

85th Anniversary of the Department of Maxillofacial and Oral Surgery, University of Zagreb School of Medicine and School of Dental Medicine, Dubrava University Hospital, Zagreb

70th Anniversary of the Croatian Society for Maxillofacial, Plastic and Reconstructive Surgery of the Head and Neck Surgery of the Croatian Medical Association

Abstracts of 16th Congress of the Croatian Society of Maxillofacial, Plastic and Reconstructive Head and Neck Surgery and the 10th Congress of the Croatian Society of Oral Surgery of the Croatian Medical Association

December 6 - 7, 2024, Zagreb, Croatia

Organized by:

- Croatian Society for Maxillofacial, Plastic and Reconstructive Head and Neck Surgery of CMA
- Croatian Society of Oral Surgery of CMA
- Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb

Presidents of the Congress: Ivica Lukšić and Irina Filipović Zore

Editors of the book of abstracts: Ivica Lukšić, Irina Filipović Zore, and Marko Tarle

Organizing Committee:

Tomica Bagatin / Margita Belušić / Davor Brajdić / Igor Čvrljević / Emil Dediol / Saša Ercegović / Koraljka Hat / Martin Jurlina / Vlatko Kopic / Mia Lorencin Bulić / Slaven Lupi Ferandin / Matija Mamić / Željko Orihovac / Berislav Perić / Marko Tarle / Vesna Živko

Scientific Committee:

Nicholas Kalavrezos / Andrej Kansky / Predrag Knežević / Darko Macan / Avram Manea / Ksenija Rener-Sitar

State of the art lecture

A1 THE EVOLUTION OF MAXILLOFACIAL SURGERY: FROM TRADITIONAL TECHNIQUES TO THE DIGITAL ERA

Ivica Lukšić^{1,2*}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Medicine, Zagreb, Croatia

Over the past two decades, maxillofacial surgery has undergone a significant transformation due to the integration of digital technologies, artificial intelligence, and personalized medicine. These advancements have improved surgical precision, patient-specific treatment planning, and overall clinical outcomes. Innovations such as 3D planning and printing, custom-made temporomandibular joint (TMJ) prostheses, AI-driven diagnostics, immunotherapy, smart drugs, and robotic-assisted surgery have redefined traditional surgical techniques.

This study analyzes recent literature and clinical findings to evaluate the impact of digitalization on maxillofacial surgery. Research includes the role of 3D planning in surgical precision, the biomechanical advantages of custom-made TMJ prostheses, the application of AI in diagnostics and predictive modeling, and the use of immunotherapy and smart drugs in maxillofacial oncology. Additionally, advancements in robotic-assisted surgery are assessed by comparing traditional and robotic techniques. The effectiveness of these technologies is measured through clinical outcomes, efficiency, and patient satisfaction.

The findings indicate that 3D planning and printing have significantly improved implant customization and surgical accuracy. Custom-made TMJ prostheses provide better functional outcomes and long-term durability. AI-driven diagnostics enhance precision in radiological interpretation and risk assessment. Immunotherapy and smart drugs offer targeted cancer treatments with reduced side effects. Robotic-assisted surgery enables minimally invasive procedures, leading to faster recovery and fewer complications.

The digital revolution in maxillofacial surgery continues to reshape the field by enhancing precision, efficiency, and patient outcomes. The ongoing integration of AI, robotics, and personalized medicine is expected to drive further advancements, ensuring safer and more effective treatments in the future.

Key words: Maxillofacial surgery; Digitalization; 3D printing; AI diagnostics

A2 THE HISTORY OF JOINT CONGRESSES – QUO VADIS?

Irina Filipović Zore^{1*}

¹Department of Oral Surgery, University of Zagreb School of Dental Medicine, Zagreb, Croatia

The history of the joint collaboration between the Croatian Society of Maxillofacial, Plastic and Reconstructive Head and Neck Surgery and the Croatian Society of Oral Surgery of the Croatian Medical Association is rich and dynamic, tracing its roots back to 1922 when specialized dental education was initiated at the School of Medicine, University of Zagreb. With the formalization of maxillofacial surgery specialization in 1939 and the establishment of the independent Faculty of Dentistry in 1962, a solid foundation was laid for the advancement of these two closely related medical fields. The introduction of oral surgery specialization in 1974 further strengthened professional capacities within dental medicine. For many years, these two disciplines evolved independently, each organizing separate professional congresses until 2009 when the first joint congress was held in Zagreb. This event marked a significant milestone in fostering interdisciplinary collaboration, transforming joint congresses into platforms for exchanging knowledge, experiences, and innovations. Over the years, participation has steadily increased, including numerous doctors of dental medicine, exhibitors, and sponsors, making these events notable both professionally and socially. The congresses feature diverse activities such as workshops, poster presentations, and multidisciplinary panels, with scientific outcomes regularly published in the internationally indexed journal *Acta stomatologica Croatica* (ASCRO). Continuous education, multidisciplinary approach, inclusivity, and international collaboration with related societies have become key objectives of these joint gatherings. Special attention is dedicated to adapting to new technologies and communication channels, promoting excellence, professionalism, and collegiality among members. The societies conclude with an invitation to celebrate the 50th anniversary of the founding of the Croatian Society of Oral Surgery, symbolically highlighting this successful cooperation.

Key words: Maxillofacial surgery; Oral surgery; Interdisciplinary collaboration; Professional congresses

Invited lectures

11 3D STABILITY BREAKTHROUGH IN BONE REGENERATION – MAGNESIUM RESORBABLE MEMBRANES AND FIXATION SCREWS – THE VISION OF A MAXILLOFACIAL SURGEON

Gabi Chaushu¹

¹Department of Oral and Maxillofacial Surgery, Rabin Medical Center, Beilinson Campus, Petah Tikva, Israel

Introduction: Guided bone regeneration (GBR) is a common procedure used to rebuild atrophic alveolar ridges. In GBR, membranes are used to separate the bone defect from the underlying soft tissue. To overcome the shortcomings of commonly used membranes in GBR, especially space maintenance and 3D stability, new resorbable magnesium membrane and screws have been developed. The purpose of this presentation is to demonstrate magnesium products' 3D efficacy for ridge augmentation prior to implant placement.

Materials and Methods: Individuals with severe ridge volume deficiency underwent augmentation using magnesium membrane and screws. Wound closure with tension-free suturing was a prerequisite. Implants were placed 3 to 4 months after surgery. CBCT and/or panoramic radiographs were taken after bone regeneration, implant placement, implants uncovering and prosthetic restoration.

Results: Remarkable 3D bone volume was achieved in all cases both horizontally and vertically. Negligible clinical problems were observed. No adverse reactions to the biomaterials were detected, and the membrane was completely resorbed after healing. The resorbable fixation screws used, held the blocks and membranes in place during bone formation and were completely resorbed. The grafts were clinically well integrated into the recipient sites and the augmented bone remained stable throughout the implant placement and rehabilitation procedures. Of the 60 implants placed, only one failed to integrate.

Conclusion: Magnesium membrane and magnesium fixation screws were found to be excellent biomaterials for GBR. The present results demonstrate that bone grafting in conjunction magnesium membrane and fixation screws is a viable alternative, even in patients with severe alveolar ridge deficiencies.

Key words: Guided bone regeneration (GBR); Magnesium membrane; Ridge augmentation; Dental implants

12 FREE FLAP TRANSFERS FOR HEAD AND NECK AND SKULL BASE RECONSTRUCTION IN CHILDREN AND ADOLESCENTS - EARLY AND LATE OUTCOMES

Dan Marian Fliss¹

¹Department of Otolaryngology, Head and Neck Surgery and Maxillofacial Surgery, Tel Aviv Sourasky Medical Center and the Faculty of Medicine Tel Aviv University, Tel Aviv, Israel

Introduction: Reconstruction of surgical defects by free tissue transfer following resection of head and neck tumors in children are sparse. This study aims to assess the feasibility and safety of free flap reconstruction following surgical ablation of head and neck and skull base tumors in children based on our experience and the recent literature.

Materials and Methods: Data from medical files of all children and adolescents <18 years of age who underwent free flap reconstruction following resection of head and neck and skull base tumors at our tertiary center between 2000 and 2018 were retrospectively reviewed. Data on early and late complications at the primary and donor sites, functional and aesthetic outcome, and tumor control were analyzed.

Results: Twenty-four children (mean age 11.3 ± 5.1 years) were enrolled. Early complications occurred in 14 (56%) and late complications occurred in 8 (32%) of the procedures, with surgical intervention required in 4 (16%). Prior chemoradiation, sarcoma, non-reanimation procedures, and the use of rectus abdominis free flaps were associated with higher complication rates. The final functional and cosmetic outcomes, including mastication, deglutition, and speech, were satisfactory in all patients with one exception.

Conclusions: Free flap transfer is a safe and feasible technique for reconstructing head and neck and skull base defects following surgical excision of tumors in children. Early identification and precautionary measures against the effects of potential causes of complications may improve outcome. Larger international cohort studies are warranted.

Key words: Free flap reconstruction; Head and neck tumors; Skull base tumors; Pediatric surgery

13 OSTEONECROSIS OF THE JAW

Andrej Kansky¹

¹Department of Maxillofacial and Oral Surgery, Ljubljana University Medical Centre, Ljubljana, Slovenia

Introduction: Osteonecrosis of the jaw (ONJ) is a rare condition where the jawbone decays and exposes through gums or skin. There are different reasons that bone weakens and dies, in orofacial area the most common causes are; medical related osteonecrosis of the

jaw (MRONJ), osteoradionecrosis (ORN), dental infections. We rarely see patients who have problems, with no evident cause. There is no test to measure ONJ risk, but some factors are known to raise this risk in very rare circumstances.

Materials and Methods: Bisphosphonates, like alendronate (Fosamax), risedronate (Actonel and Atelvia), ibandronate (Boniva), zoledronic acid (Reclast) and denosumab (Prolia), may raise ONJ risk. This may be due to loss of bone's ability to repair itself, a drop in blood vessel formation or infection. While there is a very low risk of ONJ occurring in people taking any of these medications, the risk may be higher in patients who receive intravenous bisphosphonates as part of their cancer treatment. Older age, diabetes, immunodeficiency, gum disease and smoking, also raise ONJ risk. Osteoradionecrosis (ORN) of the jaw is a severe iatrogenic disease caused by radiation therapy of oral and oropharyngeal cancers. The wound can result from radiotherapy combined with mechanical insult or radiotherapy exposure alone. ORN is separate from primary bone infection or persistent/recurrent malignancy, though its clinical presentation can mimic both. While there is no universally accepted pathophysiologic description, relative tissue hypoxia and the potential effects of free radicals are commonly cited mechanisms and form the basis of most treatment strategies. Dental infections cause abscesses around the teeth, and purulent inflammation also spreads through the bone and causes bone decay. It is interesting that permanent bone decay is rarely seen in those conditions, it is usually associated with patients who have poor immune resistance. Patients in whom we do not find the cause are very rare and difficult to treat. Alcohol consumption, smoking, diabetes, poor nutrition, undiagnosed systemic diseases, poor ability to regenerate tissues can be the cause.

Results: All the described conditions have dead bone in common, they require the performance of similar diagnostic procedures, but the differences are in the therapy. In osteomyelitis, an prompt and aggressive approach is recommended, with removal of the cause, debridement, drainage, antibiotic therapy and hyperbaric oxygenation (HBO). In ORN debridement, HBO and antibiotic is recommended. In MRONJ we recommend a more conservative approach, to wait until demarcation, antibiotic and HBO have no effect, but good nutrition and meticulous hygiene are recommended.

Conclusion: All forms of ONJ are unfavorable for treatment and treatment does not guarantee permanent success, therefore it is recommended that patients have regular support from a dentist and hygienist and come for regular check-ups with a specialist.

Key words: Osteonecrosis of the jaw (ONJ); Medication-related osteonecrosis (MRONJ); Osteoradionecrosis (ORN); Dental infections

14 CONTROVERSIES IN THE MANAGEMENT OF SALIVARY GLAND NEOPLASMS

Vladimir Popovski¹

¹University "St. Cyril and Methodius", Skopje, North Macedonia

Salivary glands are the site wide variety of tumors with a broad range of biologic behaviors, ranging from completely benign tumors through low-grade malignancies up to most devastating high-grade malignancies. They are rare but exhibit a striking range of morphological diversity and unanticipated clinical features. As minimally symptomatic disease can be challenging to diagnose, and therapeutic policy is still controversial mainly for malignant group. Evaluation designed with comparative study through the fundamental analyze of own clinical material of 551 patients surgically treated on our institution with a histologically proven primary salivary gland tumor. Comprehensive diagnostic work-up for salivary gland neoplasms was comprised including clinical evaluation, ultrasonography, CT, MRI and FNAC, followed by consequent choice of radical surgery and reconstructions. The pleomorphic adenoma was prevalent salivary gland tumors while for the malignant group mucoepidermoid carcinoma was dominant type. In submandibular glands slight prevalence of benign tumors but carcinomas were with more aggressive futures. Minor salivary gland tumors in more than 65% were carcinomas and adenoid cystic carcinoma was the prominent type. Parotidectomies with preservation of facial nerve were the frequently performed surgical procedures because more than 70% occurred in parotid gland. Surgery for submandibular gland carcinomas was including selective neck dissection in > 40%. Radical excisions and adequate bone resection for minor salivary gland tumors were usually including some immediate reconstruction. Locoregional pedicle flaps were predominantly utilized for reconstruction of parotid defects with impressive outcomes. Controversies regarding the salivary gland malignancy are additionally discussed with emphasize about influence of histology and stage, recurrence, locoregional and distant metastases, facial nerve involvement, neck dissection and postoperative irradiation. A controversy of principal importance in the management of PGC was whether the facial nerve and its branches can be spared. Facial nerve reconstruction was indicated after virtually any procedure that resulted in facial nerve dysfunction, mostly performed with greater auricular or sural nerve grafting. For nerve crossover we had satisfactory experience with hypoglossal-facial anastomosis. Conclusions are emphasizing that the assessment for this kind of surgical pathology depends greatly on decisive clinical judgment, emphasizing that the diagnosis is one of importance. Exact diagnostic work-up, with imaging radiology

refinements, is approved as a great proficiency in the most clinical presentation of salivary gland tumors, correspondingly obtaining effective treatment decision with most favorable proficiency on quality of life.

Key words: Salivary gland tumors; Parotid gland surgery; Malignant salivary neoplasms; Facial nerve reconstruction

15 THE ROLE OF UFMYLATION IN HEAD AND NECK CANCER STEM CELLS

Tanja Matijević Glavan¹

¹Division of Molecular Medicine, Rudjer Boskovic Institute, Zagreb, Croatia

Introduction: Head and neck squamous cell carcinoma (HNSCC) is the 6th most common cancer, linked with tobacco and alcohol use or certain viral infections. Recurrence and resistance to therapy are characteristic of HNSCC, and may be attributed to cancer stem cells (CSCs). Using a proteomic approach, we studied CSCs, and determined that UFMylation might play an important role in HNSCC CSCs.

Materials and Methods: HNSCC-derived cancer cell lines Detroit 562, FaDu, and Cal27, and tumor spheres were used as a model for CSCs research. Proteomic analysis identified the importance of the UFMylation pathway in CSCs which we further studied by bioinformatics, western blot, immunocytochemistry, and cytotoxicity assay.

Results: Proteomic analysis and subsequent confirmation revealed that several UFMylation system proteins were strongly expressed in tumor spheres. Bioinformatic analysis indicated that high expression of UFM1 is linked with worse overall and disease-free survival, and it correlated with the main EMT proteins in HNSCC. UFM1 was also strongly expressed in tumor spheres compared to the adherent cells, and we demonstrated that it might be involved in stemness. Finally, we studied mithramycin as a potential therapy for HNSCC CSCs.

Conclusions: UFMylation is an important process in CSCs, and mithramycin, or its analogs, should be further explored as CSCs targeted therapy in HNSCC.

Key words: Head and neck squamous cell carcinoma (HNSCC); Cancer stem cells (CSCs); UFMylation; Proteomic analysis; Mithramycin

16 MODERN APPROACHES TO THE MANAGEMENT OF CHRONIC TMD

Ksenija Renner-Sitar¹

¹Department for Prosthetic Dentistry, University of Ljubljana Faculty of Medicine, Ljubljana, Slovenia

Modern approaches to the management of chronic TMD emphasize a multidisciplinary, evidence-based treatment strategy to address both pain and dysfunction. Chronic TMD, a prevalent cause of non-dental orofacial pain, is increasingly understood as a multifactorial condition, often influenced by psychosocial factors, central sensitization, and musculoskeletal dysfunction. Current best practices for managing chronic TMD involve conservative therapies, with physical rehabilitation, cognitive behavioral therapy, and manual interventions like jaw mobilization and trigger point therapy leading the way in pain relief. Acupuncture and therapeutic exercises have also shown significant efficacy, especially in addressing TMD symptoms and associated conditions like tension-type headaches. Pharmacologic treatments, such as anti-inflammatory medications and muscle relaxants, are commonly employed alongside these non-invasive interventions. Therapies like low-level laser treatment and transcutaneous electrical nerve stimulation (TENS) are useful adjuncts for patients with central sensitization, which amplifies pain responses. A fundamental shift in modern management is recognizing the role of psychosocial stressors in TMD. As such, cognitive behavioral therapy, especially when combined with biofeedback and relaxation techniques, is highly effective in managing pain and improving function. Multidisciplinary care pathways that integrate dental, psychological, and physical therapies are essential for addressing the complex etiology of TMD and improving patient outcomes.

Key words: Chronic TMD; Multidisciplinary treatment; Pain management; Cognitive behavioral therapy; Physical rehabilitation

17 SURGICAL TREATMENT OF HEAD AND NECK VASCULAR ANOMALIES

Srboljub Stošić¹

¹Clinic for Maxillofacial Surgery, Military Medical Academy, Belgrade, Serbia

Introduction: Head and neck vascular malformations are congenital lesions. Their treatment accounts complex procedures starting with imaging techniques confirming their nature, nidus embolization, if fast-flow malformation is diagnosed, and surgery. Complications can frequently occur because of likely damage to adjacent structures.

Materials and Methods: We retrospectively reviewed various vascular malformations over the period of the last 30 years and patients charts with vascular tumors and vascular malformations. All patients were admitted to the Clinic for Maxillofacial Surgery at the Military Medical Academy in Belgrade.

Results: Patients were either only diagnosed and continually followed up or diagnosed and treated. Operated patients successfully recovered from the surgery and are still closely followed for up.

Conclusions: Surgical treatment of small vascular malformations is effective, but surgery of huge lesions, especially fast-flow types, are associated with higher risk of recurrence and often requires resection of soft and bone tissues. The multidisciplinary approach to the diagnosis and treatment of vascular anomalies includes: pediatricians, dermatologists, ENT specialists, dentists, ophthalmologists, radiologists, pathologists, hematologists, geneticists and surgeons. The future of accurate diagnosis and treatment improvement lies in a complete understanding of the molecular mechanisms and changes in the genetic basis that cause vascular anomalies. This will make it possible to find specific, „targeted“ drugs that will prevent the onset and development or accelerate the disappearance of these lesions. The lecture also represents a synthesis of many years of practical work on vascular anomalies.

Key words: Head and neck vascular malformations; Multidisciplinary treatment; Surgical management; Embolization; Vascular anomalies

18 THE SIGNIFICANCE OF ORAL HPV MANIFESTATIONS

Mihael Skerlev¹

¹Department of Dermatology and Venereology, University Hospital Centre Zagreb, Zagreb, Croatia

A variety of HPV-associated exaggerated lesions such as condylomata acuminata, condylomata plana, penile, scrotal, and anal intraepithelial neoplasias, as well as oral lesions, the oral, tonsillar, oropharyngeal and laryngeal cancer included have been studied a little bit more extensively. Consistent studies are still sparse for a male population. More than 35 types of HPV infect the anogenital and oral tract; types 16 and 18 inducing about 70% of high-grade intraepithelial genital neoplasias and HPV 6 and 11 causing 90% of anogenital warts. However, the „banality“ of anogenital warts should not be underestimated providing that the high risk HPV DNA 16 and 18 can be isolated (PCR) from „benign“ HPV-associated genital lesions in 10-20% of patients, i.e. more than it is usually expected. On the other hand, the presence and the recalcitrant course of HPV DNA 6 and 11 associated diseases represent a significant physical and psychological problem for both men and women. A prophylactic vaccine that targets these types should thus substantially reduce the burden of HPV-associated clinical diseases. Ultimately, within the spectrum of therapeutic options for HPV associated lesions, no method is really superior to others; recurrences occurred in 30-70% of cases. However, the proactive sequential treatment representing the combination of the ablative and immunomodulatory treatment (imiquimod, sinecatechins) might be considered as treatment of choice today. We definitely need the HPV vaccination programme to get rid of one of the oldest and up to now unsolved problems of humankind. Managing both partners is necessary in order to eliminate the virus in the population. Approaches to this include prophylactic vaccines such as nonavalent (9-v) HPV vaccine for both men and women. This should be the only way to significantly decrease the numbers of infected persons. It can be thus concluded that the HPV-genital infections represent a significant medical issue, thus, the multidisciplinary approach, including the oral health professionals is definitely required.

Key words: HPV-associated lesions; Anogenital warts; High-risk HPV; Prophylactic vaccination; Multidisciplinary management

19 TRENDS AND CHALLENGES IN FLAP BASED IMPLANT REHABILITATION

Nicholas Kalavrezos¹

¹Head and Neck Centre, University College London Hospital, London, UK

Reconstruction of oromandibular defects poses numerous challenges. The most common mandibular defects occur secondary to oncological ablative surgery, namely, following a segmental resection of facial bones including the mandible, maxilla, zygoma etc. Advances in microvascular surgery, implantology and computer sciences, with the ability to produce patient-specific reconstructions, have offered significant improvements in the anatomical and functional restoration of such defects. From a surgical perspective, it is vital to categorise the defect anatomical sites. Describing tumour site by anatomical categorisation is a clear method of communicating pathology, however functional or region-specific approaches are also used to predict post-operative patient outcomes and inform management, as well as accounting for unilateral, bilateral, and cross-over defects.

A clear understanding of the impact of subsites will facilitate patient's education and manage expectations appropriately while in parallel decisions can be made pre-emptively on dietary needs of patients, and adequate planning for alternative nutritional support.

Primary outcomes of this presentation are to appraise literature for subsite categorisation methodology, and their impact on long term speech and swallow of patients. Secondary outcomes include highlighting additional contributing factors such as; adjuvant therapy, stage and size of reconstruction.

The flap based reconstruction is reserved for major defects and the subsequent implant rehabilitation in combination with flaps on specific sub sites should be considered as the gold standard of reconstruction nowadays. An analysis of the various sub sites and the combination of flap-based implant rehabilitation is presented.

Key words: Oromandibular defects; Microvascular surgery; Implant rehabilitation; Flap-based reconstruction

110 SALIVARY GLAND TUMOURS: A REVIEW OF THE WHO CLASSIFICATION

Danko Müller^{1,2*}

¹Department of Pathology and Cytology, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Medicine, Zagreb, Croatia

The classification of salivary gland tumors has evolved over the decades within the framework of the WHO tumor classification, which has primarily been based on histological characteristics. Tumorous changes in this region can be categorized as malignant, benign, soft tissue, hematological, and non-neoplastic, primarily according to the morphological characteristics of these entities. The latest classification from 2022 introduced several new salivary gland tumor entities. The most recent changes, particularly in the 2022 classification, increasingly emphasize molecular and genetic characteristics of salivary gland tumor entities, which clearly represents the future direction of tumor classification in this specialized field.

Key words: Salivary gland tumors; WHO classification; Histological classification; Molecular diagnostics; Genetic profiling

111 FREE AND PERFORATOR FLAPS IN HEAD AND NECK SURGERY

Rado Žic^{1,2*}

¹Department of Plastic, Reconstructive and Aesthetic Surgery, Dubrava University Hospital; ²University of Zagreb School of Medicine, Zagreb, Croatia

Reconstruction in head and neck surgery presents unique challenges due to the complex anatomy and functional importance of the region and complex 3D structure and need for the best possible aesthetic outcome. Free flaps and perforator flaps have revolutionized reconstructive techniques, offering versatile solutions for both aesthetic and functional restoration.

Postburn contractures of the neck are a challenging problem. Full thickness grafts or dermal substitutes and split thickness skin grafts are an option for neck reconstruction. Nevertheless, more optimal results can be obtained by using flaps such as the supraclavicular artery island flap (SCAIF) or scapular and parascapular flaps that are prelatinated using tissue expansion providing thin, pliable tissue ideal for restoring neck contour, mobility, skin quality, and colour match while minimizing donor site morbidity.

In hypopharyngeal reconstruction, free flaps like the radial forearm free flap (RFFF), anterolateral thigh flap (ALT) flap and jejunal free flap offer reliable options for restoring pharyngeal continuity, enabling both speech and swallowing functions.

Bone reconstruction can be performed using different bone flaps. Although the fibula is the main flap for mandibular reconstruction, Deep circumflex iliac artery (DCLIA) flap is an excellent option for hemi mandibular reconstruction as it provides good bone stock and a well-hidden scar.

Trapezius flap is a good option for reconstruction of the posterior neck and skull base defects around the ear. Another option covering of nuchal defects are propeller flaps from the back.

In this presentation the authors describe the indications, advantages, surgical techniques, and outcomes associated with free and perforator flaps in head and neck reconstruction, emphasizing the evolution of microsurgical techniques and their role in improving patient quality of life.

Key words: Head and neck reconstruction; Free flaps; Perforator flaps; Microsurgery; Aesthetic and functional restoration

112 EXPERIENCE WITH FIRST HUNDRED DIGITALLY PLANNED ORTHOGNATHIC CASES

Emil Dediol^{1,2*}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Medicine, Zagreb, Croatia

Introduction: Aim of this study is to present our experience in using virtual surgical planning (VSP) in orthognathic surgery.

Materials and methods: We retrospectively reviewed our clinical database of patients in the last two years that underwent orthognathic surgery and in whom VSP was used preoperatively with printed surgical splints used intraoperatively. Type of malocclusion and jaw deformity was noted as well as procedure which patients underwent.

Results: A total of hundred patients underwent preoperative VSP prior to the orthognathic surgery. CT scan of the facial bones and scan of the dental cast was imported

into surgical software and preoperative VSP was done for all patients. Also two surgical splints for bimaxillary procedures and one splint was printed for monomaxillary procedures. Over 90% of cases were bimaxillary osteotomies and only minor ones were just maxillary LeFort I or mandibular sagittal split osteotomies. Over 90% of the cases were class III malocclusions with combination of hypoplastic maxilla and prognathic mandible. A reasonable percent of cases together with class III also had laterognathism of the jaws. This deformities were hardest to correct and in these cases VSP proved to be of utmost importance. Very small percentage of cases were class II malocclusions where combination of vertically long maxilla and retropositioned mandible was mostly present.

Conclusions: In all patients we obtained very satisfactory result from the functional and esthetical viewpoint. We can conclude that VSP contributes significantly to more accurate and precise orthognathic surgery especially in laterognathism of the jaws.

Key words: Virtual surgical planning (VSP); Orthognathic surgery; Malocclusion correction; 3D surgical planning

113 THE ROLE OF MICROSURGICAL APPROACH IN MUCOGINGIVAL AESTHETIC AND GRAFTING PROCEDURES

Juraj Brozović^{1*}

¹Faculty of Dental Medicine and Health, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia

Contemporary oral surgical treatment has a broadened scope, focusing not only on objective clinical features, but also on the patient's subjective assessment, prioritizing aesthetics. Tissue excess and, more frequently, tissue loss influence the appearance of natural dentition, and present common obstacles in attaining resilient and aesthetically pleasing tooth- and implant-borne restorations, often indicating surgical correction or additional grafting procedures. A biologically-driven approach, carried out in a minimally invasive manner may challenge the conventional wound closure and flap management in mucogingival aesthetic and regenerative procedures, and result with more predictable outcomes and less sequelae for the patient. This lecture brings into focus the importance of early tissue healing, and soft and hard tissue grafting considerations with regards to the level of aesthetic challenge and degree of invasiveness.

Key words: Oral surgery; Aesthetic rehabilitation; Soft and hard tissue grafting; Minimally invasive procedures; Mucogingival surgery

114 PATIENT SPECIFIC IMPLANTS FOR COMPLEX FACIAL DEFECT RECONSTRUCTION

Avram Manea^{1*}

¹Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania

During the last years, due to the evolution of 3D printing and imaging techniques (CBCT), an evolution of the classic subperiosteal implants has emerged. They are now most commonly called "custom implants" or "patient specific implants". These new implants are very effective in treating patients with severe bone atrophy, removing the need of bone grafts, and also allowing for immediate loading, providing an immense level of patient satisfaction. Although these treatments are composed of fewer interventions and have decreased risks in comparison with the classic bone grafting and implant techniques, success can only be obtained by strictly abiding to surgical protocols and patient management protocols, mostly related to soft tissue. By 3D printing, other patient specific implants can be obtained to reconstruct maxillo-facial defects, post tumor excision or even post trauma. Customized plates for Orthognathic surgery are also available reducing surgery times, patient discomfort and immensely increasing precision.

Key words: Custom implants; 3D printing; Subperiosteal implants; Patient-specific reconstruction; Maxillofacial surgery

115 SURGICAL VS NON SURGICAL APPROACH IN TREATMENT OF „OZEMPIC FACE“

Siniša Glumičić^{1*}

¹Glumičić Medical Group, Zagreb, Croatia

„Ozempic face“ refers to the aesthetic changes that occur in individuals who experience rapid or significant weight loss, particularly when using weight-loss medications like Ozempic (semaglutide). These changes often include facial volume loss, sagging skin, and a more gaunt appearance due to the depletion of facial fat. To address this, both surgical and nonsurgical treatments are employed, each offering distinct advantages. Nonsurgical treatments are often preferred due to their minimally invasive nature and shorter recovery times. Common options include dermal fillers, which can restore lost volume by injecting hyaluronic acid or other volumizing substances into the face. Neuromodulators like Botox can smooth out fine lines and wrinkles. Another nonsurgical option is skin tightening using radiofrequency or ultrasound-based devices, such as Ultherapy, which stimulate collagen production to improve skin elasticity. Fat grafting is also a nonsurgical method where a patient's fat is harvested from other areas of the body and injected into the face to

restore volume. Surgical solutions provide more long-term and comprehensive results but require more downtime and carry higher risks. A facelift is one of the most effective surgical treatments for Ozempic face, addressing both sagging skin and lost volume. In cases of extreme facial volume loss, a combination of facelift and fat transfer surgery may be employed to restore both skin tightness and facial fullness. Eyelid surgery (blepharoplasty) or brow lifts can also be used to address the specific sagging around the eyes and forehead that can occur after weight loss. Ultimately, the choice between surgical and nonsurgical treatments depends on the severity of the volume loss, skin laxity, and patient preferences regarding downtime and results. Nonsurgical methods are best for mild to moderate cases, while surgical options offer a more permanent solution for more advanced facial changes.

Key words: Ozempic face; Facial volume loss; Nonsurgical rejuvenation; Dermal fillers; Facelift

116 CLEFT LIP AND PALATE TREATMENT - 85 YEARS OF EXPERIENCE

Predrag Knežević^{1,2*}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Dental Medicine, Zagreb, Croatia

Introduction: The Clinic for maxillofacial surgery in Zagreb was founded at the end of 1939. In January 1940, the first cleft lip surgery was recorded in the surgical protocols. At the beginning of the seventies, the Clinic included pediatrician, audiologist and speech therapist in its work and modern Millard techniques of lip surgery were introduced. In the early eighties, after a specialist orthodontist was employed, an interdisciplinary real cleft team was established. According to these in 1982, the Referral Center for Clefts was founded. In the mid-1980s, the Clinic became a recognizable center for the treatment of cleft lip and palate where children from all the republics of the former state were treated. **Materials and Methods:** The Clinic is still regional Center for cleft lip and palate treatment. We use a well-defined treatment protocol and a modification of the Fischer technique in the lip surgery, but it should be emphasized that each child is specific, so we adjust the operation time and surgical techniques to each individual child.

Results: Over the years, more and more parents come to the Clinic during pregnancy, since they know on ultrasound that they will have a baby with a cleft. The Clinic is the headquarters of the Parents' Association „Smile“ and the parents are also active members of the cleft team.

Conclusions: There are still many protocols, techniques and a lot of controversy regarding the cleft surgery. It is not possible to make conclusion for the best technique a lot of questions is still open but we can conclude that team, centralization of these pathology which includes a big volume of patients, long-term follow-up, well defined protocol and a skilled surgeon dedicated to this problem is important for good postoperative results. Our earlier eighty-five years of experience in treating children with clefts certainly contributes to our evolution and today's results.

Key words: Cleft lip and palate; Interdisciplinary cleft team; Cleft surgery

117 ATYPICAL FACIAL PAIN: A MULTIDISCIPLINARY APPROACH TO DIAGNOSIS AND TREATMENT

Marina Raguz^{1,2*}, Koraljka Hat^{3,4}, Marko Tarle^{3,4}

¹Department of Neurosurgery, Dubrava University Hospital, Zagreb, Croatia; ²School of Medicine, Croatian Catholic University, Zagreb, Croatia; ³Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ⁴University of Zagreb School of Dental Medicine, Zagreb, Croatia

Introduction: Atypical facial pain (AFP) is recognized as a chronic facial pain condition without an identifiable nociceptive cause. This study builds upon a longstanding collaboration in treating AFP patients by establishing a formal multidisciplinary team. For the first time, specialists from maxillofacial surgery, otorhinolaryngology, neurology, neurosurgery, oral surgery, physical therapy, anesthesiology, neuroradiology, psychiatry, and psychology have joined forces to address the complexities of AFP.

Materials and Methods: Our team examined AFP from multiple perspectives, focusing on neurobiological, psychological, and environmental factors. A series of case studies and clinical assessments were conducted to explore how this collaborative approach enhances diagnostic accuracy and treatment outcomes. We utilized advanced imaging techniques and neurophysiological assessments to differentiate AFP from other facial pain disorders. Various therapeutic modalities were applied, including pharmacological treatments, cognitive-behavioral therapy, interventional procedures, and neuromodulation, with personalized treatment plans tailored to each patient's unique needs.

Results: The multidisciplinary approach facilitated comprehensive understanding and individualized treatment plans, leading to improved patient outcomes. The use of diagnostic tools provided clearer differentiation of AFP, ensuring precise diagnosis. Therapeutic interventions yielded favorable results, particularly in reducing pain and improving quality of life. Regular interdisciplinary discussions proved essential for continuous improvement in patient management.

Conclusions: This initiative represents not only the continuation of years of collaborative work but also establishes a new standard for AFP management by fostering a deeper understanding and collaboration among specialists. The formalized multidisciplinary approach has significantly enhanced care quality for patients with AFP, providing a model for future collaborative efforts in managing complex pain disorders.

Key words: Atypical facial pain; Multidisciplinary approach; Diagnosis; Treatment; Healthcare collaboration

118 MOLECULAR CHARACTERIZATION AND TARGETED THERAPY OF HEAD AND NECK ADENOID CYSTIC CARCINOMA

Petar Suton^{1*}, Ivica Lukšić^{2,3}

¹Division of Oncology and Radiotherapy, Dubrava University Hospital, Zagreb, Croatia; ²Department of Maxillofacial Oral and Surgery, Dubrava University Hospital, Zagreb, Croatia; ³University of Zagreb School of Medicine, Zagreb, Croatia

Introduction: Head and neck adenoid cystic carcinoma (HNAdCC) is a rare, slow growing, malignant epithelial tumor, with bidirectional differentiation into luminal (ductal) and abluminal (myoepithelial and basal) cells. It comprises about 1% of all head and neck malignant tumors and about 10% to 15% of all salivary gland neoplasms. HNAdCC known for its slow progression accompanied by perineural invasion (PNI), rare lymphatic spread to the neck, high rate of local recurrence, and delayed onset of distant metastases. While surgery and radiotherapy are considered standard of care for localized disease, there are no established systemic therapies with durable responses in cases of recurrent/metastatic (R/M) disease. The aim of the present review was to investigate molecular characterization of R/M HNAdCCs as well as evidence for targeted therapy in this rare tumour with long-term poor prognosis.

Materials and methods: Studies and data from PubMed and ClinicalTrials.gov were analyzed.

Results: Numerous molecular biomarkers have been identified including oncogenes, tumour suppressor genes, genes associated with mitochondrial alterations as well as factors within tumor microenvironment. While many prognostic factors have been detected (association with prognosis), no predictive markers or effective targeted therapies have been found to date. Also, DNA-based next generation sequencing studies were analysed.

Conclusions: Most of the published studies in R/M HNAdCC showed limited efficacy of targeted therapies. Given the low immunogenicity of HNAdCC microenvironment there is an evidence of tumour escape from immune system. Also, due to the rarity of the disease, to date, there are no clear advantages of targeted agents over cytotoxic chemotherapy. For this reason, gene expression profiles should be examined on the individual basis thus facilitating personalized oncological approach which could potentially lead to more favourable outcomes.

Key words: Head and neck adenoid cystic carcinoma; Perineural invasion; Targeted therapy; Molecular biomarkers; Personalized oncology

119 DEPARTMENT OF MAXILLOFACIAL AND ORAL SURGERY AT THE DUBRAVA UNIVERSITY HOSPITAL: POSITION AND RELATION TO OTHER CENTERS IN CROATIA AS WELL AS TO COOPERATING AND/OR COMPETITIVE PROFESSIONS

Željko Orihovac^{1,2*}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Medicine, Zagreb, Croatia

Department of Maxillofacial and Oral Surgery at the University Hospital Dubrava (DMOSUHD) is not only the most prominent and largest department of its kind in Croatia, but also in the region. Maxillofacial surgery has also been developed in various centres across the country, mostly in university hospital centres. In contrast to the DMOSUHD, their development and status have varied throughout time. There has been a close cooperation between maxillofacial surgeons and oral surgeons ever since the DMOSUHD was established. Up to approximately thirty years ago, the approach that was taken towards ENT and plastic surgery was mostly one of collaboration. In the past, there was a joint post-graduate study for ENT and maxillofacial surgery, whereas the medical journal *Chirurgia Maxillofacialis et Plastica* was co-edited with plastic surgeons. However, over the course of the last several decades, there has been an apparent change towards a more competitive dynamic among the fields of plastic surgery, maxillofacial surgery and ENT. Given the profession's versatility, which includes both bone and soft tissue surgery, as well as a diverse patient demographic spanning from infancy to senior age, it is essential for the DMOSUHD to monitor developing trends and implement innovative technological solutions that are becoming increasingly relevant in medicine. Consequently, software and three-dimensional modelling are utilised in the process of planning, whilst navigation, endoscopy, and arthroscopic surgery are used in the treatment procedure. Apart from the responsibility of replacing departing personnel and training of new staff members, this is essential for further development not only of the

DMSUHD, but of the profession as a whole. Maintaining extensive and consistent collaboration with oral surgeons in every aspect is very important. One of the examples of this collaboration is the organisation of a joint Congress, like this, to commemorate the 85th anniversary of the DMSUHD.

Key words: Maxillofacial surgery; Oral surgery collaboration; Surgical innovation; 3D modeling in surgery

120 ORBITAL EGZENTERATION - SURGICAL TECHNIQUE AND INDICATION

Martin Jurčina^{1,2}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Medicine, Zagreb, Croatia

Orbital egzenteration represents subperiosteal removal of orbital contents. Since >80% of environmental information are visual, orbital egzenteration bears great emotional and social burden. In this presentation different surgical approaches to orbital egzenteration are presented and discussed. Also indications for orbital egzenteration vs preservation are discussed. In a retrospective review 66 patients are presented with different tumors that involved orbital contents. Orbital egzenteration was performed in 30 patients, while 36 orbits were preserved. There has not been difference in overall survival and recurrence rate in patients with preserved orbits in comparison to the patients whose orbits were egzenterated. Our results suggest that the indications for orbital egzenteration should be revised. Orbital preservation, if properly indicated, does not add to the poorer prognosis for the patients in comparison to orbital egzenteration and does not affect overall survival. Indications for orbital egzenteration should be balanced between histopathological properties of tumors, expected life span for patients, location of orbital invasion and orbital function.

Key words: Orbital exenteration; Orbital preservation; Surgical approaches; Tumor invasion; Patient prognosis

121 TRAUMATIC TOOTH INJURIES

Berislav Perić^{1,2}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Dental Medicine, Zagreb, Croatia

Everyday oral surgery clinical practice deals with various forms of traumatic injuries that affect the area of the teeth and the supporting tissue of the teeth. The most common etiological factors include traffic accidents, physical violence, sports injuries, falls, etc. A detailed clinical examination and x-ray diagnostics enable us to make the correct diagnosis. The earlier and correct therapy is the most important to achieve the best outcome of the therapy. The presentation systematically encompasses etiological mechanisms of dental injuries, diagnostic possibilities and most recent recommended therapeutic methods used in the treatment of such injuries.

Key words: Dental trauma; Traumatic injuries; Oral surgery; Diagnosis

Oral presentations

01 NEW GUIDELINES FOR MEDICATION-RELATED OSTEONECROSIS OF THE JAW

Davor Brajdić^{1,2}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Dental Medicine, Zagreb, Croatia

Introduction: Medication related osteonecrosis of the jaws (MRONJ) is a special type of jaw bone necrosis associated with the use of antiresorptive and antiangiogenic drugs. They are used in the treatment of various pathological conditions such as osteopenia, osteoporosis, Paget's disease, rheumatoid arthritis and in the treatment of bone metastases associated with malignant diseases.

Materials and methods: The clinical picture of MRONJ varies from the involvement of smaller unexposed and exposed parts of the jawbone to the involvement of the entire jaw. The disease is complex, more or less impairs the patient's quality of life, and the treatment can be complicated and unpredictable. It can be conservative and/or surgical, depending on the stage and phase of the disease and the condition of the patient's body.

Results: Currently, there is no standard treatment protocol in the literature.

Conclusions: Considering the increasing incidence since the beginning of recording of this disease twenty years ago, the working group (American Association of Oral and Maxillofacial Surgeons) proposes new clinical guidelines for the prevention, diagnosis, treatment and follow-up of patients with MRONJ every few years, the last one from 2022 brings us the latest knowledge.

Key words: Medication-related osteonecrosis of the jaws (MRONJ); Antiresorptive therapy; Antiangiogenic drugs; Jaw bone necrosis; Treatment guidelines

02 NEW POSSIBILITIES IN TREATMENT OF CONDYLAR PROCESS OF THE MANDIBLE FRACTURES IN CROATIA

Igor Čvrlijević^{1,2}, Marko Tarle^{1,3}, Ivica Luksić^{1,2}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Medicine, Zagreb, Croatia;

³University of Zagreb School of Dental Medicine, Zagreb, Croatia

Introduction: Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, is a reference center for maxillofacial traumatology in Croatia. Over its 85-year history, the Department has become a key institution for treating complex fractures of facial and jaw bones. In condylar process of the mandible fractures, treatment options include non-operative treatment, intermaxillary fixation, and surgical approaches through external incisions or minimally invasive techniques.

Materials and Methods: Approximately 85 patients annually with mandible fractures are treated in the Department, with a third of the most complicated cases referred from other hospitals. An innovative approach involving telemedicine enables rapid consultations and surgeries within 24 hours. Utilizing modern endoscopic instruments, minimally invasive techniques have been developed, allowing access through the oral cavity.

Results: Under this new approach, the first minimally invasive mandible surgeries in Croatia have been successfully performed. These procedures reduce the risk of complications, such as injury to the facial nerve, and significantly shorten hospitalization time. Patients undergoing minimally invasive procedures can be discharged as early as the next day, with reduced swelling and faster recovery.

Conclusion: The advancement of minimally invasive techniques, while highly complex, significantly reduces the risk of complications associated with mandible fractures. This innovative approach necessitates a well-trained team of three specialists, ensuring optimal care and outcomes for our patients. These developments not only enhance the effectiveness of treatment but also contribute to improved recovery experiences, marking a significant step forward in maxillofacial traumatology.

Key words: Mandible fracture; Condylar process; Surgical treatment

03 CYTOLOGY IN DIAGNOSE PRIMARY NON-HODGKIN LYMPHOMA OF THE SALIVARY GLAND: SINGLE INSTITUTION EXPERIENCE

Ljubica Fuštar Preradović¹, Marcel Marjanović Kavanagh¹, Darko Brašnić¹, Mirza Omerbašić¹

¹Special Hospital AGRAM, Zagreb, Croatia

Introduction: Primary malignant lymphomas in the salivary glands are uncommon, accounting for 1,7 – 3,1% of all salivary gland neoplasms and 0,6 – 5% of all tumor and tumor like lesions of the salivary glands. The most common subtype is MALT lymphoma. The parotid gland is the most common site. Within the parotid gland malignant lymphoma is often clinically unsuspected, often presenting as non – specific masses.

Materials and Methods: This research focuses on the identification of morphological indicators to differentiate primary malignant lymphomas in the salivary glands from benign lesions and the other types of malignant diseases. We present a series of four patients with malignant lymphoma of the parotid.

Results: All four patients underwent physical examination and ultrasonography of the salivary glands with ultrasound-guided fine-needle aspiration biopsy (UG-FNA). The material thus obtained was conventional smears and cell blocks (CB). Conventional smears stained by the standard May Grünwald-Giemsa method. For CB cytologic material collected and processed as a paraffin embedded block and used for ancillary immunocytochemistry stains. Diagnoses were confirmed pathohistologically.

Conclusion: Primary malignant lymphomas in the salivary glands are rarely encountered in clinical practice. Yet, parotid gland masses of different origin may pose a major differential diagnostic problem, primarily for requiring different approach, therapeutic modality, as well as preoperative and postoperative follow up. In conclusion, it can be pointed out that the application of UG - FNA, cytomorphological analysis and CB as a preoperative method, along with the application of immunocytochemical methods, can help distinguish primary malignant lymphomas of the salivary glands from benign lesions and the other types of malignant diseases.

Keywords: Lymphoma; Salivary glands; Cytology

04 3D PRINT IN MAXILLOFACIAL SURGERY

David Harmicar¹, Margita Belušić¹, Robert Cerović¹, Arijan Zubović¹, Ivona Marić¹

¹Maxillofacial and Oral Surgery Clinic, University Hospital Center Rijeka, Rijeka, Croatia

Introduction: The first use of 3D printed models in maxillofacial surgery was recorded in 1990. The financial availability of affordable 3D printing devices has popularized its use over the past few years.

Materials and Methods: Today, 3D printing is most commonly used for printing

anatomical models, occlusal splints, cutting and drilling guides, and patient-specific implants.

Results: The use of 3D printed anatomical models is applied in fractures of the facial bones, where reconstructive plates prefabricated on the anatomical model, increase precision and shortening the duration of the surgical procedure. Today, the most common use is in orthognathic surgery, where it is unimaginable to perform a procedure without surgical planning software and 3D printed splints. The use of 3D scanners and 3D printers also facilitates and accelerates the manufacturing of modeling splints for newborns with clefts. Another frequent application is in reconstructive surgery, where cutting guides are printed. Conclusions: The use of 3D printing in maxillofacial surgery enhances the quality of surgical interventions, reduces the duration of surgical procedures, and contributes to precision. Today, 3D printers that can print ceramic materials used in bone reconstruction are rapidly developing. Also, due to recent advancements in bioprinting, particularly regarding technical solutions in the printing of microcirculation, we are getting closer to printing complete vascularized organs.

Key words: 3D printing; Maxillofacial surgery; Surgical planning; Patient-specific implants; Bioprinting

05 NEUROCRANIAL TRAUMA: A MULTIDISCIPLINARY TEAM APPROACH

Koraljka Hat^{1,2*}, Igor Čvrlijević^{1,3}, Marko Tarle^{1,2}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Dental Medicine, Zagreb, Croatia;

³University of Zagreb School of Medicine, Zagreb, Croatia

Introduction: Craniofacial trauma accompanied by brain injuries, often requires the collaborative expertise of multiple medical specialists due to the complex interplay of cranial, facial, and neurological structures. High-energy impacts from traffic accidents, falls, and other incidents commonly result in these traumas, necessitating coordinated care from maxillofacial surgeons, neurosurgeons, and radiologists. This presentation highlights the importance of a multidisciplinary approach to optimize diagnosis, surgical planning, and recovery outcomes.

Materials and Methods: A retrospective analysis was conducted on cases of neurocraniofacial trauma managed through a team-based approach involving maxillofacial surgeons, neurosurgeons, and radiologists. Data were collected from clinical case reviews, radiographic assessments, and surgical outcomes.

Results: Coordinated approach significantly improves both immediate and long-term patient outcomes, with reduced complication rates, better aesthetic and functional results. Key cases illustrated that early coordination of neuroradiologists, maxillofacial surgeons and neurosurgeons facilitated precise surgical planning, while synchronized procedures between neurosurgeons and maxillofacial surgeons minimized surgical time and postoperative risks. Interdisciplinary teamwork led to improved continuity of care for this group of patients. Conclusion: A multidisciplinary team approach is essential in the effective management of neurocraniofacial trauma, leveraging the expertise of maxillofacial surgeons, neurosurgeons, and neuroradiologists to enhance functional and aesthetic patient outcomes. This strategy not only improves surgical precision and recovery but also optimizes resource utilization and patient satisfaction, underscoring the value of collaboration in complex trauma cases.

Key words: Craniofacial trauma; Brain injury; Multidisciplinary approach; Maxillofacial surgery; Neurosurgery

06 CHEILOPLASTY: READ MY LIPS

Mia Lorencin Bulić^{1,2*}, Predrag Knežević^{1,3}, Željko Orihovac^{1,2}, Ivica Lukšić^{1,2}, Matija Mamić^{1,2}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Medicine, Zagreb, Croatia;

³University of Zagreb School of Dental Medicine, Zagreb, Croatia

Introduction: Clefts of the lip and/or palate are one of the most common congenital malformations with a steady incidence world-wide. Cheiloplasty is performed to attain normal anatomy of the upper lip. The procedure can be done as early as 3 months of age if the child has reached the required weight and haemoglobin level for general anaesthesia. Many different cheiloplasty techniques have been described throughout history. One of the most widely used techniques world-wide was and still is the Millard rotation-advancement and its many modifications by different authors, as well as Fisher's anatomic subunit approximation technique described in the beginning of this century.

Materials and Methods: Records of children who underwent primary cheiloplasty in University Hospital Dubrava were reviewed to analyze the details of treatment including the technique used and the attained results.

Results: The prevailing technique in use for the past five years has been Fisher's anatomic subunit approximation technique with consistent and predictable results. The same

principle of repair is used for both unilateral and bilateral clefts. Lip adhesion is reserved for extremely wide clefts and rarely used. Postoperative nasal stenting is used regularly with low compliance.

Conclusions: Different cheiloplasty techniques can achieve equally aesthetically pleasing results. Position of orbicularis oris muscle must be corrected meticulously, and the continuity of the anatomic subunits must be established in order to achieve a functional and good-looking upper lip. Technical skills and experience with cleft surgery as well as a critical number of patients per year are essential in achieving the best possible result for every child. Long-term follow-up and interdisciplinary care is mandatory until the end of growth.

Key words: Cleft lip; Cheiloplasty; Millard technique; Fisher's anatomic subunit approximation; Interdisciplinary care

07 IMPORTANCE OF VIRTUAL SURGICAL PLANNING IN PATIENTS WITH SEVERE JAW DEFORMITIES

Matija Mamić^{1,2*}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Medicine, Zagreb, Croatia

Introduction: Jaw deformities often present with malocclusion and discrepancies in soft tissue profile. Three dimensional virtual surgical planning (VSP) is of paramount importance in preoperative planning of severe jaw deformities. This report gives insights in particular skeletal movements during surgical treatment which are unpredictable with conventional planning.

Materials and methods: VSP flowcharts of patients with facial asymmetry were collected and analyzed. Associated skeletal movements were compared to conventionally planned patients with the same jaw deformities.

Results: The improvement of soft tissue profiles and musculoskeletal function was greater and more reliable with VSP-predicted skeletal movements than with conventional planning. In addition, VSP required a shorter planning period compared to conventional planning.

Conclusion: VSP is more accurate in predicting the skeletal movements compared to conventional planning, which facilitates treatment of patients with severe jaw deformities.

Key words: Facial deformity; Jaw surgery; Orthognathic; Virtual surgical planning

08 CYSTA RADICULARIS MAGNA MAXILLAE – A CASE REPORT

Dancho Bizevski^{1*}, Vladimir Popovski², Enes Bajramov³, Zlatko Vlaski⁴

¹Department for Oral and Implant Surgery, Faculty of Dentistry – MIT University, Skopje

Macedonia; ²Faculty of Dentistry, University St. Kiril and Methodius, Skopje, North Macedonia;

³Private healthcare facility for general dentistry Nova Dental Group, Skopje, North Macedonia;

⁴Private healthcare facility for prosthetics Dr. Zlatko Vlaski, Skopje, North Macedonia

Introduction: Radicular cysts are inflammatory odontogenic cysts of the tooth-bearing areas of the jaw. Most of these lesions involve the apex of the affected tooth and appear as well-defined radiolucencies. Because of the clinical characteristics similar to other more common lesions in the oral cavity, the differential diagnosis should include dentigerous cyst, ameloblastoma, odontogenic keratocyst, periapical cementoma, and Pindborg tumor. Preoperative diagnosis, which includes a detailed clinical examination and radiographic analysis, is essential in the surgical treatment of these changes. To present a rare case of a radicular cyst that occupies a large part of the front maxilla as well as the anatomical spaces of the nasal cavity and the innervation area of the n.infraorbitalis

Materials and Methods: The patient presents with pain in the right side of the head, of undetermined intensity. Sometimes the pain is strong and accompanied by paresthesias in the area of the frontal maxilla, especially in the canine. He felt these symptoms for several months. Results: 3D analysis of the computed tomography images shows a large radiolucent zone above the root of tooth 12 that spreads towards teeth 13 and 11, affecting the canine and infraorbital nerve and the nasal cavity. It was decided for a radical surgical approach of enucleation of the change, with maximum atraumatic access to the mentioned anatomical structures, and pathological verification.

Conclusions: Different clinical manifestations and modifications of radicular cysts make them a serious and studied problem that should be approached with great responsibility and attention. In this context, surgical treatment should always be the first choice when dealing with lesions that occupy large and serious anatomical spaces. Pathohistological analysis is crucial in the further course of postoperative care, especially in monitoring bone repair and regeneration after the initial surgical treatment, after which large deformations and defects of the alveolar ridge occur.

Key words: Radicular cyst; Maxilla; Pathohistology; Bone regeneration; Infraorbital nerve

09 RECONSTRUCTION OF LARGE DEFECTS OF THE LOWER LIP OCCURRING AFTER WIDE EXCISION OF SQUAMOUS CELL CARCINOMA - CASE REPORT

Vladimir Milošev^{1,2}

¹Department of Maxillofacial Surgery, Clinical Hospital Stip, Stip, North Macedonia;

²Faculty of Medical Sciences, Goce Delcev University, Stip, North Macedonia

Introduction: Squamous cell carcinoma is the most common cancer that occurs on the lips, and its wide excision is the main cause of large lip defects. Reconstruction of large lower lip defects with good functional and aesthetic results has always been a challenge for maxillofacial surgeons.

Materials and methods: This paper is a case study of an 82-year-old patient with a change in the lower lip that appeared about a year ago, when he first came to the Maxillofacial Surgery Department of the Clinical Hospital in Stip, North Macedonia. At the first examination, the change on the lower lip was about 1.5 cm in diameter. The patient was informed in details, but he refused surgical treatment. After one year of the examination, the patient came again, due to the sudden growth of the change in the last months. At the second examination, a large ulcerous-infiltrative formation was found, which completely covers the lower lip, with full width and thickness, with destruction of the corners of the lips and infiltration in the buccal mucosa, on the right. An ultra-echo sonography revealed enlarged lymph nodes on the left side of the neck, stage N2. This is a case of a large full width and depth lower lip defect. A combination of local slices were made for reconstruction. On the right side, a nasolabial incision was made, and on the left, a combination of the Fraix and Difenbach methods was made. A supraomohyoid dissection was performed on the left side of the neck. No recurrences were observed during regular check-ups for six months. No enlarged lymph nodes in the neck area were observed on the ultrasound images.

Conclusion: The combination of two reconstructive slices represents a serious alternative to some other surgical techniques for the reconstruction of the lower lip, which, as independent reconstruction techniques, do not give the desired results, from an aesthetic and functional point of view.

Key words: Reconstruction; Large defects; Lower lip; Wide excision; Squamous cell carcinoma

010 MENTAL HEALTH IN PATIENTS WITH HEAD AND NECK CANCER - LITERARY REVIEW

Dijana Miloševa^{1,2}, Vladimir Milošev^{1,3}

¹Faculty of Medical Sciences, Goce Delcev University, Stip, North Macedonia;

²University Clinic of Psychiatry, Skopje, North Macedonia; ³Department of Maxillofacial Surgery, Clinical Hospital Stip, North Macedonia

Introduction: Analysis of research founding in previous research papers with focus on mental health issues among patients with head and neck cancer shows considerable levels of emotional distress. However, the actual rates of clinically relevant mental health symptoms and disorders among this patients remain unknown. **Materials and methods:** A literature search was carried out by authors of this paper. Web of Science database (Clarivate Analytics) was searched, incorporating the Web of Science Core Collection, the BIOSIS Citation Index, MEDLINE as well as Cochrane Central Register of Reviews, and Ovid PsycINFO databases. The following keywords were used: ("cancer" OR "neoplasm" OR "tumor" OR "malignant") AND ("head and neck" OR "head & neck" OR "larynx" OR "oral cavity" OR "cavum" OR "salivary" OR "nasal cavity" OR "tongue" OR "tonsil") AND ("anxious" OR "insomnia" OR "post-traumatic" OR "PTSD" OR "stress" OR "distress" OR "suicide" OR "depress" OR "anxiety" OR "mental health"). **Results:** Our findings and analysis from the literary review reveal that patients with head and neck cancer are particularly vulnerable to a spectrum of mental health symptoms and disorders, with great proportions of them experiencing distress, depressive symptoms, even suicide, anxiety, insomnia, posttraumatic symptoms. **Conclusion:** The conclusions drawn from these findings are manifold and clinically applicable. It is evident that head and neck cancers significantly impact the mental health of those affected, extending across multiple domains, as our findings point out. In spite of that, it is noteworthy that the prevalence of clinically relevant symptoms is much higher compared with the prevalence of criterion-meeting mental disorders for all the studied domains. Even though, the findings of this study must be interpreted in light of certain limitations, it shows the necessity of future multidisciplinary research approach.

Key words: Mental health domains; Head and neck cancer; Literary review; Multidisciplinary approach

011 NEW HORIZONS IN ORAL CANCER TREATMENT: MOLECULAR MARKERS, PREDICTIVE SCORES, AND MULTIDISCIPLINARY COLLABORATION AT OUR DEPARTMENT

Marko Tarle^{1,2}, Igor Čvrljević^{1,3}, Koraljka Hat^{1,2}, Ivica Lukšić^{1,3}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital,

Zagreb, Croatia; ²University of Zagreb School of Dental Medicine, Zagreb, Croatia;

³University of Zagreb School of Medicine, Zagreb, Croatia

Introduction: Oral squamous cell carcinoma (OSCC) remains a significant global health issue, with 389,846 new cases and 188,438 deaths reported in 2022. In Croatia, there were 293 new cases, and the mortality rate was 51.8%. Late-stage diagnoses and limited early diagnostic tools are common challenges. The rising incidence among patients under 50 who do not smoke or consume alcohol highlights the need for novel preventive, diagnostic, and therapeutic strategies to improve survival and quality of life. Furthermore, OSCC patients have a 12-fold higher risk of suicide compared to the general population, emphasizing the disease's physical, psychological, and social dimensions.

Materials and Methods: These studies present our findings on molecular markers, such as nuclear EGFR (nEGFR) and ABCG2, as prognostic indicators in OSCC progression, alongside the Hemoglobin-Albumin-Lymphocyte-Platelet (HALP) score, an immunonutritive marker used to assess preoperative patient status and postoperative outcomes in free flap reconstructions. Additionally, we propose innovative recommendations, including the integration of molecular tumor margins, such as EGFR, in surgical protocols to achieve more precise resections and reduce recurrence risk.

Results: Our results demonstrate that elevated levels of nEGFR and ABCG2 are significant predictors of malignant transformation in oral lesions, allowing for early identification of high-risk patients. HALP score application enhances preoperative assessments, reducing risks of complications such as necrosis and infection, thereby optimizing outcomes in free flap reconstructions. The observed increase in OSCC cases among younger, low-risk populations urges further investigation into novel etiological factors.

Conclusions: Managing OSCC requires a comprehensive, multidisciplinary approach focused on prevention, early detection, and personalized treatment strategies. Our findings emphasize the importance of incorporating molecular markers, such as EGFR, into surgical protocols, as well as the use of dynamic predictive models for more accurate risk assessment. These insights lay the foundation for new ideas and recommendations that could improve treatment outcomes and survival in this complex disease.

Keywords: Oral Squamous Cell Carcinoma; Molecular markers; Multidisciplinary approach; Molecular tumor margin

012 NOVEL TREATMENTS OF HEAD AND NECK MELANOMA

Tomislav Tomičević¹

¹Department of ENT and Head and Neck Surgery, Dubrava University Hospital, Zagreb, Croatia

Introduction: Despite advancements in diagnostic techniques, treatment of head and neck melanoma remains challenging due to its complex anatomical location, frequent recurrence, and high metastatic potential. Surgery has long been the cornerstone of treatment, but recent advances in both surgical and non-surgical therapies, including immunotherapy and targeted therapies, have significantly improved outcomes for patients with localized, advanced, and metastatic disease.

Materials and Methods: A comprehensive review of literature was conducted using PubMed and clinical trial databases. We focused on studies exploring novel surgical techniques, including sentinel lymph node biopsy and minimally invasive surgery, as well as non-surgical therapies such as immune checkpoint inhibitors (ICIs), targeted therapy, and adjuvant treatments. Eligible studies included randomized controlled trials, cohort studies, and clinical trials that addressed the effectiveness, safety, and outcomes of these novel approaches in management of head and neck melanoma.

Results: The use of SLNB allows better staging and identification of patients with high risk for regional metastasis, enabling more precise treatment strategies. Robotic-assisted surgery and minimally invasive techniques have reduced surgical morbidity and improved recovery times. Non-surgical therapies, particularly immune checkpoint inhibitors like pembrolizumab and nivolumab, have shown durable responses in advanced head and neck melanoma and significantly improved survival rates. However, challenges such as immune-related adverse events and therapy resistance persist.

Conclusions: Innovative surgical and non-surgical treatments have transformed the management of head and neck melanoma. While surgery remains crucial for local control, immunotherapies and targeted treatments offer promising options for advanced disease. Ongoing research into combination therapies, biomarkers, and personalized treatment plans is essential to further improve outcomes for head and neck melanoma patients.

Key words: Head and neck melanoma; Sentinel lymph node biopsy; Immunotherapy; Targeted therapy; Minimally invasive surgery

013 CASE REPORT: UNUSUAL LOCATION OF H/N LIPOMA EXTENDING FROM NECK INTO THE ARMPIT

Gvozdan Vukašin¹

¹Royal Free London Hospital, London, UK

Introduction: Lipomas are the most common benign neoplasm of mesenchymal origin and may arise in any location where fat is normally present. In the head and neck region, where only 13% of lipomas are seen, the posterior neck space is the most common site.

Materials and Methods: This case report describes a case of lipoma that was unusually located in the lower neck, supraclavicular fossa, with extension into the arm pit.

Results: The lower neck lipoma is not rare, supraclavicular fossa, among H/N lipomas, although with arm pit extension falls in an unusual location with extension outside the neck. The method of choice of treatment would be excision, however the liposuction as a combination of treatment could and should be considered. The extent of surgery should be determined at the time of operation with dual goals to completing the mass resection and removal of all remnants of lipoma with preservation of all surrounding vital anatomical structures.

Conclusion: A thorough preoperative clinical, radiological and cytological examination should be performed and planned surgical approach to be comprehended to prevent recurrence due to possible incomplete removal.

Key words: Lipoma; Diagnosis; Differential; Surgery

014 "PRIMARIUS MIKOLJI" AWARD - AN OVERVIEW

Darko Macan, Marko Tarle

University of Zagreb School of Dental Medicine, Zagreb, Croatia

Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia

The "Primarius Mikolji" Award is a prestigious recognition granted to outstanding residents in maxillofacial, plastic, and reconstructive head and neck surgery, as well as oral surgery. Established on November 24, 2000, during the general assembly of the Croatian Society for Maxillofacial, Plastic and Reconstructive Head and Neck Surgery of the Croatian Medical Association in Osijek, the award serves as both an incentive and recognition for exceptional achievements and presentations at congresses. The selection process places special emphasis on the quality and originality of the congress presentation, evaluating the resident's contribution to the field, innovative approach, and clarity and persuasiveness of the presentation. The award is named in honor of Primarius Vladimir Mikolji (1920–2000), a distinguished maxillofacial and oral surgeon, whose lifelong dedication significantly contributed to the development of the Department of Maxillofacial and Oral Surgery in Zagreb. Born in Zagreb, he completed medical school despite interruptions during World War II, gaining early experience as a physician in Varaždin and later managing a polyclinic in Pula. In 1956, he became a specialist in dentistry, followed by a specialization in maxillofacial surgery in 1971, and was appointed Primarius in 1976. Mikolji was widely respected for his surgical expertise, dedication to education, and mentorship of generations of students and residents. His deep connection to dentistry and maxillofacial surgery was evident throughout his career, from his family's dental practice to his pivotal role in training specialists. Even after retirement, he maintained close ties with his colleagues and the clinic, offering guidance and encouragement. This award upholds his legacy by recognizing young professionals who demonstrate excellence in surgical innovation, academic contributions, and commitment to advancing maxillofacial and reconstructive surgery.

Key words: Primarius Mikolji Award; Maxillofacial surgery; Oral surgery; Surgical excellence; Resident recognition

Residents' Presentations

R1 ODONTOGENIC KERATOCYST IN A 5 YEAR OLD PATIENT

Tino Hmelina¹, Ivan Baraka¹

¹Department of Otorhinolaryngology and Maxillofacial Surgery, General Hospital Zadar, Zadar, Croatia

Introduction: Odontogenic keratocysts (OKCs) are benign but aggressive cystic lesions of the jaw, derived from the dental lamina. These lesions are more common in adults but can occasionally be seen in children, which presents unique diagnostic and management challenges. OKCs are known for their high recurrence rate, loss of dentition and destruction of tooth germ which is necessitating early detection and proper management. This case report discusses the occurrence of an odontogenic keratocyst in a 5-year-old boy, highlighting the clinical, radiographic, and histopathological findings.

Materials and Methods: A 5-year-old boy presented with a painless swelling in the right lower third of the face, noticed by the parents over a few weeks. A thorough clinical

examination was performed, followed by radiographic imaging, including panoramic radiography and cone-beam computed tomography (CBCT), to assess the extent of the lesion. Surgical enucleation of the lesion was performed under general anesthesia, and the tissue was submitted for histopathological examination. The histopathological analysis confirmed the diagnosis of an odontogenic keratocyst. Postoperative follow-up was conducted over a 12-month period to monitor for recurrence.

Results: Clinical examination revealed a well-circumscribed, asymptomatic swelling in the right mandibular region. Radiographic findings showed a unilocular radiolucent lesion in the posterior mandible, without root resorption of adjacent teeth. Surgical enucleation was successful, and histopathology confirmed the presence of a cystic structure lined by parakeratinized stratified squamous epithelium, consistent with OKC. The patient remained symptom-free during follow-up, with no signs of recurrence after one year.

Conclusion: Although rare in young children, odontogenic keratocysts should be considered in the differential diagnosis of jaw lesions in pediatric patients. Early diagnosis and appropriate surgical intervention are essential to prevent recurrence and ensure optimal outcomes. It is very important to emphasize that long-term follow-up is critical due to the high potential for recurrence.

Key words: Odontogenic keratocyst (OKC); Pediatric jaw lesions; Surgical enucleation; Cone-beam computed tomography (CBCT); Recurrence monitoring

R2 LYMPHATIC VESSEL DENSITY AS A PROGNOSTIC FACTOR IN ORAL SQUAMOUS CELL CARCINOMA - A LITERATURE REVIEW

Boris Kos¹, Petar Suton², Ivica Lukšić^{1,3}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital,

Zagreb, Croatia; ²Division of Oncology and Radiotherapy, Dubrava University

Hospital, Zagreb, Croatia; ³University of Zagreb School of Medicine, Zagreb, Croatia

Introduction: Oral squamous cell carcinoma is the most common malignant tumor in the head and neck region, excluding skin cancers. Despite extensive research, the five-year survival rate has not significantly improved over the past decades. The primary mode of metastasis for head and neck cancers is lymphatic dissemination. The most important tumor-related prognostic factor in oral carcinoma is the status of cervical lymph nodes. The presence of regional metastases reduces the expected survival rate by approximately 50%. Lymphatic vessel density is being investigated as a potential prognostic factor in oral carcinoma. Lymphatic vessel density is assessed with high precision using immunohistochemistry, specifically with the D2-40 (anti-podoplanin) antibody. The aim of this narrative literature review is to summarize the current understanding of lymphatic vessel density in oral squamous cell carcinoma as a potential prognostic marker.

Materials and Methods: A literature search was conducted in PubMed (MEDLINE), SCOPUS, and Web of Science databases, with the last search performed on September 15, 2024. Studies investigating lymphatic vessel density within oral carcinoma and in the adjacent healthy stroma were included. Only articles published since 2004 were considered, and non-English studies were excluded. Additional exclusion criteria involved journals ranked in the third and fourth quartiles (Q3 and Q4). A total of 17 articles were included in this review.

Results: There is consensus in the literature that anti-podoplanin antibodies are a reliable method for determining lymphatic vessel density. Numerous studies suggest a correlation between increased lymphatic vessel density and the occurrence of regional metastases and poor prognosis. There is no agreement on whether lymphatic vessels within the tumor or in the surrounding stroma are more significant for lymphatic metastasis.

Conclusion: Anti-podoplanin antibodies provide a reliable method for assessing lymphatic vessel density in oral squamous cell carcinoma. Increased lymphatic vessel density is associated with a worse prognosis.

Key words: Oral squamous cell carcinoma; Lymphatic vessel density; Prognostic marker; Regional metastasis; Anti-podoplanin antibodies

R3 PENETRATING CERVICOFACIAL INJURY, OR HOW *NOT* TO USE AN ANGLE GRINDER

Ana Kvolik Pavić¹, Luka Tabak¹, Vedran Zubčić¹

¹Department of Maxillofacial and Oral Surgery, University Hospital Osijek, Osijek, Croatia

Introduction: Power tools used in construction or industry carry a significant risk of injury especially in at-home settings where users have a more relaxed view on safety. The most common injuries are abrasions and lacerations, but limb amputations and power tool-related deaths have also been reported.

Materials and methods: We present a case of injuries sustained due to an exploded grinder wheel. The patient suffered massive hemorrhage, soft tissue injury, laceration of the jugular vein, fracture of the laryngeal cartilage, mandible, and maxilla, penetrant wound of the pharynx, and multiple foreign bodies embedded in the soft tissues of the neck, the maxillary sinus and, the orbit.

Results: Management of life-threatening injuries in the head and neck starts with ensuring a patent airway - a tracheotomy. After tracheotomy, we performed neck exploration which showed a lacerated jugular vein with a grinder wheel fragment. Multiple foreign bodies were extracted, the largest of which was embedded in the cervical vertebrae. The mandible and the maxilla were repositioned and osteosynthesis was performed as well as the reconstruction of the pharynx and the soft tissues.

Conclusion: Survival and outcomes in penetrant neck injuries depend on an interdisciplinary approach and good coordination between healthcare providers. Postoperative sequelae can be minimized by good surgical technique, but this type of injury usually causes a degree of lasting disability.

Key words: Power tool injuries; Penetrating neck trauma; Airway management; Foreign body extraction; Maxillofacial reconstruction

R4 HISTOPATHOLOGICAL SARCOMATOUS TRANSFORMATION OF DENOSUMAB TREATED CENTRAL GIANT CELL GRANULOMA

Marko Lagančić¹, Marko Tarle^{1,2}, Ivica Lukšić^{1,3}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Dental Medicine, Zagreb, Croatia; ³University of Zagreb School of Medicine, Zagreb, Croatia

Introduction: Denosumab is a monoclonal antibody that binds to RANKL and prevents RANKL/RANK interaction, thus reducing the number of osteoclast-like giant cells. It is generally used to treat locally advanced, recurrent, and metastatic giant cell bone tumors. Numerous changes in pathohistological characteristics of tumors following denosumab therapy have been reported in the literature, which may be confusing and pose a diagnostic challenge.

Case Presentation: At the beginning of 2021, a 6-year-old boy presented with a sudden swelling on the right side of his face. Initial panoramic radiograph (OPG) revealed a radiolucent area in the body, angle, and ramus of the right mandible. A biopsy of the tumor was performed in April 2021, with histopathology suggesting central reparative granuloma. Based on clinical and radiological findings, considered therapeutic options included segmental resection or curettage of the mandible. Since July 2021, the boy has been under pediatric oncology supervision. He began treatment with denosumab at a dose of 70 mg subcutaneously; from August 6, 2021 to September 7, 2022, he received a total of 18 cycles. During and following the completion of oncology treatment, clinical and radiological findings remained unchanged. In October 2023, resection and modelation of the right hemimandible were performed via extraoral approach. Pathohistological analysis of the samples suggested a potential low-grade osteosarcoma. According to another pathologist's opinion, the findings aligned with diagnosis of fibrous dysplasia. The pathohistological findings were further reviewed abroad, concluding it was a fibro-osseous lesion with areas of giant cells, without diagnostic elements of malignancy; the sample most closely resembled an ossifying fibroma, juvenile trabecular variant. A multidisciplinary team recommended continued monitoring; the boy, now aged 10, is being followed-up by maxillofacial surgeon and pediatric oncologist, along with periodic MRI evaluations.

Conclusion: Denosumab therapy induces a range of changes in giant cell tumors of the bone, the post therapy lesions may bear no resemblance to pretherapy lesion and can mimic other lesions such as (non)ossifying fibroma, osteoblastoma, fibrous dysplasia, sclerosing epithelioid fibrosarcoma, and osteosarcoma. Given the treatment history, it is essential for pathologists to recognize these changes to prevent diagnostic confusion.

Key words: Denosumab therapy; Giant cell tumor; Mandibular lesion; Fibro-osseous lesion; Diagnostic challenge

R5 MINIMALLY INVASIVE APPROACH IN ORTHOGNATHIC SURGERY AT THE CLINICAL HOSPITAL CENTER RIJEKA

Ivona Marić¹, David Harmicar¹

¹Maxillofacial and Oral Surgery Clinic, University Hospital Center, Rijeka, Croatia

Introduction: Minimally invasive surgery is described as a discipline that encompasses innovative surgical techniques aimed at reducing morbidity and improving aesthetic outcomes of operations. In maxillofacial surgery, minimally invasive approaches began with endoscopic techniques but soon expanded to other areas, such as orthognathic surgery. The main parameters to be adhered to during minimally invasive procedures in orthognathic surgery include small incisions, less subperiosteal tissue elevation, gentle retraction, delicate instruments, avoidance of unnecessary tissue trauma, and reduced operation time. The application of such methods in Le Fort I osteotomy leads to less bleeding and consequently less swelling, resulting in quicker recovery.

Materials and Methods: A case of bimaxillary osteotomy performed at the Clinical Hospital Center Rijeka on a 30-year-old patient with Class III occlusion is presented. In this patient, the Le Fort I osteotomy was approached through a small incision extending from tooth 13 to 23. The maxillary osteotomy was performed using a piezoelectric device through this incision, while pterygomaxillary disjunction was carried out with a

piezo device through small incisions in the palate. Bilateral sagittal split osteotomy was performed using traditional incisions in the lower vestibule.

Results: This approach, utilizing a smaller incision, respected the principles of minimally invasive surgery, ensuring less tissue trauma and allowing for a quicker and easier recovery for the patient with reduced edema.

Conclusion: At the follow-up examination two weeks after the procedure, it was evident that the wounds had completely healed and no longer affected the patient's quality of life. In conclusion, minimally invasive methods in orthognathic surgery are highly beneficial for patients and should be further developed, as traditional approaches often result in prolonged and difficult recovery.

Key words: Minimally invasive surgery; Orthognathic surgery; Le Fort I osteotomy; Piezoelectric surgery

R6 DENTIN GRAFT - METHOD OF CHOICE FOR POST-EXTRACTION ALVEOLUS PRESERVATION

Bego Osmanović¹, Marko Vuletić^{2,3}, Tihomir Kuna^{2,3}, Dragana Gabrić^{2,3}

¹Private Dental Practice; ²University of Zagreb School of Dental Medicine, Zagreb, Croatia; ³Clinical Department of Oral Surgery, Clinic for Dentistry, University Hospital Center Zagreb, Zagreb, Croatia

Introduction: The side effect of tooth extraction is the loss of bone volume in horizontal and vertical dimension, which aggravates planning and creation of implant-prosthetic therapy that aims to replace the lost tooth. In clinical practice, autologous bone represents the gold standard due to its osteoinductive and osteoconductive properties but the fact that there is often a limited amount of available donor bone, donor site infections and rapid resorption limits its usage. Recent research has been carried out on dentine autologous graft as a substitute for autogenous bone. Demineralized dentin contains a network of type I collagen with growth factors that promote bone formation, which enables easier ingrowth of osteoblasts in the augmentation area. It is considered that dentin is similar in structure to cortical bone, cementum to spongiosa, while enamel is most similar to xenogenic bone material. Also, it has osteoinductive and osteoconductive properties. Proper preparation of the tooth for grinding and the grinding itself produces an autologous dentine graft that can be used for the preservation of the alveolus, sinus lift, in guided bone regeneration and various alveolar ridge augmentation techniques.

Case report: A female patient comes to the Department of Oral Surgery due to the pain in right distal region of mandible as consequence of extensive caries on the first and second molar. Atraumatic extraction is performed in local anesthesia, cleaning of remaining granulating tissues, and immediate preservation of bone defect with dentin autologous graft and PRF. Upon completion of healing, digitally guided dental implants were inserted supplied with adequate fixed prosthodontics.

Conclusion: Biocompatibility, bone-like composition, lack of immune reactions and its short preparation, is reason of gaining popularity of this innovative use of natural, patient-derived materials in promoting bone healing in dental surgeries.

Key words: Dentin; Graft; Tooth extraction; Autologous bone; Dental implant

R7 PAPILLARY CANCER OF THYROID GLAND CYSTS - CASE REPORT

Ivona Prološčić¹, Ana Kvolik Pavić¹, Vedran Zubčić¹

¹Department of Maxillofacial and Oral Surgery, University Hospital Osijek, Osijek, Croatia

Introduction: Thyroglossal cysts occur when the duct through which the thyroid gland descends from the tongue to its bed during gestation does not fully obliterate. This congenital anomaly occurs in 7% of people and may contain thyroid tissue. Malignancy occurs in 1-7% of thyroglossal cysts, the most common of which is papillary cancer of the thyroid tissue.

Materials and methods: In this case report, we will present a rare case of papillary carcinoma of the thyroglossal cyst treated at the Department of Maxillofacial and Oral Surgery in KBC Osijek.

Results: The patient (38 M) presented with a painless submental tumor mass that had been gradually growing for a year. Apart from type II diabetes, the patient had no other health concerns. Adenocarcinoma was suspected by fine needle aspirational biopsy. We performed a radical dissection of the tumor and selective neck dissection. A pathohistological diagnosis of papillary carcinoma of the thyroid tissue in the thyroglossal duct was established. In the continuation of the treatment, chemotherapy (radioactive iodine) was indicated, for which it was necessary to perform a thyroidectomy.

Conclusion: Although rare, when treating median neck cysts, it is important to consider the possibility of malignant changes. In the treatment of the patient, a multidisciplinary approach is needed, which includes specialists in nuclear medicine, MFK, cytology, radiology, oncology, pathology and ENT.

Key words: Thyroglossal cyst; Papillary carcinoma; Median neck cyst; Multidisciplinary approach; Neck dissection

R8 BIOLOGICAL REGENERATION AFTER CYSTECTOMY

Jure Rakuljić¹, Marko Rajić¹, Marko Vuletić², Irina Filipović Zore²

¹Department of Oral Surgery, Clinical Hospital Center Zagreb, Zagreb, Croatia;

²Department of Oral Surgery, University of Zagreb School of Dental Medicine, Zagreb, Croatia

Introduction: Enucleation of odontogenic cysts of the jaw, accompanied by serial tooth extractions, results in large bone defects that heal slowly, often leading to bone resorption. This can hinder or prevent the implementation of implant-prosthetic therapy. In such cases, significant reduction in the volume of the alveolar ridge bone can be prevented through bone augmentation and alveolar preservation procedures. After cyst enucleation and tooth extraction, the cystic cavity and alveoli are filled with various types of biocompatible materials. The choice of materials for such procedures varies from alloplastic and xenogenic to autologous materials, which are also the most potent in regeneration. Research on the connection between bone and dental tissue has led to the possibility of using extracted teeth as autologous materials for the augmentation of bone defects, showing a high level of regeneration due to osteoconductive and osteoinductive properties.

Materials and Methods: Autologous dentin graft is a material obtained by grinding extracted teeth into dentin particles with certain chemical treatment. In addition to using dentin powder mixed with physiological saline, it is recommended to use it in combination with platelet growth factors obtained by centrifuging autologous blood.

Results: The use of autologous dentin graft in combination with platelet growth factors has become a widely accepted method due to its high efficiency in preserving the alveolus, augmenting the alveolar ridge, and lifting the maxillary sinus floor. It is increasingly used as the preferred material for the restoration of bone defects. This paper presents a case of enucleation of a follicular cyst of the mandible in a 67-year-old man, caused by an impacted wisdom tooth and the serial extraction of three teeth in the same quadrant. The follicular cyst was an incidental radiological finding. All alveotomized teeth were used as autologous graft mixed with PRF preparation to obtain „sticky bone/dentin“ that will qualitatively and quantitatively aid in the restoration of the missing bone tissue.

Conclusion: The paper demonstrates the high regenerative potential of such a preparation, as well as the possibility that extracted teeth no longer need to be considered biological waste. The vision of the entire dental field is to use hard tissue, which would otherwise end up as biological waste, as augmentative material.

Key words: Odontogenic cysts; Bone augmentation; Autologous dentin graft; Platelet growth factors; Regenerative potential

R9 MODIFIED MAXILLARY VESTIBULAR APPROACH FOR SURGICAL EXTRACTION OF BILATERAL INVERTED MESIODENTES IMPACTED ON THE FLOOR OF THE NASAL CAVITY: A CASE REPORT

Petra Stazić¹, Berislav Perić^{2,3}, Daniel Jerković⁴

¹Department of Maxillofacial Surgery, University Hospital of Split, Split, Croatia;

²Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ³University of Zagreb School of Dental Medicine, Zagreb, Croatia;

⁴Department of Maxillofacial Surgery, University Hospital of Split, School of Medicine, University of Split, Croatia

Introduction: Supernumerary teeth can be found in up to 1% of the population with mesiodens as the most common type (up to 90%) localized in the region of the upper middle incisors. The impacted mesiodens can be inverted with crown interfering with the base of the nasal cavity. The frequency of bilateral localization of mesiodentes in the nasal floor is about 6%. The presence of mesiodens is often accompanied with complications such as midline diastema, delayed tooth eruption, root resorption of adjacent teeth, cyst formation, and nasal eruption. Deeply impacted inverted mesiodens with palatal position is usually surgically extracted via palatal approach which includes excessive osteotomy and is accompanied by a high risk of damaging permanent teeth or nasopalatine neurovascular bundle. To lower postoperative morbidity and minimize the risk of complications the modified maxillary vestibular approach with subperiosteal intranasal dissection was suggested.

Case report: A 15-year old boy came to Department of Maxillofacial Surgery of University Hospital of Split for the planned surgical extractions of bilateral inverted mesiodentes impacted in the floor of the nasal cavity before orthodontic therapy. The surgical plan was determined after analyzing the position of the teeth using CBCT. Surgical procedures were performed under general anesthesia with orotracheal intubation. After the application of local anesthesia and vestibular incision, a full mucoperiosteal Nowak Peter flap was elevated. The anterior nasal spine (ANS) was shown, after which the tip of ANS was cut off and the bone flap lifted upward together with the nasal mucosa. The mesiodentes were extracted, bone flap repositioned and wound closed with absorbable sutures. The postoperative period was uneventful with no complications.

Conclusion: The advantage of the modified maxillary vestibular approach is reduced

bone removal, which minimizes the risk of damaging adjacent teeth and postoperative complications.

Key words: Supernumerary teeth; Mesiodens; Inverted impaction; Maxillary vestibular approach; CBCT-guided surgery

R10 SURGICAL APPROACHES AND TECHNIQUES FOR THE REMOVAL OF MANDIBULAR WISDOM TEETH: A REVIEW OF METHODS

Ana-Marija Svorcina¹, Davor Brajdić^{1,2}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital,

Zagreb, Croatia; ²University of Zagreb School of Dental Medicine, Zagreb, Croatia

Introduction: Surgical removal of mandibular third molars is one of the most common operation in oral and maxillofacial surgery and indications are recurrent infection about the tooth, unrestorable caries, pulpal and periapical pathology, cyst development, orthodontic indication. Surgical techniques depend on the individual clinical case. It's important to take care about patient's anatomy and tooth position while minimizing complications by planning the procedure according to the clinical and radiological diagnosis.

Materials and Methods: For fully erupted teeth we utilize conservative extraction with elevators and forceps, but more often mandibular wisdom teeth are impacted and we approach alveotomy. After the area is anesthetized, mucoperiosteal flap is raised to reach the bone and the tooth. Flap design depends on patient's anatomy, position of the tooth and surgeon's approach. We distinguish envelope, triangular and buccal flap. Once the flap is raised the bone that interferes with tooth eruption is removed and the tooth is sectioned if necessary. If there is an immediate proximity to the inferior alveolar nerve the coronectomy is the method of choice. By leaving the apices of the tooth we prevent paresthesia of the inferior alveolar nerve. After the tooth is removed, the socket is filled either with re-absorbable haemostatics or autologous blood concentrates such as Platelet-Rich fibrin (PRF) and Platelet-Rich Plasma (PRP).

Results: Alveotomy is the most common intervention in oral surgery but choosing the right technique is the key to success.

Conclusions: Some authors recommend placing a surgical drain to prevent postoperative complications. An alternative is to allow drainage by partial closure of the surgical wound over the socket and leave the healing by secondary intention.

Key words: Mandibular third molar extraction; Alveotomy; Surgical flap design; Coronectomy; Platelet-rich fibrin (PRF)

R11 PROPOLIS INDUCED ORAL ULCERATIONS AFTER TOOTH EXTRACTION

Kristian Tadić¹, Josip Biočić^{2,3}, Lovro Grgurević^{2,3}, Ivan Zajc^{2,3}, Davor Brajdić^{2,3}, Berislav Perić^{2,3}, Ivan Salarić^{2,3}

¹Private dental practice; ²Department of Maxillofacial and Oral Surgery, Dubrava

University Hospital, Zagreb, Croatia; ³University of Zagreb School of Dental Medicine, Zagreb, Croatia

Introduction: Propolis is a natural resin substance produced by bees and is usually used as over the counter medicine for its antimicrobial and anti-inflammatory characteristics. It is known that it can also induce oral ulcerations, especially when used in higher concentrations or by more sensitive patients. Understanding its effects on oral health is crucial, as both its benefits and risks need to be evaluated.

Oral ulcers are painful lesions that can arise from multiple causes, including mechanical trauma and irritants. Although propolis is often used for its healing characteristics, its application can sometimes induce inflammatory responses that damage the oral mucosa, leading to ulcer formation.

Case report: We will present a case with severe ulcerations after propolis overdose following tooth extraction. Two days after tooth extraction, patient arrived to our Department with propolis induced oral ulcerations. We immediately told the patient to discontinue propolis use and instead prescribed gel containing hyaluronic acid and a local antiseptic solution. Patient was called to two control examinations to assess healing and recovered completely after two weeks.

Conclusion: Given these findings, it is crucial to understand the dual nature of propolis for its safe use in oral health. Clinicians should be cautious when recommending propolis products to the patients. Further investigation is needed to establish safe dosage guidelines.

Key words: Propolis; Oral ulcer; Cytotoxic agents; Wound healing

R12 CEMENTO-OSSEOUS DYSPLASIA - A CASE REPORT

Bruna Tafra¹, Ante Miličević^{2,3}, Petar Đanić^{2,3}

¹Private dental practice; ²Department of Maxillofacial and Oral Surgery, Dubrava

University Hospital, Zagreb, Croatia; ³University of Zagreb School of Dental Medicine, Zagreb, Croatia

Introduction: Cemento-Osseous Dysplasia (COD) is a benign fibro-osseous lesion

characterized by the replacement of normal bone with fibrous and cementoid tissue. There are three types of COD differentiated by the location and extent of the lesion: periapical (PCOD) is limited to the apical region of a few adjacent teeth in the anterior mandible, focal (FCOD) is limited to the apical region of a single tooth of the posterior jaw, and florid (FLCOD) is more extensive, with multifocal and multi-quadrant involvement of the jaws. COD occurs more commonly in the mandible, with a predilection for middle-aged females. Many patients do not present with symptoms and are diagnosed incidentally during routine dental examinations.

Materials and methods: A female patient was referred to our department for an examination due to an increase in the number of radiopaque lesions over the past 9 years on orthopantomography scans. CBCT was recommended for the patient, which showed expansion and thinning of buccal cortical plate in cross-section view, and well defined radiopaque mass measuring about 1x0.8 cm in the right mandible. In addition to the mentioned lesion, there are many other smaller lesions present in mandible. Surgical excision of the lesion was done and 4 small fragments of hard-tissue specimen were submitted for histopathological evaluation.

Results: After the surgical removal of the lesion, histopathologic evaluation was made and the case was diagnosed as COD(FLCOD).

Conclusions: Etiopathogenesis of COD remains still unclear and considered to be a reactive or dysplastic lesion. Diagnosis is primarily through radiographic imaging, showing a progression from radiolucent areas to radiopaque areas. It is extreme important for monitoring lesion development, distinguishing the lesions from other pathologies. Biopsy is needed when the diagnosis is uncertain. Based on literature, in our case there was no need for any other interference and patient was under regular follow up.

Key words: Cemento-osseous dysplasia (COD); Fibro-osseous lesion; Florid cemento-osseous dysplasia (FLCOD); Radiographic diagnosis; Histopathological evaluation

R13 INTRAORBITAL FOREIGN BODY - CASE REPORT

Mislav Ušljebrka¹, Marko Tarle^{2,3}, Koraljka Har^{2,3}

¹Department of Maxillofacial Surgery, University Hospital of Split, Croatia;

²University of Zagreb School of Dental Medicine, Croatia; ³Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia

Introduction: Penetrating orbital injuries caused by foreign objects can lead to severe complications, including damage to the eyeball, eye muscles and fractures of the orbital structures. Men between the ages of 20 and 50 are more prone to injuries involving intraorbital foreign bodies because they are more frequently involved in high-risk activities such as construction and industrial work. Timely and high-quality diagnostics, as well as surgical intervention, are extremely important for preserving vision and the functionality of the eye. We present the case of a 48-year-old female patient with a penetrating injury to the left orbit caused by a foreign body.

Case Report: The patient was admitted to the emergency department after an accident at home. She was walking behind her husband who slammed the door in front of her causing the door handle to penetrate her left orbit. In the emergency room MSCT scan was done and revealed a fracture of the floor and medial wall of the left orbit, a rupture of the inferior rectus muscle and an intact eyeball. Upon admission to the clinic, the patient underwent emergency surgery. During the operation the foreign object was removed and the orbital floor was reconstructed with a titanium mesh. A few days after the first surgery, based on a follow-up MSCT scan, the patient underwent a corrective procedure during which a smaller part of titanium mesh was removed. While in the hospital, the patient was treated with antibiotics to prevent infection. Before her discharge, she was regularly monitored by both an ophthalmologist and a maxillofacial surgeon. The only remaining consequence of the injury was limited eye motility due to the previously mentioned rupture of the inferior rectus muscle, along with minor enophthalmos, while her visual acuity was preserved.

Key words: Penetrating orbital injury; Intraorbital foreign body; Orbital fracture; Titanium mesh reconstruction; Eye trauma management

Poster presentations

P1 DECOMPRESSION OF A LARGE MANDIBULAR CYST

Ana Barbalic^{1,2}, Alen Braut^{1,3}, Ana Zulijani¹

¹Clinical Department of Dental Medicine, CHCR, Kresimirova 42, Rijeka, Croatia;

²Bura Dent, Laginjina 29, Rijeka, Croatia; ³Department of Endodontics and Restorative Medicine, Faculty of Dental Medicine, University of Rijeka, Rijeka, Croatia

Introduction: Cystic lesions occur more frequently in the upper and lower jaws than in other bones of the human body, mainly due to the presence of epithelial remnants of the embryonal neuroectoderm. Cysts vary in behaviour, with some being benign, while other may become expansive and destructive. Because they are usually slow growing and

asymptomatic, cysts may grow very large, displacing and even damaging surrounding structures, with subsequent infection, root resorption, nerve injuries or bone fractures.

Materials and methods: A young 16 year old patient was referred to Oral surgery department CHC Rijeka by general dentist due to vestibular swelling of the right mandible. On the clinical examination there was nothing significant. Radiological finding showed radiolucency from 46 into coronoid process and towards the condylar process. Patient did not report any difference in sensation on the right mandible compared to the left mandible. Aspiration biopsy confirmed the diagnosis of follicular cyst. Decompression was chosen as a first step in the therapy, during which time patient underwent the endodontic treatment of the 46 and 47. Radiographic and clinical controls were made every month to monitor the process of decompression. When the goal was achieved, enucleation of the cyst and surgical extraction of 48 was performed in general anesthesia. The postoperative period was uneventful.

Results: Decompression made the enucleation part of the therapy easier. Inferior alveolar nerve was not damaged. The possibility of mandibular fracture was avoided. Postoperative CBCT scans showed bone restitution.

Conclusion: Although decompression as a therapy of odontogenic cysts comes with some of disadvantages such as: duration of treatment, possible patient discomfort, and reliance on patient compliance to achieve favourable results, in this case it has proven to be the best therapy for this young patient.

Key words: Odontogenic cyst; Follicular cyst; Mandibular decompression; Cyst enucleation; Bone regeneration

P2 MULTIDISCIPLINARY TREATMENT APPROACH IN A CHILD WITH CENTRAL GIANT CELL GRANULOMA OF THE MANDIBLE

Josip Biočić^{1*}, Pjetra Karlović², Vlatko Kopic³, Ante Miličević¹, Aleksandra Bonevski³

¹Dubrava University Hospital, Department of Maxillofacial and Oral Surgery,

University of Zagreb School of Dental Medicine, Zagreb, Croatia; ²University

Hospital Centre Osijek, Department of Oral and Maxillofacial Surgery, Faculty of

Medicine, J. J. Strossmayer University of Osijek, Osijek, Croatia; ³Childrens' Hospital

Zagreb, Department of Pediatric Oncology and Hematology „Dr. Mladen Čepulčić“, Zagreb, Croatia

Introduction: Central giant cell granuloma is a benign but locally aggressive intraosseous lesion of the mandible. In most cases curettage and resection remains the first choice of therapy. Extensive curettage in children leaves large defects which pose a need for a long life and demanding multidisciplinary treatment. Conservative therapy is indicated when surgery is associated with increased morbidity or in adjuvant setting to decrease recurrence.

Materials and methods: A 8-year old boy was admitted to the Department of Oral and Maxillofacial Surgery, University Hospital Dubrava due to a painless swelling in the frontal vestibule of the mandible. One month before the admittance he had suffered a hit in the latter area without significant consequences. His parents reported that the boy had underwent an operation on the right testicle at the age of one due to teratoma. Tonsilectomy was performed when he was seven years old. Clinically, a firm swelling in the mandibular frontal vestibule was observed, measuring approximately 2,5 cm in diameter. Cone Beam Computed Tomography revealed a very well demarcated multilocular transparency. The first operation included enucleation of the mandibular lesion together with removal of the left deciduous and permanent mandibular incisors and left deciduous mandibular canine and first molar. At the same time right maxillary deciduous incisors were extracted and a supernumerary incisor removed in the same area due to the right permanent maxillary incisor's impaction. Four months later another operation had to be performed due to a relapse of granuloma in the mandible. A more extensive enucleation and curettage was performed. Moreover, right mandibular permanent incisors and left permanent canine and first premolar had to be sacrificed as well, leaving a large bony defect in the lower jaw. Pediatric oncologist and orthodontist were consulted and included in the postoperative therapy. Denosumab was suggested and prescribed in 6 doses and a provisional removable prosthesis in the mandible done.

Results: Two operations were needed to successfully enucleate a central giant granuloma of the frontal part of the mandible leaving a quite large bony and dental defect. Due to the aggressiveness of the lesion additional postoperative therapy with denosumab was prescribed. No significant side-effects were observed after the latter therapy. Orthodontic therapy was also introduced to help the proper development of speech and the jaws.

Conclusion: Large central giant cell granulomas of the jaws represent a clinical and therapeutic challenge in children leaving biggish bony and dental defects. Patients and parents have to be aware and ready for a long-lasting therapy and follow-up A multidisciplinary therapeutic approach is prerequisite for a satisfactory end result.

Key words: Central giant cell granuloma; Mandibular lesion; Pediatric oral surgery; Denosumab therapy; Multidisciplinary treatment

P3 IMPACT OF DENTAL BIOFILM ON BONE HEALING AFTER SOCKET PRESERVATION USING TWO NON-RESORBABLE MEMBRANES: STUDY DESIGN AND PRELIMINARY FINDINGS

Marija Čandrlić¹, Barbara Franović², Marko Blašković³, Željka Perić Kačarević⁴, Olga Cvijanović Pelozo²

¹Department of Integrative Dental Medicine, Faculty of Dental Medicine and Health, J. J. Strossmayer University of Osijek, Osijek, Croatia; ²Department of Anatomy, Faculty of Medicine, University of Rijeka, Rijeka, Croatia; ³Department of Oral Surgery, Faculty of Dental Medicine Rijeka, University of Rijeka, Rijeka, Croatia; ⁴Department of Anatomy, Histology, Embryology, Pathology Anatomy and Pathology Histology, Faculty of Dental Medicine and Health Osijek, J. J. Strossmayer University of Osijek, Osijek, Croatia.

Introduction: Microbial colonization and biofilm formation on membranes used for alveolar ridge preservation may impair healing and clinical outcomes following tooth extraction. This study aims to investigate bacterial adherence and biofilm development on two high-density polytetrafluoroethylene (d-PTFE) membranes used in socket preservation. Additionally, we will examine whether the qualitative and quantitative characteristics of the biofilm correlate with histological outcomes from bone biopsies taken after six months of healing. **Materials and methods:** This randomized, controlled clinical trial (RCT) involved patients who required tooth extraction and subsequent socket preservation with combination of either Permamem® (botiss biomaterials GmbH, Zossen, Germany) or Cytoplast® (Osteogenics Biomedical, Lubbock, TX, USA) membranes with bone grafting. The membranes were removed four weeks postoperatively and analyzed by scanning electron microscopy (SEM) to visualize the morphology of the biofilm. Quantification of bacteria was performed by real-time polymerase chain reaction (RT-PCR) and microbial composition was analyzed by next-generation sequencing (NGS), focusing on key species such as *S. mutans*, *S. salivarius*, *A. actinomycetemcomitans* and *V. parvula*. Histologic analysis of bone samples six months after socket preservation was also performed to evaluate the qualitative and quantitative histological outcomes of the bone. **Preliminary results:** SEM analysis revealed biofilm structures on both membrane types. RT-PCR results indicated varying levels of bacterial colonization, with Permamem® and Cytoplast® membranes showing differing affinities for biofilm formation by specific bacterial strains. Preliminary histological findings from bone biopsies at the regenerated sites showed no significant differences between the two groups. **Preliminary conclusion:** While preliminary data indicate no significant histological differences in qualitative and quantitative findings between the two groups, further analysis is needed to assess whether early microbial colonization with distinct biofilms could impact clinical outcomes, especially considering the potential risk of infection during membrane removal.

Key words: Biofilm formation; d-PTFE membranes; Alveolar ridge preservation; Microbial colonization; Socket preservation

P4 A NEW IMMUNONUTRITIVE MARKER AS A PREDICTOR OF SUCCESS IN HEAD AND NECK RECONSTRUCTION WITH FREE MICROVASCULAR FLAPS

Dora Rebeka Divković¹, Nika Petranović¹, Nino Kos¹, Jakov Stojanović¹, Martin Trampuš¹, Ivica Lukšić^{2,3}, Marko Tarle^{1,2}

¹University of Zagreb School of Dental Medicine, Zagreb, Croatia; ²Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ³University of Zagreb School of Medicine, Croatia

Introduction: Free microvascular flap reconstruction in head and neck surgery has significantly improved functional and aesthetic outcomes; however, complications remain a challenge. This study examines the Hemoglobin, Albumin, Lymphocyte, and Platelet (HALP) score as an immunonutritive marker for predicting postoperative complications. **Materials and Methods:** In this retrospective analysis, 200 patients who underwent free-flap reconstruction for head and neck defects at Dubrava University Hospital were included. Preoperative HALP scores were calculated using the formula: HALP = (hemoglobin × albumin × lymphocyte) / platelet. Patients were monitored postoperatively for complications, specifically flap necrosis, infection, fistulas, and hematomas.

Results: Postoperative complications occurred in 28.5% of patients, with infection (15%) and flap revision (10%) being the most common, and flap necrosis observed in 7.9% of cases. A HALP score threshold of 25 effectively identified patients at higher risk, with the score demonstrating strong predictive accuracy for overall complications (AUC = 0.85; sensitivity = 87.7%, specificity = 79.6%).

Conclusions: The HALP score is a valuable prognostic tool for assessing complication risks in head and neck free-flap reconstruction. Identifying patients with lower HALP scores (<25) may enable targeted preoperative interventions, potentially improving outcomes and reducing hospital stays. Further research is recommended to validate these findings and explore additional applications of the HALP score.

Key words: HALP score; Free microvascular flap; Head and neck reconstruction; Immunonutrition; Postoperative complications

P5 TOOTH AUTOTRANSPLANTATION IN ORTHODONTIC-SURGICAL TREATMENT OF SEVERE TOOTH DYSTOPIA IN THE AESTHETIC ZONE

Petar Danić^{1,2*}, Pjetra Karlović², Zoran Karlović^{1,3}, Ivan Salarić^{1,2}

¹University of Zagreb School of Dental Medicine, Zagreb, Croatia; ²Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ³University Hospital Centar Zagreb, Zagreb, Croatia

Introduction: A 14 year old patient with impaction and severe dystopia of right first upper incisor was referred to orthodontic office. This case report aims to present our experience with autotransplantation of tooth, treatment protocols, reasons for this therapy plan and the resulting outcomes.

Materials: Clinical examination, inspection of orthopantomogram, cephalometric analyses revealed impaction of the upper right first incisor. The position was unfavorable for surgical exposure and orthodontic placement in the dental arch which was confirmed by CBCT analysis. Together with the oral surgeon it was decided to autotransplant the tooth. **Methods:** Fixed orthodontic therapy was started with the aim of opening the space for tooth 11, which was partially closed by mesialization of the upper right second incisor and the first left incisor. When the space was orthodontic widened enough, the oral surgeon performed minimally traumatic surgical removal of the tooth and prepare toothless alveolar ridge by means of ridge splitting and expansions for autotransplantation of the same tooth. The surgical procedure ended by fixing the tooth to the rear of the orthodontic appliance. After two weeks endodontic treatment was performed on the autotransplanted tooth.

Results: After finishing of orthodontic therapy a functional and aesthetic result was achieved.

Conclusion: This plan of treatment was decided due to several factors. Psychological insecurity of the child due to the lack of aesthetically important tooth, growth and development of the maxilla and the impossibility of prosthetic rehabilitation until the child reaches adulthood.

Key words: Autotransplantation; Impacted incisor; Orthodontic treatment; Ridge splitting; Aesthetic rehabilitation

P6 DELAYED RECONSTRUCTION OF COMPLETE NASAL DEFECT WITH MEDIAL FOREHEAD SKIN - SEAGULL FLAP

Stjepan Grabovac^{1,2*}, Đurđica Grabovac², Iva Đalog²

¹Department of Otorhinolaryngology General Hospital „Dr. Anđelko Višić“, Bjelovar, Croatia; ²Bjelovar University of Applied Sciences, Bjelovar, Croatia

Introduction: Due to its exposure to the sun, the external nose is often the site of skin cancer. The loss of the nose represents a major aesthetic and psychosocial problem. The primary goal of nasal tumor surgery is radical excision with a satisfactory aesthetic and functional result. Which reconstruction technique will be used depends on the amount of tissue loss and the resulting defect.

Materials and methods: The flap of forehead skin is the basis of the reconstruction of complete nasal defect. And one of the modifications is the Seagull flap, a flap in the middle of the forehead that looks like a seagull with spread wings. With it, the nasal wings and columella are simultaneously formed along the body of the nose. The flap contains skin and muscles with associated fascia, and the main vascular support is the supratrochlear artery. The flap is easy to remove and leaves minimal deformity of the donor region, and is ideal for reconstruction of the external and internal parts of the nose.

Results: We presented a man with a tumor that occupied more than 2/3 of the external nose. A biopsy confirmed that it was squamous cell carcinoma. On MSCCT, the tumor is 4.4x3.6x3.3 cm in size and affects the cartilaginous part of the septum. The operation was planned in three acts. The first act was an extended amputation of the nose, which also included part of the skin on the right side of the face. The second act was in 6 months, after negative biopsies of the edges of the defect. For the reconstruction of the nose and part of the face, we used a Seagull flap and a sliding flap of the facial skin. The pathohistological findings confirmed that it was a squamous cell carcinoma that was completely removed. In the third act, the excess skin in the stalk of the flap was corrected. After 4 years, there are no signs of local recurrence and the patient is satisfied with the appearance.

Conclusions: We are of the opinion that in the case of squamous cell carcinomas that require amputation of the nose, reconstruction should be postponed for 6 months. Immediate reconstruction can hide an early relapse, and the medial frontal flap has already been used for the reconstruction of a new defect.

Key words: Nasal reconstruction; Seagull flap; Squamous cell carcinoma; Forehead flap; Delayed reconstruction

P7 CHALLENGES IN ORTHODONTIC-SURGICAL THERAPY IN PATIENT WITH CLEFTS - CASE REPORT

Pjetra Karlović¹, Emil Dedio^{1,2}, Predrag Knežević^{1,3}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Medicine, Zagreb, Croatia;

³University of Zagreb School of Dental Medicine, Zagreb, Croatia

Introduction: Cleft orthognathic surgery is an important component of a comprehensive cleft care plan. Applying combined orthodontic and orthognathic treatment principles to a cohort of patients with cleft lip and palate raises many challenges not encountered in conventional orthognathic care. Cleft patients share a commonality in their midfacial anatomy that is characterized by a 3-dimensionally deficient maxilla. Orthodontic treatment in CL/P patients must compensate for 3 commonly encountered problems: agenesis of lateral incisors, residual alveolar clefts, and a deficient maxilla.

That is why the patient's prosthetic therapy is planned from the very beginning of the therapy. The purpose of prosthodontics treatment is to prevent the relaps of maxillary segments and the teeth after surgical or/and orthodontic correction, as well as rehabilitation of mastication, speech and aesthetics. Here we will present a case of a patient with a unilateral right cleft lip and palate who was fully rehabilitated both functionally and aesthetically with a multidisciplinary approach.

Materials and methods: The utilization and discussion of presurgical appliances, orthodontic expansion, bone grafting, orthodontic alignment, orthognathic surgery, prosthodontic rehabilitation, and restorative care are presented. Modern planning methods that include arch scanning, digital patient preparation, surgical splint printing facilitate patient preparation for orthognathic surgery and proved better and stable results.

Results: As a result of the multidisciplinary cooperation of orthodontist, surgeon and prosthodontist, the patient was fully rehabilitated aesthetically and functionally.

Conclusion: The treatment of children with an orofacial cleft extends from birth to the conclusion of the growth period, necessitating the oversight of a qualified specialist at specific stages of development. A combined orthodontic and orthognathic treatment plan is a powerful tool that can correct significant malocclusion and produce major improvements in facial aesthetics and favorable functional and should ultimately also promote psychosocial well-being to ensure that affected patients are nearly indistinguishable from their peers.

Key words: Cleft orthognathic surgery; Multidisciplinary treatment; Orthodontic alignment; Prosthodontic rehabilitation; Digital planning

P8 COMBINED ORTHODONTIC AND SURGICAL MANAGEMENT OF PATIENT WITH LATEROGNATHISM

Pjetra Karlović¹, Emil Dedio^{1,2}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Medicine, Zagreb, Croatia

Introduction: Severe facial asymmetry is one of the most difficult and challenging dento-facial deformities to correct in orthodontics. This case report discusses the treatment of an adult patient with severe mandibular laterognathism and associated facial asymmetry using a combination of orthodontic treatment and orthognathic surgery. A patient with laterognathism, in addition to having an aesthetic problem, also has major functional problems that lead to problems with feeding, speech, and the temporomandibular joint.

Materials and methods: Orthodontic diagnostics prior treatment included extraoral and intraoral photographs, study models, a cephalometric radiograph, and a panoramic radiograph of the patient. Intraorally, the patient presented with an anterior crossbite from the maxillary right central incisor to the right canine with poor occlusion. The molar relationship was Class III on both sides. The upper dental midline when compared with the facial midline, exhibited a deviation of approximately 1 mm. The lower dental midline was shifted to the left by 6 mm when compared with the upper dental midline. A combined orthodontic and surgical treatment plan was proposed, aiming to correct the anterior crossbite, midline shifts, and achieve a class I relationship. Decomensation of the upper and lower arches was performed during one year of orthodontic treatment. This was followed by a bimaxillary osteotomy.

Results: The anterior crossbite was corrected, and the buccolingual inclination of the left maxillary and mandibular buccal segments significantly improved. A fully functional bite in class I relationship, along with remarkable esthetic and functional results, was achieved with high patient satisfaction.

Conclusion: Orthofacial surgery, although it serves to correct functional, skeletal, and dental discrepancies, must also be focused on achieving the best aesthetic results. The patient's psychological condition, which was previously impaired due to aesthetics and function, has also improved, which has significantly affected the quality of life.

Key words: Facial asymmetry; Mandibular laterognathism; Orthognathic surgery; Orthodontic treatment; Functional and aesthetic rehabilitation

P9 MULTIDISCIPLINARY APPROACH IN TREATMENT OF OROFACIAL CLEFTS FROM MIXED TO PERMANENT DENTITION: A CASE REPORT

Pjetra Karlović¹, Marija Kolak Spajić¹, Mia Lorencin Bulić¹, Mario Rašić², Predrag Knežević^{1,2}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ²University of Zagreb School of Dental Medicine, Zagreb, Croatia; ³University Hospital Sestre Milosrdnice, Zagreb, Croatia

Introduction: Patients with an orofacial cleft require a multidisciplinary team of specialists to monitor their growth and development and provide appropriate and timely interventions. This case report aims to present our institution's experience with orthodontic and prosthetic care for cleft patients.

Materials and methods: The utilization and discussion of presurgical appliances, orthodontic expansion, bone grafting, orthodontic alignment, orthognathic surgery, prosthodontic rehabilitation, and restorative care are presented. The complexity and duration of orthodontic and surgical treatment for cleft patients are contingent upon the specific type of cleft and the individual patient's characteristics, including the presence of hypodontia, skeletal characteristics, and jaw growth patterns. Treatment approaches must align with the stages of dental and facial development, often necessitating simultaneous skeletal and dental corrections to achieve optimal outcomes. Orthodontic expansion is frequently required, often followed by alveolar ridge augmentation. To ensure definitive prosthetic rehabilitation, dental implants, as well as fixed or mobile prosthetics, can be tailored to meet the unique needs and expectations of each patient.

Results: The goal of every treatment of a patient with cleft is to achieve function and aesthetics in order to facilitate the patient's speech, feeding and essential self-confidence.

Conclusions: The treatment of children with an orofacial cleft extends from birth to the conclusion of the growth period, necessitating the oversight of a qualified specialist at specific stages of development. It is crucial to establish the correct sequence and timing of therapeutic interventions in infants, during the early mixed dentition phase, early permanent dentition, and post-facial growth. An individualized approach to each child with a cleft lip and/or palate should ultimately yield favorable functional and aesthetic outcomes, while also promoting psychosocial well-being to ensure that affected children are nearly indistinguishable from their peers.

Key words: Orofacial cleft; Multidisciplinary treatment; Orthodontic expansion; Prosthodontic rehabilitation; Alveolar bone grafting

P10 PLEOMORPHIC ADENOMA INVOLVING THE DEEP LOBE OF PAROTID GLAND

Mario Kordić¹, Goran Šimić², Emil Dedio^{1,3}, Anamaria Svirčić¹

¹University Clinical Hospital of Mostar, Mostar, Bosnia and Herzegovina;

²Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ³University of Zagreb School of Medicine, Zagreb, Croatia

Introduction: The most common tumor of the salivary glands is pleomorphic adenoma or tumor mixtus. It is a benign tumor that accounts for about 50- 60% of all salivary gland tumors and more than 75% of parotid gland tumors. Common incidence is noted in females between 40 and 60 years.

Case report: A 30-year-old patient came for an examination due to swelling on the left side of her face. On local extra oral clinical examination there was facial asymmetry. The swelling was well defined, solitary, extending in the preauricular region and it grew to its current dimensions (6 x 5 cm), firm, non fluctuant, non tender, and with no symptomatic involvement of the facial nerve. The patient had no significant medical history. Ultrasound imaging of the left parotid gland was suggestive of a well-defined, lobulated heterogeneously hypoechoic lesion with its own blood vessel. IT also occupied part of the parotid. A fine-needle aspiration cytology examination was suggestive of pleomorphic adenoma. Furthermore, magnetic resonance imaging revealed left, in the parotid and masticatory area, a well-defined, heterogeneously enhancing large, lobulated lesion which suppresses fat tissue of the parapharyngeal space medially; the carotid space posteriorly, expands the stylomandibular notch and takes on a pear-shaped shape; appearing hypointense on T1-weighted image (T1WI), heterogeneously hyper-intense on T2-weighted image (T2WI) measuring 58 x 40 x 55 mm (ApxLxCC). The patient underwent a total parotidectomy. Modified Blair incision was taken at the left pre-auricular region and the nerves were separated from the gland and tumor along with the parotid gland, which was resected after separation followed by skin closure.

Conclusion: Tumors typically present as asymptomatic swelling and progress slowly. Most of these tumors are observed with the involvement of the superficial lobe of parotid gland; only a few are observed involving the deep lobe.

Key words: Pleomorphic adenoma; Parotid gland; Deep lobe

P11 FREQUENCY OF CLEFT LIP AND PALATE IN HERZEGOVINA

Mario Kordić¹, Anamaria Sivrić¹, Iva Petrović¹, Predrag Knežević^{2,3}, Emil Dediol^{2,4}

¹University Clinical Hospital of Mostar, Mostar, Bosnia and Herzegovina;

²Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia; ³University of Zagreb School of Dental Medicine, Zagreb, Croatia;

⁴University of Zagreb School of Medicine, Zagreb, Croatia

Introduction: A cleft is a congenital lack of tissue in the upper lip, alveolar ridge and/or palate. Following the developmental embryological classification, clefts can be divided into clefts of the primary palate, clefts of the secondary palate and clefts of the primary and secondary palates. They can appear as isolated malformations or in combination with other anomalies or as part of a syndrome. The main objective of this research is to show the frequency of occurrence of clefts in the territory of Herzegovina over a ten-year period (2013 - 2023).

Materials and methods: By reviewing the protocols of the Clinic for Children's Diseases of the University Clinical Hospital Mostar, 40 patients with clefts who stayed at the Clinical Department for Intensive Treatment and Neonatology in the period from January 1, 2013 to December 31, 2023 were singled out.

Results: The results of the conducted research showed that the frequency of cleft lip and/or palate in children who were treated in the Clinic for Children's Diseases of the University Clinical Hospital Mostar amounted to 0.75%. The most children with clefts were in 2023 (20%), and the least in 2013 and 2016 (2.5%). In the examined sample, there were more female respondents (57.50%) compared to males (42.50%). 42.50% of respondents had a cleft of the secondary palate, 40.00% of them had a cleft of the primary and secondary palate, while 17.50% of them were diagnosed with a cleft of the primary palate. More than half (87.50%) of clefts of the lip and/or palate were non-syndromic clefts, and 12.50% of them were clefts within the clinical picture of one of the syndromes. The most common syndrome in which a cleft occurred was the Pierre-Robin syndrome (60.00%). 5.00% of respondents had a positive family history.

Conclusion: The conducted research confirmed the hypothesis that the frequency of cleft lip and palate occurs in less than 1% of newborn children in Herzegovina.

Key words: Cleft lip; Cleft palate; Syndromic cleft; Non-syndromic cleft

P12 COMPARATIVE VALUE OF IMMUNOLOGICAL SCORES AND C-REACTIVE PROTEIN (CRP) IN ASSESSING ODONTOGENIC ABSCESS SEVERITY

Maks Koritnik¹, Lana Konstantinović¹, Nino Kos¹, Karmela Liščuk¹, Ana Kušec¹, Ivica Lukšić^{2,3}, Marko Tarle^{1,2}

¹University of Zagreb School of Dental Medicine, Croatia; ²Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia;

³University of Zagreb School of Medicine, Croatia

Introduction: Odontogenic abscesses frequently necessitate urgent intervention due to the risk of severe, life-threatening complications. Reliable severity assessment aids in early, aggressive treatment planning. This study evaluates the predictive accuracy of the Aggregate Index of Systemic Inflammation (AISII) in comparison with other systemic indices like the Systemic Immune Inflammation Index (SII), Neutrophil-to-Lymphocyte Ratio (NLR), Platelet-to-Lymphocyte Ratio (PLR), and C-Reactive Protein (CRP) in predicting abscess severity.

Materials and Methods: This retrospective study was conducted at the Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, from 2019 to 2023, including 242 patients treated for odontogenic abscesses. Clinical and laboratory data enabled the calculation of AISII, SII, NLR, PLR, and other scores. Severity was classified using the Symptom Severity Score (SS Score), with predictive values assessed through ROC curve analysis.

Results: AISII emerged as the strongest predictor of abscess severity, achieving the highest sensitivity and specificity (AUC = 0.90), outperforming CRP (AUC = 0.74). Notably, SII and NLR also showed high predictive value (AUC = 0.86 and 0.83, respectively), correlating with severe cases and extended hospital stays. PLR demonstrated moderate prediction accuracy, particularly in identifying cases with complex presentations. Together, these scores provide a comprehensive understanding of the immunoinflammatory response, enhancing the accuracy of severity predictions.

Conclusions: AISII provides a superior prediction model for odontogenic abscess severity, and its use alongside SII and NLR can enhance early identification of high-risk patients. Incorporating these scores into clinical protocols could improve treatment outcomes by facilitating prompt, targeted interventions.

Key words: Odontogenic infection; Systemic inflammatory indices; CRP; AISII; SII

P13 COMBINATION OF UPPER JAW OSTEODISTRACTION AND BIMAXILLARY OSTEOTOMY IN A PATIENT WITH CLEFT LIP AND PALATE

Boris Kos¹, Nataša Radica², Goran Radica², Emil Dediol^{1,3}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital,

Zagreb, Croatia; ²Dental Clinic Radica, Split, Croatia; ³University of Zagreb School of Medicine, Zagreb, Croatia

Introduction: Distraction osteogenesis is a technique for lengthening bones that involves creating new bone between two fractured segments. These segments are gradually separated using a mechanical device known as a distractor. Patients with cleft palate often suffer from maxillary hypoplasia, which results from scarring that affects growth and development. It is believed that jaw movements in these patients are more unstable, leading to an increased risk of relapse. The literature indicates that distraction osteogenesis may yield better outcomes than conventional maxillary osteotomy in cleft patients due to gradual traction counteracting the forces of scarring.

Case Presentation: We present a patient who underwent surgery as a child for a right-sided cleft lip and palate. At the age of 25, following orthodontic preparation and augmentation of the maxillary alveolar ridge, he opted for orthognathic surgery. Clinically, the patient has a well-healed scar from the palate and lip repair. He presents with a Class III malocclusion according to Angle's classification due to pronounced maxillary hypoplasia. After standard 3D surgical planning, it was concluded that the required jaw advancement was too great for conventional treatment. Therefore, a Le Fort I osteotomy was performed with bilateral placement of distractors fixed to the zygomatic bones. The postoperative period was uneventful, and over the next three months, the distractors were activated for a total advancement of 18 mm. The control CT scan was adequate. Three months later, the distractors were removed, and an additional 2 mm advancement of the maxilla was achieved, followed by a bilateral sagittal split osteotomy of the mandible. Stable Class I occlusion was achieved. At the six-month follow-up, there was no relapse of occlusion.

Conclusion: Orthognathic treatment in patients with cleft lip and palate is technically challenging due to scarring effects. Distraction osteogenesis provides a valid option, allowing for greater stability during significant advancements.

Key words: Distraction osteogenesis; Maxillary hypoplasia; Cleft lip and palate; Orthognathic surgery; Le Fort I osteotomy

P14 CLINICAL AND DEMOGRAPHIC CHARACTERISTICS OF PATIENTS WITH FACIAL TRAUMA TREATED AT UNIVERSITY HOSPITAL OF SPLIT DURING THE PERIOD 2012-2020

Marino Lupi-Ferandin¹

¹Department of Maxillofacial Surgery, University Hospital of Split, Split, Croatia

Introduction: The aim of this study was to determine the demographic and clinical characteristics of subjects with facial trauma treated at University hospital of Split during the period 2012-2022.

Materials and methods: This was cross-sectional study conducted at the Department of Maxillofacial Surgery of University Hospital of Split. The research included respondents of both sexes, aged 18 and over, who were hospitalized due to facial trauma at the Department of Maxillofacial Surgery of University Hospital of Split from January 1, 2012 to December 31, 2021.

Results: A total of 781 subjects were included in the research, of which 622 (78.4%) were men and 159 (21.6%) were women. The average age was 33 years. The most common etiological factor of facial trauma is fall (42.7%) followed with assault (38.7%) and traffic accidents (15.6%). The most common fracture was the zygomatic bone fracture (44.5%). The next most common fracture is the fracture of the lower jaw (30.4%). Almost half of mandible fractures are bilateral, and the most commonly fractured region of the mandible is the body. A fracture of the upper jaw was diagnosed in 10.8% subjects. In 9.4% respondents there was some form of tooth injury. There is a soft tissue injury in 72.3% subjects. As for surgical therapy, the most common method was osteosynthesis (54.2%). This was followed by intermaxillary fixation (IMF) (19.5%). The most common therapeutic method for orbital floor fractures is orbital floor plastic surgery.

Conclusions: Male to female ratio was 4:1 and median age of respondents was 33 years. These results are in concordance with majority of European and world studies. The most common etiological factor of facial trauma is a fall, while the most common fracture of the facial bones is zygomatic bone fracture.

Key words: Facial trauma; Maxillofacial fractures; Zygomatic bone fracture; Mandibular fracture; Etiology of facial injuries

P15 THE IMPACT OF SURGICAL TRAUMA ON POSTOPERATIVE PAIN AFTER PERIAPICAL SURGERY

Jure Martinić¹, Lidia Gavić², Antonija Tadin³, Ante Mihovilić⁴, Petra Stazić⁴, Daniel Jerković^{1,4}

¹Department of Oral Surgery, Study of Dental Medicine, School of Medicine, University of Split, Split, Croatia; ²Department for Oral Medicine and Periodontology, Study of Dental Medicine, School of Medicine, University of Split, Split, Croatia; ³Department of Restorative Dental Medicine and Endodontics, Study of Dental Medicine, School of Medicine, University of Split, Split, Croatia; ⁴Department of Oral and Maxillofacial Surgery, Clinical Hospital Centre Split, Split, Croatia

Introduction: Periapical surgery is a surgical procedure recommended when non-surgical treatment of the tooth is unsuccessful or unfeasible. Like any surgical procedure, periapical surgery can lead to certain complications. There are numerous preoperative, intraoperative, and postoperative factors that can affect postoperative complications. The main aim of this study was to investigate the influence of factors associated with surgical trauma on the incidence and intensity of postoperative pain after periapical surgery.

Materials and methods: This study included 30 participants who had undergone the periapical

surgery. A single surgical team treated all patients according to the same surgical protocol. In the first postoperative week, each patient received the same postoperative instructions and a pain questionnaire to record pain intensity and analgesic consumption.

Results: In the study, 30 participants with a mean age of 37.00 ± 12.47 years were involved. The highest pain intensity was recorded on the day after surgery while the highest analgesics consumption was recorded on the day of surgery. The participants' BMI correlated positively with the amount of analgesics taken in the postoperative period ($P < 0.05$). The duration of the

operation correlated negatively with the intensity of pain and the consumption of analgesics after the operation ($P < 0.05$). The volume, height and width of the alveolar bone defect after the operation did not significantly influence the intensity of pain and consumption of analgesics in the postoperative period ($P > 0.05$). The presence of a fistula correlated negatively with analgesic consumption after surgery ($P < 0.05$) while preoperative fenestration correlated negatively with the intensity of postoperative pain ($P < 0.05$).

Conclusion: Based on our research a correlation was found between factors associated with surgical trauma and the occurrence and intensity of pain after periapical surgery.

Key words: Surgical trauma; Periapical surgery; Oral surgery; Postoperative pain; Analgesia

P16 DOUBLE FREE FLAP RECONSTRUCTION FOR LOWER LIP CARCINOMA

Lovro Matoc¹, Ozren Vugrinec¹, Jerko Bilos¹, Dinko Leović¹, Igor Blivajš¹, Drago Prgomec^{1,2}

¹Department of Otorhinolaryngology and Head and Neck Surgery, University Hospital Center Zagreb, Zagreb, Croatia; ²University of Zagreb School of Medicine, Zagreb, Croatia

Introduction: Reconstruction of oromandibular defects is always demanding, especially due to the need to respect the aesthetic and functional subunits of the lower third of the face. The functional outcome largely depends on the adequate reconstruction of the orbicularis oris muscle, whose function is extremely difficult to replace. With the development of microsurgical techniques, today we can easily engage in extensive microvascular transfers, including the possibility of functional muscle transfers. Many factors must be considered in the planning of reconstruction for extensive defects, including a thorough assessment of the defect and the patient's ability to tolerate an extended procedure. In addition, technical considerations include the availability of adequate recipient vessels, donor-site availability and morbidity, and the ability to use a two-team approach to minimize operative time.

Materials and Methods: Our patient is a 55-year-old male who presents to the clinic with extensive lower lip carcinoma. We took a biopsy of the tumor, and the histological analysis indicated squamous cell carcinoma. Subsequently, we performed a CT scan, which showed invasion of the outer cortex of the mandible, with no regional metastases present. The patient was presented to a multidisciplinary team, which decided that a commando operation with bilateral selective neck dissection and reconstruction using a fibular osteofasciocutaneous flap and a forearm fasciocutaneous flap would be necessary. The surgery was conducted in two stages. The patient was admitted 3 days before the operation. The patient had low hemoglobin levels due to blood loss caused by the rapidly growing tumor. Hemoglobin levels did not improve despite red blood cell transfusions. For this reason, we first performed tumor resection and tracheotomy, followed by packing the ablative cavity with iodoform gauze. Defect was reconstructed 10 days after the first surgical procedure. **Results:** The final histological analysis confirmed tumor invasion of the mandible, measuring $15 \times 5 \times 6$ cm, with no regional metastases. The patient remained in the hospital for

56 days. The prolonged hospital stay was due to two surgical procedures and two admissions to the intensive care unit. The postoperative course was monitored and proceeded without major complications. The patient's mouth opening was limited, but he was able to swallow liquids and soft food. Due to inadequate nutritional support, a percutaneous endoscopic gastrostomy (PEG) was performed.

Conclusions: When comparing the survival of double flaps and the transfer of a single flap, no significant difference in survival rates is found. Total flap survival rates range from 93% to 100%. However, complications may arise due to the length of the procedure, although there is no significant difference in procedure duration when transferring double flaps versus a combination of a single free flap and a regional flap. Healing of the donor site is better with fewer complications when using two flaps for reconstruction of the defect. This is likely due to the need for raising two smaller free flaps compared to a single larger free flap. When considering overall patient satisfaction, it is important to recognize that these are extensive and mutilating procedures. Despite this, most patients report being somewhat satisfied. In conclusion, multiple, simultaneous free flaps can be performed safely, leading to acceptable long-term patient survival and patient reported functional outcomes. Our case demonstrates that it is worthwhile to perform these challenging microvascular reconstructions in patients with locally advanced head and neck cancer.

Key words: Oromandibular reconstruction; Microsurgical free flaps; Fibular osteofasciocutaneous flap; Functional muscle transfer; Head and neck cancer

P17 CBT AND RECOVERY ORIENTED COGNITIVE THERAPY (CT-R) AS A TREATMENT APPROACH DESIGNED TO PROMOTE EMPOWERMENT, RECOVERY AND RESILIENCY AMONG INDIVIDUALS WITH HEAD AND NECK CANCER

Dijana Miloševa^{1,2*}, Lence Miloševa¹

¹Faculty of Medical Sciences, Goce Delčev University, Štip, North Macedonia;

²University Clinic of Psychiatry, Skopje, North Macedonia

Introduction: The impact of Head and Neck Cancer treatment can be particularly distressing as it often results in functional impairment and markedly changed activities of daily living among survivors. However, engaging in therapeutic methods to cope and manage distress during treatment can influence quality of life (QOL) and mood into the survivorship phase.

Material and methods: The first primary aim of this study is to show results of literature review (PubMed, Web of Science, Cochrane) in order to evaluate the CBT intervention's feasibility, acceptability, and efficacy on body image concerns, psychological distress, other psychological symptoms, self-efficacy for coping with cancer, reducing pain and quality of life (QOL) among patients with Head and Neck Cancers (HNC). This study also aims to address and highlight the potential clinical benefits of a novel psychotherapeutic intervention that targets mental health concerns and suggests the need for further evaluation. Recovery Oriented Cognitive Therapy (CT-R) is a novel treatment approach designed to promote empowerment, recovery, and resiliency in individuals with serious mental health conditions, which we believe could successfully adapt and modify for patients with Head and Neck Cancer.

Conclusions: CBT is golden standard in psychotherapy. CT-R is a novel strengths-based approach that focuses on activating adaptive modes of living, developing meaningful aspirations, and engaging in personally meaningful activities to bring about one's desired life. Formulation in CT-R contextualizes challenges within the broader scope of an individual's interests, values, and aspirations for a meaningful life. Grounded in the empirically-supported cognitive model and a strengths-based, person-centered, human-potential-focused view of recovery and resiliency, CT-R is nurturing deep wellsprings of hope and empowering individuals with Head and Neck Cancer to actively experience the type of flourishing life they want to live.

Key words: CBT; CT-R; Head; Neck; Cancer; Psychotherapy

P18 DECOMPRESSION AS INITIAL TREATMENT FOR LARGE ODONTOGENIC JAW CYSTS: A CASE SERIES AND ANALYSIS

Sanjin Petrović¹, Dominik Pavić¹, Vlatko Kopic^{1,2}

¹University Hospital Centre Osijek, Department of Oral and Maxillofacial Surgery, Osijek, Croatia; ²J. J. Strossmayer University of Osijek, Faculty of Medicine, Osijek, Croatia

Introduction: Odontogenic cysts are pathological lesions that originate from odontogenic epithelium, often discovered incidentally on radiographs. These cysts are typically asymptomatic, even when they reach significant size. The standard treatment for large jaw cysts usually includes cystectomy, enucleation, apicoectomy, tooth extraction, marsupialization, or, in severe cases, bone resection and reconstruction. Decompression, as an initial treatment, has emerged as a well-established conservative approach for managing large jaw cysts. It offers several advantages, including the preservation of adjacent teeth and a lower incidence of neurosensory impairment compared to cystectomy or enucleation alone.

Materials and Methods: A review of the current literature was conducted to assess the effectiveness, benefits, risks, and complications associated with decompression. The outcomes of this conservative approach were compared with our own clinical experience, using selected case examples from our practice. The aim was to highlight the surgical approach, treatment results, and challenges encountered in the management of large odontogenic cysts via decompression.

Results: The literature review and our clinical case series suggest that decompression offers a viable alternative to more invasive surgical interventions. It allows for gradual reduction of cyst size, which facilitates easier subsequent surgical procedures and minimizes complications. Our cases demonstrate favorable outcomes, with good cyst resolution and minimal morbidity when the procedure is carefully planned and executed.

Conclusions: Decompression, when applied to appropriately selected cases, remains a valuable and effective treatment method for large odontogenic jaw cysts. With careful case selection and a meticulous, minimally invasive surgical approach, decompression should be considered a key option in the management of these lesions.

Key words: Odontogenic cysts; Decompression; Jaw cyst management; Conservative treatment; Minimally invasive surgery

P19 POSSIBLE INFLUENCE OF STYLOID PROCESS LENGTH ON ISOLATED VERTIGO OF UNKNOWN ETIOLOGY

Hrvoje Šarić¹, Sanda Pavelin¹, Lidia Gavić¹, Kristian Jerković¹, Antonija Tadin¹, Ivan Galić¹, Željko Šarić¹, Daniel Jerković¹

¹University Hospital of Split, Split, Croatia

Introduction: Eagle syndrome or styloid process syndrome is a clinical condition of complex etiology. Since, as a consequence of vascular compression, due to the length of the styloid process and its nearness to the internal carotid artery, it can lead to vertigo. The aim of this study was to discover a possible connection between the elongated styloid process and vertigo of unknown etiology. In addition, the goal was to find out whether the reduced distance between the styloid process and the internal carotid artery has an impact on the frequency of this symptom. Also, the secondary goal of the study was to measure the length of styloid process and their closest distance from the internal carotid arteries. To the best of our knowledge, this is the first study that measures the lengths of styloid process on the Croatian population's, and possible influence of styloid process length on isolated vertigo of unknown etiology.

Material and methods: This study included 829 subjects who underwent multislice computed tomography (CT) angiography used to obtain data on the length of styloid processes and the distance of styloid processes from the internal carotid. Respondents were divided into two groups. The first group was the control group and it consisted of 800 subjects. The second group, which was the study group, consisted of 29 subjects who suffered from the vertigo of unknown etiology.

Results: The statistically significant difference between the study and the control group was observed in the length of the styloid process, as well as in the closest distance of the styloid process from the carotid artery. In the control group, 43.5% had a prolonged styloid process, while in the group of patients who had dizziness of unclear etiology (study group), 82,76% had an extended styloid process.

Conclusion: The prolonged styloid process and its close association with the internal carotid artery may affect vertigo of unknown etiology and should be clinically and radiography investigated in cases of unexplained vertigo as an isolated and only symptom within stylocarotid syndrome.

Key words: Eagle syndrome; Styloid process elongation; Vertigo; Stylo-carotid syndrome; CT angiography

P20 REHABILITATION OF VOICE, SPEECH AND SWALLOWING AFTER MICROVASCULAR RECONSTRUCTION OF THE TONGUE

Ivana Šimić Prgomel¹, Ika Gugić Radojković¹, Stjepan Frkanec¹, Lovro Matoc¹, Igor Blivajs¹

¹University Hospital Center Zagreb, Department of Otolaryngology, Head and Neck Surgery, Zagreb, Croatia

Introduction: Voice, speech and swallowing disorders are common dysfunctions in patients with tongue cancer that can reduce their quality of life. Preoperative speech therapy assessment of such patients is important, as well as early rehabilitation of the aforementioned impaired functions, which we carry out in all head and neck cancer patients as part of the routine procedure of the Center for Head and Neck Tumors. The main goal of voice therapy is to influence phonation mechanisms and the formation of the best possible phonation at the level of the glottis and the goal of speech rehabilitation is to achieve more precise articulation as well as the best possible mobility of impaired articulators. The goals of swallowing rehabilitation are to change bolus consistency, change body position, maneuvers during swallowing, exercises to strengthen, relax and coordinate muscles.

Materials and methods: In this paper we analyze the functional results of rehabilitation of

patients with tongue cancer who underwent tumor resection and microvascular free flap reconstruction. Radial flap was used in 8 patients and ALT microvascular flap in 2 cases. 1 patient had T1 cancer, 6 had T2 cancer and 3 patients had T3 cancer. Speech diagnostics and assessment was carried out before surgery and in the early postoperative period. Voice status, objective assessment of voice, Voice handicap index, assessment of swallowing status were performed.

Results: The frequency of preoperative speech and swallowing disorders was found in 7 patients, and after surgery all patients had voice, speech and swallowing disorders of varying severity. A higher T stage of the tumor and larger range of tongue resection were risk factors for postoperative speech and swallowing disorders. Speech disorders were more severe in patients with a smaller residual tongue volume. Patients with an ALT flap had more severe forms of functional disorders.

Conclusions: Treatment of oral cancer is life saving. Rehabilitation of voice, speech and swallowing gives patients the possibility of independence and higher quality of life.

Key words: Tongue cancer; Speech and swallowing rehabilitation; Microvascular free flap; Voice therapy; Quality of life

P21 METASTATIC MIMICRY: PULMONARY LESIONS OF SCALP ANGIOSARCOMA HIDDEN BEHIND HISTIOCYTOSIS

Marko Tarle^{1,2}, Igor Čvrlijević¹, Koraljka Hat^{1,2}, Marko Lagančić^{1,3}, Jasna Fuček¹, Ivica Lukšić^{1,3}

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital,

Zagreb, Croatia; ²University of Zagreb School of Dental Medicine, Zagreb, Croatia;

³University of Zagreb, School of Medicine, Zagreb, Croatia

Introduction: Scalp angiosarcoma accounts for less than 1% of all malignant skin tumors but has an extremely aggressive course with a high mortality rate. It most commonly affects older adults, with a median age of around 70 years, and incidence increases with age. Metastases occur in 30-50% of cases, most frequently involving the lungs, liver, and bones. The prognosis for patients with metastatic angiosarcoma is very poor, with a five-year survival rate below 35%. The differential diagnosis of pulmonary metastases in angiosarcoma can be challenging, especially when radiological findings suggest other diseases, such as Langerhans cell histiocytosis, a rare lung condition that may mimic metastases.

Materials and Methods: We present a 65-year-old male patient who presented to our Department in 2022 with a scalp tumor measuring 15 x 12 cm, which had been growing for 18 months. The patient, a chronic smoker with a persistent dry cough, underwent CT scans of the head, neck, and chest. A biopsy of the scalp tumor confirmed primary scalp angiosarcoma (CD31, CD34, FVIII positive, 46 mitoses/10 HPF). A chest CT revealed multiple cystic lesions, initially interpreted as Langerhans cell histiocytosis. However, following a negative CD1a in bronchoalveolar lavage (BAL) and biopsy of the cystic lesions, metastatic angiosarcoma was confirmed.

Results: The primary tumor was surgically removed through scalp resection and microvascular reconstruction. After flap failure, reconstruction was completed with a split-thickness skin graft and Matriderm. Following confirmation of pulmonary metastases, the patient received adjuvant chemotherapy with doxorubicin. Despite treatment, the disease progressed, and the patient succumbed to disseminated angiosarcoma one year after diagnosis.

Conclusion: This case highlights the importance of differential diagnosis of cystic lung lesions in patients with scalp angiosarcoma. Histological confirmation of metastases is crucial for timely treatment. Early diagnosis and appropriate therapy are essential to improving outcomes in this rare and aggressive disease.

Key words: Scalp angiosarcoma; Pulmonary metastases; Differential diagnosis; Langerhans cell histiocytosis; Microvascular reconstruction

P22 HOW IMPORTANT IS PERICORONARY WISDOM TOOTH MICROBIOTA?

Zrinka Todorčić¹, Milan Milošević^{2,3}, Josip Biočić^{4,5}, Ivana Mareković^{4,5,6}

¹Clinical Hospital Sveti Duh, Zagreb, Croatia; ²Andrija Štampar School of Public Health, Zagreb, Croatia; ³University of Zagreb, School of Medicine, Zagreb, Croatia;

⁴Dubrava University Hospital, Zagreb, Croatia; ⁵University of Zagreb School of Dental Medicine, Zagreb, Croatia; ⁶University Hospital Centre Zagreb, Zagreb, Croatia

Introduction: Although the role of microbiota has been investigated in relation to different oral diseases, it is unknown if its composition has any effect on the course of recovery after third molar alveotomy. Our aim was to determine the influence of patient clinical characteristics as well as pericoronary microbiota composition on the course of recovery after a semi-impacted third molar alveotomy.

Materials and methods: Thirty-six patients were enrolled from March 2019 to October 2022 and samples including paper points, swabs, and tissue samples were analyzed by DNA hybridization and culture methods. Postoperative parameters of recovery (pain,

swelling and trismus) were monitored through a verified questionnaire as well as OHIP-CRO14, a standardized questionnaire measuring the quality of life and correlation with oral health, grading it from 1 to 4 (1—poor, 2—fair, 3—good, and 4—excellent).

Results: Among the 295 organisms detected, the most frequent were *Streptococcus* spp. (22.4%; 66/295) followed by *Fusobacterium* spp. (11.9%; 35/295), and *Tannerella forsythia* (9.1%; 27/295). A comparison of microbiota composition in patients with better and worse recovery did not show significant differences, although we demonstrate that worse recovery outcomes were more frequent with certain bacteria (Table 1.) Worse recovery outcomes were more frequent in patients with a grade 2 self-assessment of oral health ($p = 0.040$) and better recovery courses were observed in patients with a grade 4 self-assessment ($p = 0.0200$). A worse recovery course was statistically significant more frequently in patients with previous oral surgical procedures ($p = 0.019$).

Conclusions: Although we demonstrate that worse recovery outcomes were more frequent when certain bacteria were detected, there was no statistically significant difference. Further research is needed to identify microbial profiles specific to the development of worse outcomes after a third molar alveotomy.

Key words: Third molar alveotomy; Microbiota composition; Postoperative recovery; Oral health impact; Pericorony bacteria

Nurses' Oral Communications

N1 IMPLANT-PROSTHETIC REHABILITATION OF A PATIENT WITH MANDIBULAR MYXOMA: PERIOPERATIVE CARE

Dijana Ileković¹, Tina Čartolovni¹, Josip Biočić^{2,3}, Emil Dedio^{1,4}

¹Central Operating Unit, Dubrava University Hospital, Zagreb, Croatia;

²Department of Maxillofacial and Oral Surgery, Dubrava University Hospital,

Zagreb, Croatia; ³University of Zagreb School of Dental Medicine, Zagreb, Croatia;

⁴University of Zagreb, School of Medicine, Zagreb, Croatia

Introduction: Mandibular myxoma is a rare benign tumor that can cause significant deformities and functional impairments, requiring complex surgical and prosthetic interventions. We present the case of a 30-year-old female patient referred to our clinic for further evaluation after a biopsy of a lesion in the lower jaw performed at another institution. This study aims to describe the perioperative care and implant-prosthetic rehabilitation of a patient with mandibular myxoma.

Materials and Methods: After thorough clinical and radiological evaluation, the surgical team decided on enucleation and curettage of the tumor, involving the region from the left lower third molar to the right lateral incisor. A second surgical procedure was performed post-healing and included mandibular reconstruction using a titanium MESH, autologous graft from the iliac crest, xenograft (Bio-Oss, Switzerland), and PRGF (plasma rich in growth factors). Six months after the reconstruction, implant-prosthetic rehabilitation was carried out with three implants (AstraTech, Germany) and a fixed prosthetic restoration.

Results: The rehabilitation was successfully completed, with the patient showing proper healing and no complications. After six months of follow-up, the implants demonstrated stability and functionality, and the fixed prosthetic restoration provided normal chewing function and aesthetically satisfactory results. Key success factors included timely surgical intervention and precise implant placement.

Conclusion: This case highlights the importance of an interdisciplinary approach in treating complex maxillofacial defects. Timely surgical intervention, precise reconstruction, and detailed perioperative care are essential for optimal outcomes. The implant-prosthetic rehabilitation allowed functional and aesthetic recovery, underscoring the importance of individualized patient care.

Key words: Mandibular myxoma; Implant-prosthetic rehabilitation; Titanium MESH; PRGF; Maxillofacial surgery; Mandibular reconstruction

N2 SAFE AND EFFECTIVE HANDLING OF ANGLE INSTRUMENTS IN INTRAORAL TREATMENT OF MANDIBLE FRACTURES. OPERATING NURSE GUIDE

Alma Zlački¹

¹Central Operating Unit, Dubrava University Hospital, Zagreb, Croatia

Mandible fractures are among the most common fractures in maxillofacial surgery, often requiring specific approaches due to the complexity of the anatomical region. Intraoral osteosynthesis of mandibular fractures represents a significant challenge due to limited access and the need for precise handling of instruments, especially angular instruments that allow access to hard-to-reach parts of the jaw. Safe and efficient handling of these instruments is crucial to minimize the risk of injury to soft tissues, nerves and blood vessels, but also to achieve accurate repositioning and stabilization of fractured parts of the mandible. During intraoral access, a specialized set of angular instruments is used, which includes various hooks, instruments and grippers, allowing the surgeon to precisely manipulate

bone fragments with minimal invasion. The application of these instruments requires exceptional skill and knowledge of the anatomy of the mandible. Safety aspects of handling include the use of visual control through intraoral lighting and constant adjustment of the angle of the instrument to reduce pressure on surrounding tissues. For effective osteosynthesis, patient positioning and an approach that allows a stable display of the operative field are crucial. Also, the application of modern osteosynthesis materials, such as titanium plates and screws, can ensure a firm fixation and speed up the recovery process. The use of an intraoral camera and augmented reality in recent times has further improved the visualization and precision of the procedure, reducing the risk of complications. In conclusion, intraoral access to mandibular fractures using angular instruments can be a safe and effective method of treatment with proper technique, leading to faster recovery and a better outcome for the patient. Education and practice in handling these instruments is crucial for the success of the procedure for both the surgeon and the operating nurse.

Key words: Mandibular fractures; Intraoral osteosynthesis; Angular instruments; Maxillofacial surgery; Surgical precision

N3 CLINICAL FEATURES AND PROCEDURES IN PATIENTS WITH ORBITAL FRACTURE

Suzana Horvatić¹, Silvija Foršek¹

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia

Introduction: Orbital fractures are relatively common fractures of the maxillofacial region. Due to functional and/or aesthetic changes, timely recognition and appropriate treatment of orbital fracture is important in order to preserve and optimally restore visual function. Materials and methods: The diagnostic procedure of a traumatized and/or polytraumatized patient begins with the taking of anamnestic data by the doctor, the circumstances of the injury and the symptoms. After physical examination (double vision, periorbital edema and hematoma, exophthalmos...) MSCT of the eye cavity represents the gold standard in radiological diagnosis of orbital fracture. Orbital fractures can be isolated, or they can be diagnosed as part of more complex fractures. According to the localization of orbital fractures, they are divided into fractures of the bottom, roof, medial and lateral wall. According to the type of bone dislocation, they are divided into blow-out and blow-in fractures. The most common are blow-out fractures of the bottom of the orbit. Depending on the localization, extent and displacement of the fracture fragments, maxillofacial surgeon chooses the method of surgical treatment of the patient. The treatment approach is multidisciplinary. Perioperative health care includes interventions by nurses through preoperative, intraoperative and postoperative health care, including physical and psychological preparation and each patient is approached individually.

Conclusion: In patients with orbital fracture after surgical treatment performed by a doctor, the role of the nurse/technician as a member of the multidisciplinary team is extremely important during treatment, preoperative preparation, intraoperative and postoperative care, education of the patient and family. Nursing care during recovery after surgery is a key factor in achieving a comprehensive and successful return of the patient to normal functional status.

Key words: Orbital fracture; Multidisciplinary team; Nursing care

N4 APPLICATION OF HYDROFIBER AND HYDROCOLLOID COATINGS TO THE DONOR SITE WITH THIERSCH SKIN TRANSPLANTS

Sanja Franjkić¹, Antonia Simčić¹, Ljubica Nenadić¹

¹Maxillofacial and Oral Surgery Clinic, University Hospital Center Rijeka, Rijeka, Croatia

Introduction: A skin graft is a piece of tissue that has been removed from the donor site and transferred to the recipient site after excision of a tumor or trauma. It is separated from its own tissue supply, so the recipient site must be well-perfused to receive a skin graft. Thiersch is a thin skin graft with a partial skin thickness of 0.2 to 0.3 mm.

Materials and Methods: At the Clinic for Maxillofacial Surgery in Rijeka, during Thiersch skin transplantation, hydrofiber and hydrocolloid dressings are placed on the donor site at the end of the surgical procedure in most cases. Hydrofiber dressings are sterile dressings with very high absorbency, they cover the edges of the wound by 2 cm, they are changed usually every 3 days and require a secondary dressing. Hydrocolloid dressings are sterile absorbent dressings, primary or secondary, they cover the edges of the wound by 2 cm, they can stay for up to 7 days and they are available in thicker or thinner layers.

Results: After excision of the tumor, a defect remains on the receiving site and a substitute made of collagen and elastin is placed, followed by a skin graft, compression is done with a sponge for better adhesion and vascularization, and ultimately better acceptance of the graft.

Application of free skin grafts of partial skin thickness (*sec. Thiersch*) is a common way of reconstructing defects in the head and neck area without major complications and with a good outcome.

Conclusion: In our previous work with the donor site fold of Thiersch skin transplants, hydrofiber dressings as primary and hydrocolloid dressings as secondary proved to be the most effective. Applying these two types of dressings accelerates wound healing, prevents infection and reduces pain.

Keywords: Thiersch; Hydrofiber dressings; Hydrocolloid dressings

N5 HEALTHCARE FOR PATIENTS WITH TRACHEOSTOMY

Doroteja Tomašević¹, Dora Pekez¹, Jasna Fuček¹

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia

Healthcare for patients with tracheostomy encompasses a wide range of support and services. The process begins with the surgical procedure of tracheotomy, an invasive method that establishes and maintains an airway. This procedure is performed in cases such as complete upper airway obstructions, traumatic injuries to the head and neck, tumor formations in the head and neck region, and for patients requiring prolonged mechanical ventilation. During the procedure, a tracheal cannula, which may be made of plastic or silicone and comes in various shapes and sizes, is inserted into the tracheotomy opening to maintain airway patency. The opening created during tracheotomy is called a tracheostoma and may be temporary, long-term, or permanent, depending on the patient's condition. Given that the procedure is invasive, there is a risk of early and late complications, necessitating careful and responsible treatment and patient care. Nurses play a crucial role in providing comprehensive care for patients with tracheostomy. They are responsible for preoperative preparation, tracheostoma care, recognizing complications, and offering support to patients and their families through information and education. The aim of healthcare for tracheotomized patients is to ensure stability in their health condition, alleviate symptoms, and expedite recovery. Data on tracheotomy at the Department of Maxillofacial and Oral Surgery at Dubrava University Hospital, covering the period from 2020 to 2023, will be presented.

Key words: Tracheostomy care; Tracheotomy; Airway management; Nursing support; Patient recovery

N6 MULTIDISCIPLINARY APPROACH IN A PATIENT WITH LIP CANCER – CASE REPORT

Marina Hrišak¹, Suzana Palaković-Hasan¹

¹Department of Otorhinolaryngology and Head and Neck Surgery, University Hospital Center Zagreb, Zagreb, Croatia

Lip cancer typically develops at the border between the skin and mucosa, with the lower lip being more commonly affected. These cancers are usually squamous cell carcinomas that tend to metastasize to the neck and lungs. The main risk factors include alcohol consumption, smoking, and excessive exposure to sunlight or UV radiation. Additionally, men are at a higher risk of developing this cancer. This type of cancer is easily noticeable, straightforward to diagnose, and treatable. The first symptoms often include a change or ulceration on the lips, burning sensations, or lip pain. Early diagnosis is achieved through physical examination, medical history assessment, and biopsy of suspicious lesions. Radiological methods such as CT, MRI, and PET scans are used to evaluate disease spread and plan treatment accordingly. Each patient diagnosed with lip cancer is presented before an oncology treatment board, as in the case of the patient discussed here, who has an advanced and untreated lower lip carcinoma. A multidisciplinary team, including otorhinolaryngologists, oncologists, pathologists, radiologists, psychiatrists, speech therapists, and nurses, decides on the optimal treatment approach for each patient. If surgical intervention is required, as in the case presented, the role of nurses is to provide perioperative and postoperative care. Nursing care is based on holistic principles focused on the patient. The goal of nursing care, in coordination with other medical professionals such as physiotherapists, is to help the patient regain independence in meeting basic needs, achieving verticalization, and performing breathing exercises. A key priority in the postoperative phase is educating the patient about nutrition through a nasogastric tube and the care of the endotracheal cannula. The endotracheal cannula and the defect resulting from tumor removal represent both a physical and psychological trauma for the patient. Given the complex nature of these cases, which include aesthetic concerns and the profound life changes caused by the malignancy, psychological support is essential. The inclusion of a psychologist in the treatment team is necessary to help both the patient and their family cope with these challenges.

Key words: Lip carcinoma; Patient; Multidisciplinary team; Healthcare management

N7 MULTIDISCIPLINARY APPROACH IN THE TREATMENT OF CLEFT LIP AND/OR PALATE

Ana Lukačević¹, Barbara Raković¹

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia

Cleft lip and/or palate is a tissue defect caused by the separation of previously normally structured tissues. It is a congenital malformation of the face that occurs because of incomplete development of the lip and/or palate in the early weeks of pregnancy. Clefts make it difficult for the newborn to feed and breathe, and later affect the development of teeth, hearing and speech. Cleft treatment is exclusively surgical, long-term and involves several a multidisciplinary team. In the territory of the Republic of Croatia, cleft lip and/or palate operations are performed only at the Dubrava University Hospital. Successful repair of cleft lip and/or palate requires good coordination of all members of the multidisciplinary team. In every phase of treatment, a nurse is an indispensable member of the team. This thesis describes the importance of the nurse's role in the overall functioning of the multidisciplinary team and coordination among team members, and statistically processed data on the frequency of clefts, maternal age, genetic predisposition, and geographic location in the period from 2018 to 2022.

Key words: Cleft lip and/or palate; Multidisciplinary approach to treatment; Nurse's role; Cleft frequency

N8 CHILD HEALTHCARE WITH CLEFT LIP AND PALATE – THE ROLE OF THE NURSE

Valentina Dušak¹, Kristina Polanščak¹

¹Department of Maxillofacial and Oral Surgery, Dubrava University Hospital, Zagreb, Croatia

Cleft lips and palates are among the most common malformations in the head and neck area. They develop during the first three months of intrauterine life when the face and oral cavity are formed. The etiology is complex and is often thought to be caused by the interaction of genetic and environmental factors. Cleft lips primarily represent an aesthetic issue without significant functional difficulties, while cleft palates pose functional challenges, particularly with serious impairments in hearing and speech development if not treated effectively and in a timely manner. Treatment of cleft lips and palates requires a multidisciplinary team of specialists, where nurses play a crucial role. The nurse is an essential team member in the preoperative and postoperative care of children with clefts, as they implement interventions based on assessed needs and identified issues, which are important for effective health care evaluation. In preoperative care, the nurse's role includes taking medical history, assessing the child's health status, reviewing test results, and supplementing them if necessary. This preparation phase also involves providing psychological and emotional support to help the child and parents adjust to the new environment. In accordance with the anesthesiologist's decision regarding preoperative fasting, the nurse wakes the parents during the night to assist with the "last meal." On the day of surgery, approximately 30 minutes before the procedure, the nurse administers premedication to the child. Upon the child's return from the operating room, postoperative care begins, which includes: dressing the child, applying immobilizers on both arms, positioning the child for drainage, monitoring the surgical site, administering analgesics if not given in the operating room, checking consciousness, measuring vital signs, assisting with feeding, and educating the parents about the recovery process. In the case of lip surgery, the nurse performs suture care 2-3 times a day. After palate surgery, it is crucial to ensure sufficient fluid intake, including giving the child fluids after every meal, to rinse the oral cavity and remove food debris around the sutures in the palate. Given that the nurse is present in every segment of preoperative and postoperative care, it can be concluded that their contribution is of immense importance to the final outcome of treatment.

Key words: Cleft lip and palate; Multidisciplinary care; Preoperative nursing; Postoperative nursing; Pediatric healthcare

N9 IMPORTANCE OF PSYCHOLOGICAL CARE OF PATIENTS BEFORE AND AFTER "COMMANDO" OPERATION

Mia Gabelica¹, Ivna Župić¹

¹Department of Maxillofacial Surgery, University Hospital of Split, Split, Croatia

Introduction: Commando operation is the name for the procedure to remove the primary intraoral tumor with neck lymphadenectomy. The operation also includes the resection of part of the lower jaw, which leaves a significant aesthetic defect on the patient. Due to such an extensive procedure, but also a long recovery, the patient needs to be mentally prepared. A multidisciplinary approach (surgeon, psychologist, physiotherapist, nurse) can and should provide the best psychological preparation and support to the patient. Elaboration: Since the patient experiences stressful conditions caused by changes in physical appearance, feeding and breathing, the nurse must have basic knowledge of psychology in order to be able to react in a timely manner to the psychological changes of the patients

she cares for. In the last thirty years, various theories and researches have emphasized the importance of psychological care in nursing. Nichols Keith defines psychological care as “providing direct assistance and continuous support to the client, while they are dealing with reactions to a serious illness”. It lists three levels of psychological care. The first level is talking and listening to the patient, that is, assessing the psychological state. Level two includes information, counseling and education about the new way of life. Level three is an advanced level of psychological support in the form of psychotherapy carried out by specialized staff.

Conclusion: In the 21st century, emphasis has been placed not only on identifying and solving physical needs in the case of illness, but also on psychological needs. Although guidelines and strategies are constantly published to ensure the necessary psychological preparation of patients, staff shortages and time constraints at all levels of health care make it difficult to provide adequate care.

Key words: Commando operation; Psychological support; Multidisciplinary approach; Nursing care; Patient rehabilitation