative planning, allowing surgeons to visualize and manipulate virtual representations of the patient's anatomical structures.

The primary applications of VSP in OMFS encompass a wide range of procedures, including orthognathic surgeries, craniofacial reconstructions, mandibular advancements, and facial contouring. By utilizing VSP, surgeons can simulate different surgical scenarios, evaluate potential outcomes, and tailor their approach to achieve optimal functional and aesthetic results. Furthermore, VSP aids in the fabrication of patient-specific cutting guides, templates, and implants, enhancing intraoperative accuracy and efficiency.

The benefits of VSP are multifaceted. It enhances communication between surgical teams, patients, and referring clinicians by providing visual aids for discussions about treatment plans and expectations. VSP also minimizes surgical errors, reduces operating time, and decreases patient morbidity by streamlining surgical workflows and minimizing unnecessary tissue manipulation. Patient satisfaction is heightened as VSP offers a clear preview of the expected postoperative outcomes, fostering more informed decision-making.

However, VSP is not without challenges. The acquisition and processing of high-quality imaging data remain prerequisites for accurate virtual modeling. Ethical considerations related to patient data privacy and security are essential in managing the digital information exchange. Additionally, integrating VSP into routine clinical practice demands a learning curve for both surgeons and support staff, necessitating appropriate training and skill development.

The future of VSP in OMFS holds promising advancements. Continued refinements in imaging technologies, such as cone-beam CT and 3D surface scanning, will enhance the accuracy and resolution of virtual models. Integration with artificial intelligence algorithms may automate certain aspects of virtual planning, expediting the process and increasing its accessibility. Furthermore, interdisciplinary collaboration between OMFS and other specialties, like prosthodontics and plastic surgery, could lead to more comprehensive treatment approaches.

In conclusion, virtual surgical planning has become a pivotal tool in the realm of oral and maxillofacial surgery. Its integration has enabled precise preoperative planning, improved surgical outcomes, and enhanced patient satisfaction. While challenges exist, ongoing technological advancements and interdisciplinary collaboration offer exciting prospects for the continued growth and refinement of VSP in OMFS, ultimately benefiting both patients and surgical practitioners.

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1640-1700
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Bolun Radu, PhD, university assistant, Department of therapeutic stomatology **The role of digital technologies in the prevention and treatment of periimplantation diseases** (Chisinau, Republic of Moldova)

Abstract

Peri-implant diseases are inflammatory conditions that affect the peri-implant tissues and are induced by peri-implant biofilms. There are two distinct conditions: peri-implant mucositis and peri-implantitis.

Peri-implant mucositis is an inflammatory lesion of the peri-implant mucosa, in the absence of continuing marginal bone loss (Heitz-Mayfield & Salvi, 2018).

Peri-implant mucositis is primarily caused by a disruption of host–microbial homeostasis at the implant–mucosa interface and is a reversible condition when assessed indirectly at the host biomarker level (Heitz-Mayfield & Salvi, 2018).

Peri-implantitis has been defined as a peri-implant biofilm-associated pathological condition, occurring in tissues around dental implants, and characterized by inflammation in the peri-implant mucosa and subsequent progressive loss of supporting bone (Berglundh et al., 2018).

The primary etiological factor for peri-implantitis onset and progression is the accumulation of a peri-implant plaque biofilm.

Important risk factors/indicators have been identified, including a history of severe periodontitis, poor plaque control and no regular supportive peri-implant care (SPIC) following implant therapy. Less conclusive evidence was found for smoking and diabetes, or local factors such as the presence of submucosal cement following prosthetic restoration of the implant, or positioning of implants limiting access to oral hygiene (OH) and maintenance. Other factors such as the absence of peri-implant keratinized mucosa (PIKM), occlusal overload, presence of titanium particles within peri-implant tissues, bone compression necrosis, overheating, micromotion or biocorrosion have been proposed as risk factors for peri-implant diseases onset and/or progression, but further research is required to clarify their true roles (Schwarz et al., 2018).

It is well established that both peri-implant mucositis and peri-implantitis are highly prevalent.

Progression of peri-implantitis will most likely lead to the loss of the affected implant and the implant-supported prosthesis.

Limited information is available on the impact of peri-implant diseases on the quality of life.

With the advent of digital dentistry, clinicians find themselves inundated with new materials, hardware and software in daily practice.

In this presentation, we will discuss the role of digital technologies in the prevention and treatment of peri-implant diseases.

Learning Objectives:

- To understand the importance of a correct and early diagnosis of peri-implant diseases
- To use digital technologies in the prevention of peri-implant mucositis and peri-implantitis.
- To illustrate that the use of modern technologies can change the prognosis and predictability of peri-implantitis treatment.

1700-1720



Cebotaru Vasile, Kinetotherapist The State University of Physical Education and Sport **Interdisciplinary approach to patients with bruxism. The evolution of temporomandibular disorders** (Chisinau, Republic of Moldova)

The interdisciplinary approach to patients with bruxism remains the only effective solution over a prolonged period. The collaboration of specialists in dentistry, neurology, physiotherapy, and psychotherapy in managing temporomandibular joint-related issues allows for comprehensive management within the biopsychosocial model. The progression of dysfunctions is directly proportional to individual's adaptation challenges. Thus, the overall stress level often determines the treatment's success. As the lack of social integration is equivalent to death on a subconscious level, the interdisciplinary treatment aims to support the individual in embracing challenges.

1720-1800



Lacusta Victor, PhD, ScD, university professor, ASM academician, head of department, Department of alternative and complementary medicine

Fala Valeriu, MSc, PhD, ScD, university professor, ASM academician corresponding member, head of department, Department of therapeutic stomatology

Bordeniuc Gheorghe, PhD, university assistant, Department of therapeutic stomatology **Modern diagnosis and treatment options for patients with temporomandibular disorders** (Chisinau, Republic of Moldova)

The diagnosis of a disease is the result of meticulously collecting the medical history, performing an exhaustive clinical examination, observing the patient's behavior, as well as selecting the appropriate additional clinical tests with the analysis of the results. Temporomandibular disorders (TMDs) have a plurimorphic clinical manifestation, with signs and symptoms varying in intensity, extent and impact on the functionality of whole-body systems. The distinctive signs of a certain disease are not always available, and the incomplete diagnosis of a disease implies the establishment of inappropriate therapeutic guidelines, sometimes associated with medical failure.

In order to facilitate the differential diagnosis of temporomandibular disorders from other pathologies with manifestation in the orofacial system, as well as for the integration of new data from various medical fields, it is necessary to carry out an extended diagnostic procedure for these patients. In addition to the standardized dental methods, additional information can be obtained through the assessment tools of the sensory function (mapping the pain mechanical sensitivity, determining the subjective indices of sensory hypersensitivity), through functional tests (determining masticatory performance), evaluating the pattern of extension of the pain phenomenon, establishing stress tolerance and its impact on clinical manifestations.

An exhaustive diagnosis offers the clinician a wider range of therapeutic options, with the ultimate goal of rehabilitating the functionality of the stomatognathic system (eliminating pain, restoring the functional synergism of the system's components, improving the individual's quality of life). The relatively high frequency of temporomandibular disorders and their long-term impact require personalization of the treatment of these patients, including through conceptual directions. "Directed functional-aesthetic occlusion" is a concept of complex rehabilitation of the stomatognathic system, based on the VieSID concept, developed by Prof. Rudolf Slavicek and his team, that allows the fulfillment of therapeutic objectives by individualizing and sequencing the treatment stages, as well as by verifying compliance with the principles of the concept when applied in clinical practice.

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- 2. **Cucu Dragoş**, university assistant, Department of odontology, periodontology and oral pathology "Sofia Sîrbu"
- 3. **Plămădeală Svetlana**, university assistant, Department of pediatric oral-maxillofacial surgery and pedodontics "Ion Lupan"

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- 3. **Bordeniuc Gheorghe**, university assistant, Department of therapeutic stomatology
- 4. **Zagnat Dan**, resident

THE INFLUENCE OF FIXED DENTAL PROSTHETICS ON PERIODONTAL HEALTH

Leonte Daniela, Cheptanaru Olga, Uncuța Diana

Department of stomatological propaedeutics "Pavel Godoroja", "Nicolae Testemiţanu" State University of Medicine and Pharmacy, Republic of Moldova

Abstract

Introduction. In the context of modern dental medicine, fixed dental prosthetics have become an increasingly common option for patients with affected teeth. However, there is a growing need to understand the impact of these restorations on periodontal health. In order to address this situation and restore patients' functionality and smile aesthetics, fixed dental prosthetics have become a frequently used solution. They represent a complex and sophisticated technique for replacing missing or compromised teeth. Nevertheless, a relevant question arises: How do fixed dental prosthetics affect the periodontal health of patients? This question forms the central axis of the research presented in this work.

Materials and Methods. For the study, a sample of 10 patients aged between 30-60 years with fixed dental prosthetics installed within the last 5 years was selected. We used fixed dental crowns and bridges made from various materials such as metal-ceramic or zirconia-based ceramic. The fixation was achieved through cementation. The research methods included detailed clinical examinations, including measuring the depth of periodontal pockets using periodontal probes, as well as intraoral radiographs for assessing bone level.

Results. This study indicates that fixed dental prosthetics can have a significant impact on periodontal health. Despite the functional and aesthetic benefits they offer, these prosthetics can influence oral hygiene and contribute to an increased risk of gingival inflammation or more severe conditions such as periodontitis.

Conclusion. This research suggests that fixed dental prosthetics influence periodontal health. While they can improve patients' quality of life by restoring dental functionality and aesthetics, prosthetics can also contribute to the accumulation of bacterial plaque and gingival inflammation. This study underscores the necessity of patient education regarding rigorous oral hygiene and the need for regular monitoring to detect and manage potential complications in their early stages.

THE USE OF CAD/CAM TECHNOLOGY IN DENTAL PROSTHETICS

Scobioala Liliana, Cheptanaru Olga, Uncuța Diana

Department of stomatological propaedeutics "Pavel Godoroja", "Nicolae Testemiţanu" State University of Medicine and Pharmacy, Republic of Moldova

Abstract

Introduction. The integration of Computer-Aided Design (CAD) and Computer-Aided Manufacturing (CAM) technology has brought a revolutionary transformation in the field of dentures. This modern approach has significantly improved the accuracy, efficiency and quality of dental restoration work. By combining digital design and computer-guided manufacturing, CAD/CAM technology provides tailor-made solutions for creating crowns, bridges, prostheses and other restorations with high precision.

Material and methods. Specialized books and articles from national and international online medical databases as: PubMed, EMBASE, Medical Scientific Library, SUMPh Didactic Electronic Library "N Testemitanu" were examined in this literature review. The technology includes several key steps. First, it was possible to 3D scan the affected tooth area using an intraoral scanner or to scan a physical impression. This digital model was then imported into specialized CAD software, allowing the dental technician to carefully design the denture restoration. After the design phase, the CAD data was transferred to the CAM department, which uses CNC milling machines or 3D printers to fabricate restorations from high-quality dental materials.

Results. The results obtained by using the CAD/CAM technology in dentistry are exceptional. The high precision of this process eliminates the human error associated with traditional techniques, ensuring a perfect fit for indirect tooth restorations. The time required to fabricate prosthetics such as crowns or dentures is significantly reduced compared to conventional methods, providing greater patient comfort.

Conclusions. The use of CAD/CAM technology marked the beginning of a new era for dentures. By bridging the gap between design and manufacturing and introducing digital workflows, this technology has revolutionized the creation and application of dental restorations. With exceptional precision, increased efficiency and exceptional results, CAD/CAM technology is the future of dental prosthetics, prioritizing patient satisfaction and increasing the professional performance of dental tehnicians.

USING DIGITAL IMAGING TECHNIQUE FOR QUANTITATIVE ASSESSMENT OF DENTAL PLAQUE LEVELS

Baciu Dragoş, Gospodaru Ştefan, Bordeniuc Gheorghe, Vovc Maria Mihaela, Bolun Radu, Fala Valeriu

Department of therapeutic stomatology, "Nicolae Testemițanu" State University of Medicine and Pharmacy, Republic of Moldova

Abstract

Background. The direct assessment of dental plaque presents difficulties, so different additional methods are currently employed to highlight dental deposits (instrumental, chemical, optical) with varying degrees of clinical utility. Of potential utility is the investigation of this issue by means of the indirect assessment of the fluorescence emitted by the dental biofilm.

Objective of the study. comparison of different methods of quantitative assessment of bacterial plaque of different maturity and thickness in dental patients.

Materials and methods. 16 volunteers with dental plaque of different maturity and thickness were enrolled in the study. In the case series study, we compared 3 methods of assessing the bacterial plaque level: 1) the visual instrumental method; 2) plaque disclosing agents; 3) quantification of dental plaque fluorescence (QLF).

Results. All the analyzed methods can quantify the dental plaque, but the detection capacity in cases with reduced thickness/maturity differs (detectors > QLF > instrumental).

Conclusion. The results of the study reveal that QLF technology and plaque disclosing agents are the most informative in assessing oral hygiene status (bacterial plaques of different thickness and maturity), QLF presenting an additional advantage through its non-invasiveness.

Keywords: Bacterial plaque, oral hygiene, disclosing agents, bacterial fluorescence.

AUGMENTATION OF KERATINIZED TISSUE WITH PLACEMENT OF A FREE GINGIVAL GRAFT IN A MANDIBULAR INCISOR

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Abstract

Background. The insufficient or absent attached gingiva increases the risk of development of gingival recessions, especially in irregular or abnormal tooth position. The technique of free gingival grafting was described by Sullivan and Atkins with the goal of increasing the amount of keratinized gingiva and later modified by Miller for coverage of gingival recessions.

Objective of the study. To compare clinical outcomes of keratinized tissue augmentation and gingival recession closure with free gingival graft placement before and after orthodontic treatment.

Material and methods. A total of 8 patients with an insufficient amount of keratinized gingiva and gingival recession (RT1) around mandibular anterior teeth were treated with gingival augmentation procedure. Control group (CG) included 4 teeth in correct position and Test group (TG) included 4 teeth in vestibular position. Clinical variables, including recession depth (Rec), amount of keratinized tissue (KT), plaque score (PS), and probing depth (PD) were measured at baseline, 6 months and 1 year.

Results. The both groups had a significant changes in the clinical variables compared with initial. CG resulted in more pronounced root coverage at one year compared to TG (P < 0.05). There was statistically significant gain in clinical attachment level and amount of keratinized tissue (KT), with no differences between groups (P > 0.05). The plaque score (PS) was significantly improved in both groups compared to the initial, with no differences between groups at baseline, 6 months and 1 year (P > 0.05). There was no significant change in probing depth after gingival augmentation procedure in both groups (P > 0.05).

Conclusion. Keratinized tissue augmentation and gingival recession with free gingival graft has proven to be a predictable method. The decision of whether to perform the procedure before or after orthodontic treatment should be made in collaboration between the orthodontist and the periodontist, taking into consideration the specific needs of the patient goals.

Keywords: attached gingiva, free gingival graft, gingival recession, plaque score, orthodontic treatment, root coverage

PREVALENCE OF DENTAL CARIES AND DEVELOPMENTAL DEFECTS OF DENTAL ENAMEL IN CHILDREN FROM ECOLOGICALLY UNFAVORABLE AREAS

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Abstract

Objective of the study: evaluation of the state of dental health in children from ecologically unfavorable areas.

Materials and methods: 758 children between the ages of 7 and 16 were clinically examined in the case-control study. The research group (L1) included 379 children who live permanently in environmentally unfavorable areas. The control group (L0) consisted of 379 children from ecologically favorable areas. Prevalence indices of dental caries and developmental defects of tooth enamel were assessed. The research was carried out in accordance with the ethical requirements while obtaining the written consent of the parents for the participation of the children in the study.

Results: in children from ecologically unfavorable areas, the prevalence indices of dental caries and developmental defects of dental enamel were significantly higher, compared to controls: the prevalence of dental caries was 1.65 times higher, and the prevalence of developmental defects of tooth enamel, respectively, 20.3 times higher.

Conclusions: the increased prevalence of dental enamel developmental defects estimated in children from ecologically unfavorable areas could reflect the impact of harmful environmental factors on dental health and can be used by specialists and local authorities to prioritize initiatives to improve population health.

Key words: enamel development defects, dental caries, ecologically unfavorable areas.

THE USE OF ENAMEL MATRIX PROTEINS IN THE PERIODONTAL REGENERATIVE TREATMENT

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Abstract

Background. In recent years, there has been a tendency towards minimally invasive surgical approaches to treat intraosseous defects. Emdogain is a gel composed of enamel matrix proteins derived from developing porcine (pig) embryos, used to promote the regeneration of periodontal tissues, including the cementum, periodontal ligament, and alveolar bone.

Objective of the study. The aim of this study was to clinically evaluate the healing following treatment of intrabony defects with enamel matrix derivative.

Material and Methods. Twenty (20) intrabony defects, of a probing depth of at least 6 mm, of 20 non-smoker patients (11 males, 9 females) were randomly treated with Prefgel and Emdogain (Test, n= 10) or only Prefgel (Control, n=10). The following clinical parameters were assessed at baseline and 6 months after surgery: pocket depth (PD), bleeding on probing (BOP), gingival recession (GR) and clinical attachment level (CAL).

Results. No statistically significant differences in any of the parameters were observed at baseline between groups. At 6 months, Test group and Control group resulted in statistically significant clinical improvements from baseline (p < 0.05). Clinical measurements revealed that there was an equal reduction in bleeding on probing and probing depth between groups ($p 0.05 \boxtimes$). A greater statistically significant attachment gain and less gingival recession for the Test group when compared to Control group has been identified (p < 0.05).

Conclusion. The results indicated that both treatments, in conjunction with a surgical approach, led to statistically significant clinical improvements compared to baseline. The present findings suggests that the application of enamel matrix derivative in periodontal intrabony defects may positively influence the clinical outcomes within a period of 6 months of follow-up.

Keywords: Emdogain, infrabony defects, periodontal lesions, guided tissue regeneration.

MORPHO-FUNCTIONAL RESTORATION OF FRONTAL TEETH WITH FLUID COMPOSITE MATERIALS. ALGORITHM

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Abstract

Introduction: Flowable composites are low-viscosity, thinned resin-based materials that are used in dentistry as a restorative material for frontal, lateral teeth and in the treatment of carious and non-carious diseases.

Aim of study: The role of developing an algorithm for morpho-functional restoration of front teeth with flowable composite materials. Determination of adhesion between fluid composite materials to hard dental tissues.

Material and methods: a) In that study, 56 patients were included, 40 women and 16 men aged between 30 and 45, who went to the dental clinic no. 1 USMF for treatment. In accordance with the purpose and objectives of this work, we studied the specialized literary sources and analyzed the clinical and paraclinical features of the diagnosis with the development of a treatment plan. b) As working materials, were used: flowable composites such as Clearfil AP-X Esthetics Flow (Kuraray) and Clearfil AP-X ES-2 composites (Kuraray).

Results: Following the examination of the patients, the presence of carious diseases was determined in 85.7% of cases, non-carious diseases in 14.3% of cases. Microscopic analysis of dental grinding demonstrated better adhesion of flowable composites to viscous composites.

Conclusions: The most recent studies evaluating state-of-the-art flowable composites have shown that flowable composite materials are designed to provide better mechanical, physical, optical, and aesthetic properties than many other universal composites.

Key words: *Restoration, frontal teeth, composite filling materials*

ENDODONTIC-PERIODONTAL LESION MANAGEMENT ON SEVERELY COMPROMISED TOOTH

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Abstract

Introduction. The concomitant existence of combined endodontic-periodontal lesions is a clinical dilemma that can compromise diagnosis, prognosis and treatment planning. Understanding the biology of both lesions on severely compromised teeth can determine the approach to therapy for a successful regenerative treatment outcome.

Objective of the study. The aim of this analysis was to evaluate the effectiveness of endodontic treatment with subsequent regenerative periodontal therapy in treating advanced endo-perio lesions.

Materials and methods. One patient with grade III endoperiodontal lesion was selected for clinical case presentation. Clinical and radiographic (CBCT) evaluation yielded to an accurate diagnosis. A combined endodontic and periodontal surgical regenerative approach was performed.

Results. At follow-up appointment after 6 months, clinical and radiographic evaluation showed partial healing of the soft tissue and bone lesion with probing depth reduction, significant bone and clinical attachment gain. Probing depth was \leq 3 mm, from 10 mm to 2 mm. Clinical attachment level improved from 10 mm to 5 mm. Radiographic analysis showed a radiographic bone level gain of 3 mm.

Conclusion. The success of the treatment depends on the correct application of the steps in the treatment of endoperiodontal lesions, as well as on the patient's compliance with rigorous post-treatment hygiene. Regenerative periodontal therapy in combination with proper endodontic treatment are a viable option for saving teeth with advanced endo-perio lesions.

Key words: endo-periodontal lesion, periodontitis, pulpitis, diagnosis, treatment

REGENERATIVE TREATMENT OF PERI-IMPLANTITIS

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Abstract

Background. Peri-implantitis is a chronic disease that can lead to implant loss. The literature data describe that none of the methods studied completely solve the problem. Several surgical treatments have been proposed to treat peri-implantitis, but their results does not allow for an ideal approach to be established.

Objective of the study. This study aims to compare two regenerative surgical treatments for peri-implantitis.

Material and Methods: Ten patients with peri-implantitis were included in the study. The control group (CG) received regenerative treatment with a xenogen bone substitute and a resorbable membrane, while the test group (TG) received the same bone substitute along with a PRF membrane. The following outcome variables were assessed: peri-implant probing depth (PiPD), modified bleeding index (mBI), modified plaque index (mPI), suppuration (SUP) and radiographic bone changes.

Results. Peri-implantitis was defined as radiographic bone loss $\geq 3 \text{ mm}$ and/or probing depths $\geq 6 \text{ mm}$, accompanied by profuse bleeding. All subjects had previously undergone non-surgical treatment. All study participants were closely monitored through a maintenance program. At the 6-month follow-up, both groups showed clinical and radiographic improvements. No implants losses due to the progression of peri-implantitis. The reduction in clinical indices, mPI and PiPD, were similar between the study and control groups (p>0.05). However, the GC group demonstrated a statistically significant greater reduction in the clinical index mBI (p=0.02). There was no statistically significant difference in radiographic bone changes between the two groups (p>0.05). Conclusions. Regenerative treatment, when appropriately indicated, yields successful results in peri-implantitis. Both methods resulted in stable conditions. However, the use of a resorbable membrane did not improve outcomes compared to the PRF membrane.

Keywords: peri-implantitis, PRF membrane, regenerative surgical treatment.

EARLY DETECTION IN ORAL POTENTIAL MALIGNANT DISORDERS

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Abstract

Introduction: In coming years, the WHO has anticipated an increasing number for Oral cancer which has life-threatening consequences. The early recognition and management of oral premalignant disorders can minimize the cancer morbidity. Any oral mucosal abnormality that is associated with a statistically increased risk of developing oral cancer and is estimated that 4.47% of the world's population may have OPMDs, with the vast majority appearing clinically as leucoplakias. A predominantly white patch or plaque that cannot be characterized clinically or pathologically as any other disorder. Interestingly, not all oral lesions develop into oral cancer, and some oral cancers develop from non-dysplastic lesions. Some morphological alterations are highly susceptible to malignant transformation; for example, in leukoplakia patients, malignancy may arise elsewhere in clinically normal mucosa. Although histologic examination of tissue from a biopsy is the gold standard for diagnosing, chemiluminescence and toluidine blue are principal strategies to conventional examination used to assess the patient's lesions at risk of malignant transformation.

Aim of study: To underline the early detection techniques (toluidine blue and chemiluminescence) and to compare the results through histopathological analysis.

Material and methods: A total of 20 patients with clinical appearance of premalignant lesions were included from the outpatients attending Dental clinic Nr. 2, USMF "N. Testemitanu", Chisinau. Among the subjects, minimum age was 18 years and maximum was 70 years, with a positive tobacco history. The size, location, ease of visibility, border distinctness, and presence of satellite lesions were recorded. All clinical presentations of OPMD disease had been new, with untreated oral mucosal lesions confirmed on provisional, incision biopsy diagnosis. These patients were subjected to conventional oral examination followed by toluidine blue staining and chemiluminescent examination with Microlux DL. After this, a surgical biopsy sample was taken from the suspected lesions for a definitive diagnosis.

Results: Chemiluminescence was revealed accurate in visual parameters of the lesions in brightness, sharpness (margin delineation), surface texture and, in some cases, size of lesion, followed by toluidine blue and clinical evaluation. The sensitivity and specificity was more reliable for chemiluminescence (80 and 59.7%) than the toluidine blue (61 and 44.1%). Furthermore a statistically significant association was observed between histopathology results and chemiluminescence results. Of the 35 lesions examined 60% were defined as clinically dysplasia. While 12% were defined as mild dysplasia, 40% moderate, 4% severe dysplasia and 4% carcinoma in situ. The most common was thin leukoplakia with 69% of all cases, continued by thick homogeneous (15%), speckled (7.5%), granular (6.5%) and verrucous (2%) leukoplakia.

The floor of the mouth was the most frequently involved site (42.5%), followed by the lateral tongue (31.5%) followed by buccal mucosa (23%), the gingiva (3%).

The gender ratio among the patients, were men (82%), over the age of 60 years (65%).

Conclusions: Chemiluminescent light and staining with toluidine blue can be used as a general oral mucosal examination system and may in particular improve the visualization of potentially premalignant lesions. Although it is an easy, safe, minimal time consuming, and noninvasive protocol, it has only adjunctive utility and it does not replace biopsy for the diagnosis of leukoplakia.

Key words: leukoplakia, screening, chemiluminescence, toluidine blue

COMPARING DIFFERENT PROTOCOLS OF NON-SURGICAL PERIODONTAL TREATMENT

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Abstract

Background. Efficacy of professional mechanical plaque removal and subgingival instrumentation, performed to control periodontal diseases, is widely documented in literature. The goal of periodontal therapy is to control and or to eliminate the pathogens contained in periodontal pockets.

Objective of the study. The aim of this randomized clinical study was to compare the clinical outcomes obtained with subgingival intrumentation after conventional quadrant-wise versus full-mouth scaling and to highlight the factors that determine which protocol to use.

Materials and methods. 34 patients affected by periodontitis were randomly allocated to receive FM-SRP or Q-SRP. Periodontal and sociodemographic characteristics were collected at baseline and at 2 months after therapy. The primary outcome variable was PD reduction, while the secondary outcome variables were changes in clinical attachment level (CAL), bleeding on probing (BOP) and plaque index (PI).

Results. A total of 34 patients were included without drop-outs. Mean age was 51.3 ± 11.2 years. Both groups showed statistically significant improvements in periodontal clinical parameters (p<0.05). Non-surgical periodontal treatment was equally clinically effective at 2 months follow up (p 0.05).

Conclusion. Non-surgical periodontal therapy performed with combination of hand and sonic/ultrasonic instruments is an efficacious means to achieve infection control in periodontitis patients irrespective of the mode of delivery. Factors such as systemic diseases, behavioral problems, logistics, and the spread of periodontal disease have to be taken into account when choosing the protocol of treatment.

Keywords: non-surgical treatment, periodontitis, scaling and root planning, subgingival instrumentation.

IMMEDIATE IMPLANT PLACEMENT AND PROVISIONALIZATION USING THE PATIENT'S EXTRACTED CROWN

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Abstract

Background. Immediate placement and provisionalization of implants in fresh sockets has been previously demonstrated to be a predictable treatment in the restoration of teeth with root fractures in the anterior regions of the maxilla.

Objective of the study. This study reports a clinical case in which an immediate implant placement protocol was used, followed by immediate implant provisionalization using the patient's crown of an extracted tooth.

Material and Methods. Clinical and radiological examinations of the patient (female, 40 years old) revealed a maxillary central incisor (tooth N. 11) with slight mobility due the presence of oblique root fracture. The treatment proposed was the atraumatic extraction of the tooth followed by immediate implant placement and provisionalization. Bovine bone and autogenous bone chips were used for filling the gap defect for prevention of very thin buccal bone resorption.

Results. The use of the extracted crown as a temporary or permanent crown after immediate implant placement resulted in immediate achievment of an esthetically pleasing outcome and long-term stable results.

Conclusion. The treatment protocol proposed can be efficiently used to immediately restore the patient's esthetics and function while maintaining the health, volume, and contours of gingival tissues over a 12-month follow-up period.

Keywords: immediate implantation, tooth extraction, provisional crown.

SURGICAL ENDODONTIC TREATMENT AND RETROGRADE FILLING WITH MINERAL TRIOXIDE

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Abstract

Background. Apicoectomy is a surgical technique that helps preserve teeth that has undergone root canal treatment and has a persistent lesion. A retrograde filling is placed so as to seal an infected root canal causing periapical pathosis.

Objective of the study. Purpose of this study was to evaluate the outcome of periradicular surgery, using a set of sonicretro tips, after 10 years.

Material and Methods. Ten patients who had 10 consecutively treated teeth with periradicular pathology were enrolled in this study. Periapical surgery involved removal of diseased soft tissue, root resection followed by retrograde root filling, which enhance new bone formation at site of defect. Root-end cavity preparation was performed using diamond-surfaced retrotips driven by a sonic handpiece and ProRoot MTA was used as the retrograde filling material.

Results. Ten years after the apicoectomy, the periapical lesions has completely healed, new bone has formed, and the patients are symptom-free.

Conclusion. Endodontic surgery should not be avoided when it is the only option for saving the tooth. Sonic-retro tips were found to be ideal for root-end cavity preparation. They simplify the surgical approach to root ends, preparing retentive cavity, gives excellent results.

Key words: endodontic surgery, retrograde preparation, mineral trioxide aggregate

THE LEVEL OF TUMOR NECROSIS FACTOR ALPHA IN THE ORAL FLUID OF CHILDREN WITH INTENSE CARIOUS ACTIVITY

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Abstract

Introduction: The role of immunological factors in the pathogenesis of dental caries (DC) has been mentioned by a number of authors, through the connection between the impairment of non-specific and/ or specific immune factors and the intensity of the carious process. TNF- α is an effector cytokine and its activity can cause various diseases of the oral cavity.

Purpose: assessment of the TNF- α level in the oral fluid of children with intense carious activity. Materials and methods: Were clinically examined 459 children between the ages of 7 and 18. From the total number of children examined, intense carious activity was established in 63 of the subjects. Gave consent for their children to participate in the study 58 parents. Therefore, the research group (L1) included 58 children with intense carious activity. The control group (L0) was made up of 58 DC-free children with the prior written consent of the parents for the children's participation in the study. The level of TNF- α was evaluated by the method of immunoenzymatic analysis on solid support.

Results: The level of TNF- α in the oral fluid (OF) of children with intense carious activity was significantly higher, 2.41 times (12.32±1.33 pg/ml, p<0.01), compared to subjects free of DC (5.11±1.46 pg/ml).

Conclusions: The statistically significant increased level of TNF- α in the OF of children with intense carious activity could be one of the causes of increased susceptibility to the action of cariogenic factors and could be used as a risk predictor of DC, subsequently taken into account when planning personalized preventive measures.

Key words: dental caries, intense carious activity, TNF-α, oral fluid

A MINIMALLY INVASIVE TUNNEL TECHNIQUE TO MANAGING ISOLATED GINGIVAL RECESSION

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Abstract

Introduction. Periodontal plastic surgery is widely used in the treatment of gingival recessions with the aim of: root coverage, reduction of bacterial plaque deposits, reduction of hypersensitivity, treatment of cervical necarious lesions and improvement of aesthetics. Purpose. The aim of the study is to evaluate clinical outcomes of root coverage in patients undergoing the laterally closed tunneling technique.

Materials and methods. 7 patients with RT1 gingival recession were enrolled in this study. The following clinical parameters were used to assess baseline status and monitor treatment efficacy over time: probing depth (PD), clinical attachment level (CAL), complete root coverage (CRC), mean root coverage (MRC), recession depth (RD) and keratinized tissue width (KTW).

Results. Following surgical treatment of gingival recession coverage using the laterally closed tunneling technique, complete coverage with increased gingival thickness was observed at a 3-month postoperative follow-up. At 6 months postoperatively complete coverage of the recession was maintained with no signs of recurrence. Similarly, a reduction in dental sensitivity was noted, with the possibility of maintaining satisfactory hygiene.

Conclusions. The the laterally closed tunneling technique offers multiple advantages, such as minimizing operative trauma, reducing postoperative discomfort and achieving favorable aesthetic and functional results. The use of connective tissue grafts in this technique allows timely tissue regeneration and promotes optimal healing.

Keywords: gingival recession, tunneling, periodontal surgery

A DIGITAL WORKFLOW FOR MANAGEMENT OF ALTERED PASSIVE ERUPTION

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Abstract

Background. Altered passive eruption occurs due to excessive gum overlapping the enamel. These cases can be handled with a crown lengthening surgery. Modern digital technologies enabling guided gingivectomy with or without removing the underlying supporting bone can help the clinician in achieving predictable and desired results.

Objective of the study. To demonstrate a possible digital workflow in aesthetic crown lengthening procedures through a clinical case.

Material and Methods. The patient examination revealed the presence of short clinical crowns. A crown lengthening procedure with bone resection was planned. Cone-beam computed tomography (CBCT), intraoral scanning, and 3D printing were used to design and print a single surgical guide, that provided a reference for both gingivectomy and osteoectomy during the guided aesthetic crown lengthening procedure.

Results. After 6 months, the patient was satisfied with the aesthetic result, presenting an absence of visible gingival excess, adequate crown height, with no recurrence of disease. Conclusion. The proposed digital workflow can be successfully implemented in case of periodontal aesthetic procedures. Predictable results, harmonious relationship between dental and gingival shapes and dimensions can be achieved using modern digital technologies.

Keywords: crown lengthening. surgical guide. intraoral scan. altered passive eruption.

CLINICAL EFFICACY OF RESOPAC IN INTRAORAL SURGICAL WOUND PROTECTION

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Abstract

Background. Periodontal dressings are widely used for various purposes, although there is some controversy regarding their necessity following periodontal surgery. Resopac is commercially available cellulose-based periodontal dressing material that is hydrophilic in nature and adheres to oral tissue, differing in composition from other materials.

Objective of the study. The aim of the study is to evaluate the clinical efficacy of Resopac after periodontal procedures.

Materials and methods. A split mouth randomized controlled trial was conducted on 15 patients who underwent two periodontal surgical procedures on both quadrants of the maxilla or mandible. After the procedure, periodontal dressing was applied to the surgically sutured site, while plain gauze pack on contralateral site. The variables assessed incuded the severity of pain, bleeding, swelling, wound healing and nutrition experienced by the patients during the first 2 days after surgery and after 14 days.

Results. The results showed no significant difference between sites with and without periodontal dressing in terms of swelling or nutritional problems (P>0.05). However, the use of periodontal dressing resulted in lower levels of bleeding and pain, as well as improved wound healing (P<0.05). Conclusion. Resopac has an effective role as an intraoral dressing after surgical periodontal procedures, improving postoperative patient comfort by reducing the postoperative bleeding and pain and facilitating excellent wound healing.

Keywords: periodontal dressings; surgical flaps; pain; wound healing; Resopac

ANALYSIS OF THE EFFECTIVENESS OF USING OCCLUSAL SPLINTS IN THE TREATMENT AND MANAGEMENT OF TEMPOROMANDIBULAR JOINT PAIN

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Abstract:

Occlusal splints are commonly used in dental practices to diagnose and treat abnormalities of the masticatory system. There are different occlusal mouthguards, each of which can address different conditions. They can treat people with temporomandibular disorders (TMD) and bruxism, or they can be used to relax masticatory and facial muscles and reduce tooth abrasion.

Methods: A group of patients (10 people) of different ages and genders, with disorders of different degree and origin of the temporomandibular joint, was selected. By using the similar diagnostic protocol, recording the centric relation by using the prefabricated Kois deprogrammer, analyzing the position of the articular condyle on CBCT and assessing the stable musculoskeletal position, we made 4 types of occlusal splints with the purpose of muscle relaxation in the MSSP position.

Conclusions: Occlusal splints can treat a wide variety of DJD. They can treat bruxism, headaches,TMJ-related postural imbalances and decreased vertical dimension of occlusion (VDO). The multitude of materials and methods of using these devices creates difficulties in selecting the most optimal one. The trays made of poly methyl methacrylate showed reliability, hardness and elasticity at the same time and a satisfactory aesthetic appearance throughout the treatment.

Keywords: Occlusal splint, temporomandibular disorders, night brace, stable musculoskeletal position, centric relation, temporomandibular joint disorders, muscle relaxation splint.

ASSESSMENT OF THE IMPACT OF ORTHODONTIC TREATMENT ON AFFECTED PERIODONTAL TISSUES

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Abstract

Purpose: The aim of this study was to analyse the effects, risks and benefits of orthodontic treatment with fixed appliances using the straight arch technique in periodontal patients.

Periodontal treatment as a single therapy is not always able to correct and control the damage produced by periodontal disease. In these cases, orthodontic tooth movement is an important step when planning the global treatment of the patient. Recovering the integrity and continuity of the dental arch, as well as balanced tooth positioning, is an essential step for the successful treatment of a patient with periodontitis and pathological migration of teeth. Patients with periodontitis often have several orthodontic clinical peculiarities, such as inadequate angulation, excessive buccal protrusion, extrusion of one or more incisors, diastemas and tremas, with progressive spacing of incisors.

Method and materials: Patients with periodontal disease from the Department of Orthodontics of USMF were screened to determine eligibility for periodontal-orthodontic treatment.

Occlusal, functional, esthetic parameters as well as periodontal chart were recorded for all subjects. Initial treatment included oral hygiene instructions, supra- and subgingival debridement, whereas orthodontic treatment with straight arch technique – the self-ligating brackets, Roth prescription, slot 0.022 ". The level of clinical attachment was chosen as the variable primary result. Determination of its change by periodontal probing was performed at 2 weeks before orthodontic treatment (T0), 6 weeks (T1), 3 months (T2) and 6 months (T3) after the installation of the fixed appliance.

Results: Data obtained from the survey revealed a 23% incidence of increased incidence of mucogingival changes during orthodontic treatment, but which were correlated with pre-existing pathology in those subjects. Also, the increase in clinical crowns of teeth with apical transposition of the clinical attachment level of the gingiva during orthodontic therapy did not show statistically significant values (p>0.05). On the other hand, teeth with initial apical level of clinical attachment did not show significant clinical improvements.

Conclusions: Orthodontic therapy is an effective method to restore the occlusal aesthetic and functional functions of periodontal patients, but only if the technique and the forces applied are adjusted to the periodontal situation of the patients.

THE MANAGEMENT OF TWO SUPERNUMERARY MAXILLARY CENTRAL INCISORS: A CASE REPORT

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Abstract

Introduction: The presence of a supernumerary tooth is the most common cause of delayed or difficult eruption of one or more maxillary incisors. Supernumerary teeth can also cause retention of primary incisors. A long term of eruption is usually seen for the upper permanent incisors, usually with failure of eruption for one or both central incisors.

Case report: This paper reports a management of two supernumerary central incisors in a 7-year-old girl who presented to the Department of Pediatric Dentistry. The intra-oral examination revealed the presence of upper temporary incisors without mobility and upper maxillary lateral incisors. CBCT was performed to clarify the diagnosis, which revealed the presence of two maxillary impacted central incisors, placed posterior to the primary central incisors. In addition, CBCT also confirmed the presence of two supernumerary teeth, also placed posterior to the impacted central incisors.

Discussion: The management of supernumerary teeth depends on the type, location, outcome and potential influence on adjacent teeth. In this case, both primary central incisors and supernumerary teeth were removed in one step surgical procedure and the patient is followed under the supervision of the orthodontist.

Conclusion: Management of one or more supernumerary teeth should be part of a comprehensive treatment plan and should not be considered a one-off case. The choice of the treatment method in such cases must be taken into account: the type of additional tooth, the distance from the permanent germ to the supernumerary tooth and the availability of space inside the arch for an unerupted tooth.

DIAGNOSIS AND TREATMENT OF DENTAL DIASTEMA

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Abstract

Introduction: One of the current problem among the population is dento-maxillary disharmony through spacing (diastema). The data provided by Trifan V., Lupan I. following the examination of 1710 children from some schools in the Republic of Moldova, aged between 6 and 18 years, determined the frequency of diastema in the amount of $28.3 \pm 1.22\%$ in age group 6-9 years, $10.3 \pm 0.83\%$ in the age group 10-14 years and $8.8 \pm 0.77\%$ in the age group 15-18 years.

Purpose: Review of specialized literature to assess the importance of diagnosis and treatment of dental diastema.

Materials and methods: In this literature review were examined specialized books and articles from national and international online medical databases as: PubMed, EMBASE, American Academy of Periodontology, Medical Scientific Library (OPAC), USMF Didactic Electronic Library "N. Testemitanu".

Results: The diagnosis is determined based on the exo and endobuccal examination. Paraclinically, patients are examined by performing a radiological, photostatic, anthropometric examination and model study. As additional diagnostic methods, the method of assessing the Pont and Chateau indices is used. The treatment of the dental diastema consists in removing the cause that determined the anomaly (resection with plasty of the labial frenulum, excision of the fibrous tissue, excision of the gingival fibromucosa, excision of the interradicular tissue, extraction of the supernumerary tooth). At the same time, the orthodontic closure of the existing space is carried out, followed finally by the retention of the obtained result. The treatment can be carried out with a wide range of orthodontic appliances (fixed, mobile, total techniques, segmental, with elastic or metal traction). The closing of the diastema can be done with movable appliances, equipped with springs "in tune" in the situation where the teeth are with the roots in the process of development. If the diagnosis was made later and the roots are fully formed, the closing of the diastema is done with fixed appliances, with continuous or segmental springs.

Conclusions: Analyzing the bibliographic sources devoted to different aspects of the problem of dento-alveolar disharmony with spacing, we established that the given pathology is very widespread in the population and has several clinical and social aspects. The diagnostic and treatment methods currently used demonstrate the success of the treatment, regardless of age, after which the desired aesthetic result is obtained.

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