

PROGRAM & ABSTRACT BOOK

EAOM 2021

E-CONGRESS

SEPTEMBER 24 - 25, 2021

15TH BIENNIAL CONGRESS
EUROPEAN ASSOCIATION
OF ORAL MEDICINE

DAY 1 (FRIDAY, 24TH SEPTEMBER)

Time	Topic – ROOM 1	Topic – ROOM 2
08H00 - 08H15	<p>Congress Opening</p> <ul style="list-style-type: none"> • Nikolaos Nikitakis (President EAOM) and Antonio Azul (Chair Local Organizing Committee) 	
08h15 - 09h00	<p>“Crispian Scully Lecture” by Peter A. Brennan (UK)</p> <ul style="list-style-type: none"> • Human factors - the art of applying common sense at work when treating oral cancer 	
09h00 - 13h00	<p>09h00 - 13h00 OPMD and oral cancer Moderators: Antonio Azul and Saman Warnakulasuriya</p> <ul style="list-style-type: none"> • 09h00 - The public health program for oral cancer detection in Portugal – Pedro Trancoso (Portugal) • 09h25 - Screening for OPMDs and oral cancer – Giovanni Lodi (Italy) • 09h50 - Adjunctive tools in the diagnosis of OPMD with a focus on contact endoscopy – Luis Monteiro (Portugal) • 10h15 - Risk stratification of oral leukoplakia – Saman Warnakulasuriya (UK) • 10h40 - 11h00: Break • 11h00 - Oral lichen planus as an oral potentially malignant disorder – Miguel Gonzales Moles (Spain) • 11h30 - Sentinel lymph node biopsy in the management of oral cancer – Abel Garcia (Spain) • 12h15 - Discussion 	<p>09h00 - 11h00 Medically compromised patients. New insights in... Moderators: Pedro Diz Dios and Konstantina Delli</p> <ul style="list-style-type: none"> • 09h00 - ...dental management of solid organ transplant patients – Jukka Meurman (Finland) • 09h25 - ...dental management of patients with head and neck cancer – Marcio Diniz-Freitas (Spain) • 09h50 - ...oral features of rheumatic diseases – from disease activity to drug adverse events – Luis Gueiros (Brazil) • 10h15 - ...antibiotic prophylaxis prescribing for medically compromised patients undergoing invasive dental procedures – Martin Thornhill (UK) • 10h35 - ...the association between periodontal disease and diabetes – Francesco D’Aiuto (UK) • 11h00 - 11h15: Coffee Break 11h15 - 13h15 Oral Presentations (research) Moderators: Michael Escudier and Filipe Freitas • 11h15 - Development of a multi-cellular tissue engineered model of oral lichen planus - Asma Muftah Mohamed El Howati (UK) • 11h30 - Expression profiling of miRNAs in Oral Lichen Planus - Heba Mousa Ali (UK) • 11h45 - Predicting malignant progression in oral potentially malignant disorders by DNA ploidy analysis: a prospective study comparing oral leukoplakia and proliferative verrucous leukoplakia - Monica Pentenero (Italy) • 12h00 - Next-Generation Sequencing Profiles of the RNA Transcriptome in Peripheral Blood Mononuclear Cells in Young Female Patients with Temporomandibular Joint Osteoarthritis: possible contribution of immunological dysfunction - Jeong-Hyun Kang (Republic of Korea)

Time	Topic – ROOM 1	Topic – ROOM 2
		<p>12h15 - Expression of pancreatic transcription factors by minor salivary gland stem cells. A challenge for insulin-secreting b-cell lineage trans-differentiation.- Dimitrios Andreadis (Greece)</p> <p>• 12h30 - Oral cancer prediction by noninvasive genetic screening - Jos Poell (the Netherlands) • 12h45 - The genetic profile of oral leukoplakia and its relation to malignant progression. - Leon Wils (the Netherlands) • 13h00 - Mucosal immune response in BNT162b2 COVID-19 vaccine recipients - Lorenzo Azzi (Italy)</p> <p>10 min presentation + 5 min discussion</p>

13h00 - 13h00 - Lunch Break
13h15

13h15 - Lunch Break

14h00 - Immune mediated oral diseases
17h00 **Moderators: Marco Carrozzo and Jairo Robledo**

- **14h00** - Immunobiologic therapy for MMP – Michele Mignogna (Italy)
- **14h25** - Immunobiologic therapy for PV– Jane Setterfield (UK)
- **14h50** - Oral microbiome and immune-mediated oral diseases : Aphthous stomatitis – Karolin Hijazi (UK)
- **15h15** - 15h45: Coffee Break
- **15h45** - Microbiome in Sjogren's syndrome – Arjan Vissink (the Netherlands)
- **16h10** - Current concepts in the topical treatment of OLP – Nathaniel Treister (USA)
- **16h35** - Current concepts in the systemic treatment of OLP – Marco Carrozzo (UK)
- **17h00** - Discussion

Clinical Pathological Session
Moderators: Marco Meleti and Pedro Trancoso

- **14h00** - Case 1. Intra/extraoral swelling. Contributor: Arvind Muthukrishnan (India) – Discussant: Ronell Bologna-Molina (Uruguay).
- **14h20** - Case 2. Gingival enlargement. Contributor: Umberto Romeo (Italy) – Discussant: Vasilis Theofilou (Greece)
- **14h40** - Case 3. Gingival ulcerations. Contributor: **Kıvanç Bektaş Kayhan (Turkey)** - Discussant: Ana Carolina Fragoso Motta (Brazil)
- **15h00** - Case 4. White and red patches/erosions. Contributor: Andrea Maria Schmidt-Westhausen (Germany) - Discussant: Stefania Leuci (Italy))
- **15h20** - Case 5. Erythematous gingival lesion. Contributor: Rosa María López Pintor Muñoz (Spain) – Discussant: Maria Georgaki (Greece)
- **15h40** - Case 6. Palatal ulceration. Contributor: Amanda Willis (United Kingdom) - Discussant: Monika Schwaninger (Austria)
- **16h00** - Case 7. White and red patches. Contributor: Maria Bankvall (Sweden) – Discussant: Jumana Karasneh (Jordan)
- **16h20** - Case 8. Oral swelling. Contributor: Karin Garming-Legert (Sweden) – Discussant: Sangeetha Yogarajah (United Kingdom)
- **16h40** - Discussion

Time	Topic – ROOM 1	Topic – ROOM 2
24h – 24h	Oral Presentations (Research and Clinical) 24h/24h	Poster Presentations 24h/24h

DAY 2 (SATURDAY, 25TH SEPTEMBER)

Time	Topic – ROOM 1	Topic – ROOM 2
08H00 - 11H00	<p>08h00 - 11h00 Molecular aspects of oral leukoplakia and their influence on its diagnosis and management Moderators: Camile Farah and Barbara Carey</p> <ul style="list-style-type: none"> • 08h00 - Prognostic biomarkers of oral leukoplakia: evidence and outcomes from systematic reviews. - Antonio Celentano (Australia) • 08h25 - Correlation between molecular markers and histopathological features of oral leukoplakia. - Nikolaos Nikitakis (Greece) • 08h50 - Diagnostic microRNA profile of oral leukoplakia. - Tami Yap (Australia) • 09h15 - Molecular biomarkers of malignant transformation in oral leukoplakia. - Michael McCullough (Australia) • 09h40 - Salivary metabolomics and oral leukoplakia. - Marco Meleti (Italy) • 10h05 - Exomic and transcriptomic profile of oral leukoplakia; have we arrived at a paradigm shift? - Camile Farah (Australia) 	<p>08h00 - 11h00 Oral presentations (clinical) Moderators: Antonio Azul and Athanasios Pouloupoulos</p> <ul style="list-style-type: none"> • 08h00 - Paraneoplastic mucous membrane pemphigoid - Sangeetha Yogarajah (UK) • 08h15 - Assessment of patient-clinician agreement on information needs about oral epithelial dysplasia - Abdullah Alsoghier (UK) • 08h30 - Burning-fog: Cognitive impairment in Burning Mouth Syndrome - Daniela Adamo (Italy) • 08h45 - Lesion-related determinants for surgical treatment of oral leukoplakia: Oral Medicine Practitioners' attitudes - Samuele Sutura (Italy) • 09h00 - A service evaluation of treatment of erosive oral lichen planus at Newcastle Dental Hospital - Samuel McCarthy (UK) • 09h15 - Patterns and predictors of recurrence in oral leukoplakia: An immunohistochemical study - Maria Georgaki (Greece) • 09h45 - Salivary Gland Hypofunction and/or Xerostomia Induced by Non-Surgical Cancer Therapies: ISOO/MASCC/ASCO Guideline - Valeria Mercadante (UK) • 10h00 - The development of Proliferative Verrucous Leukoplakia on a background of Oral Lichen Planus: A case series - Caroline McCarthy (UK) • 10h15 - Cheilitis Glandularis: A series of 14 cases with emphasis on etiopathogenesis. - Evangelia Piperi (Greece) <p>10 min presentation + 5 min discussion</p>
10H45 - 11h00	Break	Break
11h00 - 13h00	General Assembly of the EAOM	Room closed
	13h00 – 1400 Lunch Break	13h00 - 15h00 – Lunch Break
14h00	<p>14h00 - 15h30 European Cooperation Clinical Research Moderators: Camile Farah and Barbara Carey</p> <ul style="list-style-type: none"> • 14:00h - Multicentre Clinical studies: the good, the bad and the ugly – Stefano Fedele (UK) 	<p>15h00 - 17h30 Systemic diseases and the mouth Moderators: Michael Escudier and Stephen Flint</p> <ul style="list-style-type: none"> • 15:00h - Oral side effects of various systemic medications – Michael Escudier

Time	Topic – ROOM 1	Topic – ROOM 2
	<ul style="list-style-type: none"> • 14:25h - The design, funding, setting-up and delivery of Pan-European collaborative research – Andy Wolff (Israel) • 14:50h - Global clinical trials in Oral Medicine: how it is done by the Industry. Lars Siim Madsen, Chief Operating Officer, Afyx Therapeutics (Denmark). • 15:15h – Discussion <p>• 15:35 h - 16h00: Coffee Break</p> <p>16h00 - 17h30 Panel on Global Cooperation in Oral Medicine Moderators: Nikolaos Nikitakis and Luis Monteiro</p> <ul style="list-style-type: none"> • 16:00 - Nikolaos G. Nikitakis (EAOM President) • 16:10 - Andres Pinto (AAOM President) • 16:20 - Fabio Pires (AIPMB President) • 16:30 - Arwa Farag (WWOM Representative) • 16:40 - Ramesh Balasubramaniam (OMAA President) <ul style="list-style-type: none"> • 16:50 - 17:30 Discussion Panel: Our Guest Speakers and Marco Carozzo (Past EAOM President), Michael Escudier (EAOM President Elect), Jairo Robledo (EAOM Secretary-General), Antonio Mano Azul and Luis Monteiro (Chair and Co-Chair Local Organizing Committee) 	<p>15:25h - Medication-related osteonecrosis of the jaws – Paolo Vescovi (Italy)</p> <ul style="list-style-type: none"> • 15:50 h - 16h15: Coffee Break • 16:15h - Covid 19 : Implications for Oral Medicine – Stephen Porter (UK) • 16:40h - Oral complications of antineoplastic treatment - Sook-Bin Woo (USA) <ul style="list-style-type: none"> • 17:05h - 17h20 - Discussion
17h30	Next EAOM meeting presentation	
17h45	Closing of the Congress - Awards	
Time	Topic – ROOM 1	Topic – ROOM 2
24h-24h	Oral Presentations (Research and Clinical) 24h/24h	Poster Presentations 24h/24h

Oral Presentation

Aphthous stomatitis ID: 4941 - Expression profiling of miRNAs in Oral Lichen Planus Heba Mousa Ali	22
Bullous or Immuno-bullous disorders and other immune-mediated diseases ID: 4838 - Development of a multi-cellular tissue engineered model of oral lichen planus Asma Muftah Mohamed El Howati	22
Bullous or Immuno-bullous disorders and other immune-mediated diseases ID: 4845 - Erythema Multiforme-Like Lips Presentation in Pemphigus Vulgaris Patients: A Case Series Sara Waheeb	23
Bullous or Immuno-bullous disorders and other immune-mediated diseases ID: 4865 - IgG4-related disease: A case series of four patients in Oral Medicine Sandeep Joshi.....	24
Bullous or Immuno-bullous disorders and other immune-mediated diseases ID: 4892 - Paraneoplastic mucous membrane pemphigoid Sangeetha Yogarajah.....	25
Burning mouth syndrome ID: 4914 - Burning-fog: Cognitive impairment in Burning Mouth Syndrome Daniela Adamo.....	25
Cancer and cancer therapy ID: 3240 - Inhibition of 4NQO-induced oral squamous cell carcinoma progression by novel TGF- β inhibitors and PD-L1 antibodies Nils Ludwig.....	26
Cancer and cancer therapy ID: 4988 - Oral Cavity Malignant Lymphomas Are Exceptionally Rare, Highly Aggressive and Are Most Commonly A Sign Of Relapse – A Ten Year Retrospective Analysis In A Single Institution Tal Berg.....	27
Infectious diseases/HIV ID: 4992 - Mucosal immune response in BNT162b2 COVID-19 vaccine recipients Lorenzo Azzi	28
Oral leukoplakia and other potentially malignant disorders ID: 4828 - Oral Leukoplakia Classification and Staging System with Incorporation of Differentiated Dysplasia Elisabeth Brouns.....	28
Oral leukoplakia and other potentially malignant disorders ID: 4913 - Assessment of patient-clinician agreement on information needs about oral epithelial dysplasia Abdullah Alsoghier.....	29

Oral leukoplakia and other potentially malignant disorders ID: 4921 - Oral cancer prediction by noninvasive genetic screening Jos Poell	30
Oral leukoplakia and other potentially malignant disorders ID: 4931 - The genetic profile of oral leukoplakia and its relation to malignant progression Leon Wils	31
Oral leukoplakia and other potentially malignant disorders ID: 5018 - The development of Proliferative Verrucous Leukoplakia on a background of Oral Lichen Planus: A case series Caroline McCarthy	31
Oral leukoplakia and other potentially malignant disorders ID: 5030 - Lesion-related determinants for surgical treatment of oral leukoplakia: Oral Medicine Practitioners' attitudes Samuele Sutera.....	32
Oral leukoplakia and other potentially malignant disorders ID: 5041 - Immune expression profile in proliferative verrucous leukoplakia Alex Proaño	33
Oral leukoplakia and other potentially malignant disorders ID: 5067 - Predicting malignant progression in oral potentially malignant disorders by DNA ploidy analysis: a prospective study comparing oral leukoplakia and proliferative verrucous leukoplakia Monica Pentenero.....	34
Oral leukoplakia and other potentially malignant disorders ID: 5076 - Patterns and predictors of recurrence in oral leukoplakia: An immunohistochemical study Maria Georgaki	35
Oral lichenoid lesions ID: 5046 - A service evaluation of treatment of erosive oral lichen planus at Newcastle Dental Hospital Samuel McCarthy.....	36
Orofacial pain/temporomandibular disorders (TMD) ID: 4052 - Next-Generation Sequencing Profiles of the RNA Transcriptome in Peripheral Blood Mononuclear Cells in Young Female Patients with Temporomandibular Joint Osteoarthritis: possible contribution of immunological dysfunction Jeong-Hyun Kang	37
Other oral mucosal lesions ID: 5077 - Cheilitis Glandularis: A series of 14 cases with emphasis on etiopathogenesis Evangelia Piperi	37
Other topics ID: 4891 - Expression of pancreatic transcription factors by minor salivary gland stem cells. A challenge for insulin-secreting b-cell lineage trans-differentiation Achilleia-Maria Pavlou	38

Saliva/salivary gland disorders

ID: 4822 - Salivary Flow Rates are associated with Major Salivary Gland Involvement evaluated by OMERACT Ultrasonography Scoring in Patients with Primary Sjögren Syndrome
Gonca Mumcu 39

POSTERS

Aphthous stomatitis

ID: 4863 - The use of thalidomide in the management of oral ulceration
Katherine Eccles 42

Aphthous stomatitis

ID: 4878 - A feasibility study for treatment of hematinic deficiencies in recurrent aphthous stomatitis with AfteNova multivitamin
Maria Bankvall 42

Aphthous stomatitis

ID: 4887 - Escalation to systemic medications in the management of paediatric recurrent aphthous stomatitis (RAS): two case reports
Priya Thakrar 43

Aphthous stomatitis

ID: 4975 - The role of herpes group viruses in the pathogenesis of aphthous stomatitis
Jagriti Kakar 44

Aphthous stomatitis

ID: 4978 - The Impact of A Diagnostic Dilemma On Mental Health
Pavneet Chana 45

Aphthous stomatitis

ID: 5001 - Efficacy of Hyaluronic Acid on pain control in Aphthous ulcers. Systematic Review and Meta-analysis
Luis Alberto Moreno-López 45

Behavioural dentistry

ID: 5018 - La asignatura de medicina oral en la prevención del cáncer oral en alumnos de Odontología
Catalina Barba Montero 46

Bullous or Immuno-bullous disorders and other immune-mediated diseases

ID: 3768 - Management of chronic oral Graft versus host disease: A systematic review
Alaa Shousha 47

Bullous or Immuno-bullous disorders and other immune-mediated diseases

ID: 4824 - Isolated oral vasculitis: the challenges encountered
Molly Harte 47

Bullous or Immuno-bullous disorders and other immune-mediated diseases

ID: 4875 - Web-based information on Sjogren's syndrome - Quality and Readability
Sara AlBassam 48

Bullous or Immuno-bullous disorders and other immune-mediated diseases ID: 4912 - Sequential IgG autoantibody titres in laminin 332 confirmed mucous membrane pemphigoid and their relationship to oral disease severity Ali Alqarni	49
Bullous or Immuno-bullous disorders and other immune-mediated diseases ID: 4924 - Erythema Multiforme: a case report Isabel Ventura	50
Bullous or Immuno-bullous disorders and other immune-mediated diseases ID: 4930 - Sleep disturbance and psychological profile in pemphigus vulgaris patients: a case-control clinical study Elena Calabria	50
Bullous or Immuno-bullous disorders and other immune-mediated diseases ID: 4953 - Oral mucosal lesions in psoriatic patients with different therapy regimes Maria Olejnik	51
Bullous or Immuno-bullous disorders and other immune-mediated diseases ID: 5027 - Oral symptoms and oral mucosal lesions in patients with inflammatory bowel disease treated with anti-TNF-alpha Miranda Muhvic Urek	52
Bullous or Immuno-bullous disorders and other immune-mediated diseases ID: 5031 - Mucous Membrane Pemphigoid (MMP). A clinicopathologic analysis of 62 patients with oral manifestations Efi Stergiadou.....	52
Bullous or Immuno-bullous disorders and other immune-mediated diseases ID: 5053 - An evaluation of therapeutic interventions for Mucous Membrane Pemphigoid in a tertiary blistering disease service Richard Walton	53
Bullous or Immuno-bullous disorders and other immune-mediated diseases ID: 5056 - Oral manifestations as the first presenting sign of Crohn's disease in a pediatric patient Ioanna Tsouri	54
Burning mouth syndrome ID: 4051 - Comparison of different therapeutic options for treatment of burning mouth syndrome Bozana Loncar Brzak	55
Burning mouth syndrome ID: 4064 - The Psychological Impact of Pain Intensity and Qualities in Burning Mouth Syndrome Patients Pavneet Chana	56
Burning mouth syndrome ID: 4825 - Taste and smell in Response in Burning Mouth Syndrome Pia Lopez- Jornet	57
Cancer and cancer therapy ID: 4803 - Multidisciplinary management of a Paediatric case of oral graft versus host disease Adam Bhanji.....	57

Cancer and cancer therapy	
ID: 4847 - Metastatic oral malignant neoplasms. A case report and brief review of the literature	
Apostolos Matiakis.....	58
Cancer and cancer therapy	
ID: 4877 - Hepatocellular Carcinoma Metastasis at Oral Cavity: a Case Report	
Filipa Contente.....	59
Cancer and cancer therapy	
ID: 4893 - Haematological malignancies presenting as atypical oral swellings	
Sangeetha Yogarajah.....	59
Cancer and cancer therapy	
ID: 4911 - DCC hypermethylation in oscc and oral leukoplakia	
Athanasios Pouloupoulos.....	60
Cancer and cancer therapy	
ID: 4916 - Efficacy of Prunus Armeniaca on Oral Squamous cell carcinoma Cell Line: An Ex-Vivo study	
Maha Abdelkawy.....	61
Cancer and cancer therapy	
ID: 4922 - Primary presentation in the oral cavity of non-Hodgkin lymphoma – case report	
Ana Teresa Coelho	62
Cancer and cancer therapy	
ID: 4940 - An extra- and intra-oral swelling in a patient with primary Sjögren's syndrome	
Christopher Platais	62
Cancer and cancer therapy	
ID: 4950 - A rare presentation of a primary MALT lymphoma of the lower lip	
Fabienne Aurora	63
Cancer and cancer therapy	
ID: 4972: Anticoagulant-dependent cellular cytotoxicity on oral squamous cell carcinoma cells in vitro	
Li-Qiao Ling	64
Cancer and cancer therapy	
ID: 4990: Atypical presentation of sclerosing basal cell carcinoma	
Diana E. Ramos Peña	65
Cancer and cancer therapy	
ID: 5005 - Obestatin reduces oral mucosa inflammation in rat model. A potential candidate for Oral Mucositis treatment	
Agnieszka Stempniewicz	66
Cancer and cancer therapy	
ID: 5006: Oral SCC - Can you spot it?	
Merendeep Basra	67
Cancer and cancer therapy	
id: 5011 - Identifying the range of patient reported outcome measures in osteoradionecrosis literature	
Niaz Shokri	67

Cancer and cancer therapy	
ID: 5021 - Malignant transformation of oral submucous fibrosis into papillary squamous cell carcinoma in a betel chewer: a case report	
Paula Maria Leite	68
Cancer and cancer therapy	
ID: 5025 - Oral mucosal involvement in classic kaposi sarcoma – a rare case report	
Cristina Rodrigues Barros.....	69
Cancer and cancer therapy	
ID: 5026 - Exploring clinical manifestations of chemotherapy and radiation therapy-related oral and oropharyngeal mucositis	
Michelle Kang.....	70
Cancer and cancer therapy	
ID: 5034 - MLH1, MSH2, MRE11, and XRCC1 in Oral Leukoplakia and Oral Squamous Cell Carcinoma	
Alba Pérez González.....	70
Cancer and cancer therapy	
ID: 5035 - Evaluation of epidemiological variables in surveillance of labial and intraoral cancer in Region of Madrid. Analysis of data from Registro de Tumores of Madrid, RTMAD: 2014-2019	
Luis Alberto Moreno-López	71
Cancer and cancer therapy	
ID: 5049 - Oral squamous cell carcinoma patients with other malignancies: a descriptive analysis	
Iñaut Amezaga Fernandez.....	72
Cancer and cancer therapy	
ID: 5064 - Clinical-pathological characteristics of oral papillary squamous cell carcinoma. Systematic review	
Asmae Talbaoui	73
Cancer and cancer therapy	
ID: 5065 - A nodular gingival tumefaction as a manifestation of a B cell Lymphoma – a case report	
Eduardo Barreira	73
Cancer and cancer therapy	
ID: 5071 - Oral Manifestations of The Acute Myeloid Leukemia: A Case Report	
Olga Vascan.....	74
Cancer and cancer therapy	
ID: 5072 - pS6 Ser235/236 as a prognostic biomarker in canine oral squamous cell carcinoma	
Leonor Delgado.....	75
Cancer and cancer therapy	
ID: 5073 - Oral leiomyosarcoma presenting as an “gingival growth” – a case report	
Rita Cerqueira	76
Dental management of medically compromised patients	
ID: 4910 - Dental workup of oncology patients before bisphosphonate therapy - retrospective study	
Vlaho Brailo.....	76

Dental management of medically compromised patients ID: 4939 - Stomatological management of solid organ pre-transplant patients Cristina Rodrigues Barros.....	77
Dental management of medically compromised patients ID: 5002 - The influence of cognitive state and physical abilities on dental status among Israeli community-dwelling elderly people Osnat Grinstein-Koren	78
Dental management of medically compromised patients ID: 5022 - Hypocoagulation and dental procedures - A survey on practices of portuguese dentists Catarina Pinto	79
Dental management of medically compromised patients ID: 5045 - Oral Tissue Healing Using Laser Biostimulation in Diabetes Mellitus Patients with Denture Candidiasis George-Alexandru Maftai	79
Dental management of medically compromised patients ID: 5050 - Dental management of anticoagulated patients: What does the health care population know about it? Clara Lopez	80
Diagnostics/laboratory medicine ID: 4043 - The effect of subpressure on the accuracy of bioimpedance measurements of the oral mucosa Ivica Richter	81
Diagnostics/laboratory medicine ID: 4898 - Brush biopsy as a reliable and simple adjuvant diagnostic procedure for oral mucosal lesions' diagnosis Ana Pucar	82
Diagnostics/laboratory medicine ID: 5003 - A rare case of pulmonary empyema caused by campylobacter rectus Luísa Figueiredo.....	82
Diagnostics/laboratory medicine ID: 5036 - Descending necrotizing mediastinitis: a case report of a severe odontogenic infection Catarina Machado Ferreira	83
Imaging ID: 4059 - Age-Group Determination Using the First Molar X-ray Images based on Artificial Intelligence Yeon-Hee Lee	84
Infectious diseases/HIV ID: 4804 - Sore Throat and Voice Change – What's Up, Doc? Melanie Simms.....	85

Infectious diseases/HIV ID: 4870 - Oral hairy leukoplakia treated with valacyclovir Vignesh Murthy	85
Infectious diseases/HIV ID: 4946 - From a persistent oral ulcer to hidden tuberculosis Ana Teresa Tavares	86
Infectious diseases/HIV ID: 4976 - Case Reports: Acquired Syphilis' Oral Manifestations Filipa Contente.....	87
Infectious diseases/HIV ID: 5057 - Herpes zoster involving the maxillary branch of the trigeminal nerve: a case report Catarina Ferreira	87
Medical management/pharmacology ID: 4826 - Orofacial Granulomatosis complicated by late-onset Ornithine Transcarbamylase deficiency Shalini Nayee	88
Oral complications of drugs ID: 4042 - Aphthous-like ulcers following vemurafenib-cobimetinib therapy of malignant melanoma Stepan Podzimek.....	89
Oral complications of drugs ID: 4970 - Ibrutinib Induced Lichenoid Reaction Noa Stempler	90
Oral complications of drugs ID: 5008 - Spontaneous osteonecrosis of the jaws with oral bisphosphonates? - A case report André Pereira	90
Oral complications of drugs ID: 5010 - Outcomes and outcome measures of clinical studies of MRONJ – a systematic review Ashwaq Almutairi.....	91
Oral complications of drugs ID: 5037 - Mucocutaneous ulcer EBV positive: a clinical manifestation of the lymphoproliferative process associated with immunosuppression in the management of rheumatoid arthritis - a case report Gisela Cristina Vianna Camolesi	92
Oral complications of drugs ID: 5069 - The use of the Integra Dermal Regeneration Template in medication-related osteonecrosis of the jaw Rui Seixas	93
Oral leukoplakia and other potentially malignant disorders ID: 4058 - Oral manifestations as an early clinical sign of haematological disorders. Report of two clinical cases María Victoria Baltasar Corral.....	93

Oral leukoplakia and other potentially malignant disorders ID: 4841 - Associations between clinical and histopathological characteristics in oral leukoplakia Ilkay Evren	94
Oral leukoplakia and other potentially malignant disorders ID: 4842 - A simple brushing method to study the oral mucosa of patients with inflammatory and chronic pain disorders Jairo Robledo-Sierra	95
Oral leukoplakia and other potentially malignant disorders ID: 4853 - Prognosis of oral epithelial dysplasia in individuals with oral lichen planus Kununya Pimolbutr	96
Oral leukoplakia and other potentially malignant disorders ID: 4868 - Development of a European-wide E-learning tool on the topic of “Oral Potentially Malignant Disorders for Healthcare Professionals ” Cameron Herbert	97
Oral leukoplakia and other potentially malignant disorders ID: 4954 - Immunohistochemical expression of cancer stem cell markers CD147 and ALDH in oral leukoplakias and oral squamous cell carcinomas Vasileios Zisis	98
Oral leukoplakia and other potentially malignant disorders ID: 4983 - EZH2 Expression in Submucosal Infiltrate Predicts Cancer Development in Oral Leukoplakia Divya Ganesh	99
Oral leukoplakia and other potentially malignant disorders ID: 5019 - Proliferative verrucous leukoplakia: a case report Paula Maria Leite	99
Oral leukoplakia and other potentially malignant disorders ID: 5020 - Oral leukoplakia and erythroleukoplakia: a case report Filipa Veiga	100
Oral leukoplakia and other potentially malignant disorders ID: 5033 - Profile of patients with oral leukoplakia visiting Oral Pathology unit Miglena Balcheva	101
Oral leukoplakia and other potentially malignant disorders ID: 5043 - Study of the incidence of carcinomas in a group of 21 patients with proliferative verrucous leukoplakia Miriam Sarmiento Carrera	101
Oral leukoplakia and other potentially malignant disorders ID: 5062 - Expression of CD44 in potentially premalignant oral epithelial lesion – leukoplakia Madara Dzudzilo	102
Oral leukoplakia and other potentially malignant disorders ID: 5063 - Oral Lichen Planus and Proliferative Verrucous Leukoplakia: do they come from the same clinicopathological process? Noelia Otero Gayoso	103

Oral lichenoid lesions	
ID: 4837 - Metaproteomic and metagenomic profiling of the oral microbiome in oral lichen planus	
Maria Bankvall	104
Oral lichenoid lesions	
ID: 4882 - A provide healthy attached gingiva around the implant using the modified Kazanjian technique- A Case Report	
Meltem Koray	104
Oral lichenoid lesions	
ID: 4906 - A deep learning algorithm for classification of oral lichenoid lesions from photographic images: A retrospective study	
Gaye Keser	105
Oral lichenoid lesions	
ID: 4927 - Immunohistopathological Profiling of Oral Mucosal Chronic Graft-versus-Host Disease	
Victor Tollemar	106
Oral lichenoid lesions	
ID: 5016 - Clinical characteristics of 253 patients with lichen planus with oral and cutaneous lesions – single center retrospective analysis	
Vladimíra Radochová.....	107
Orofacial pain/temporomandibular disorders (TMD)	
ID: 3789 - The Correlation Between Objective Clinical Symptoms and Different MRI Sequences In Temporomandibular Joint Disorders	
Tal Berg	108
Orofacial pain/temporomandibular disorders (TMD)	
ID: 4055 - Comparison of stabilization and placebo splint effect on psychological aspects and oxidative stress in chronic temporomandibular disorders	
Ema Vrbanovic	109
Orofacial pain/temporomandibular disorders (TMD)	
ID: 4886 - Facial Pain - the importance of multi-disciplinary working	
Priya Thakrar.....	110
Orofacial pain/temporomandibular disorders (TMD)	
ID: 5007 - Temporomandibular Disorder in a Patient with Nemaline Myopathy	
Andres Davila	110
Orofacial pain/temporomandibular disorders (TMD)	
ID: 5029 - Patient Reported Outcome Measures (PROMs) used in temporomandibular disorders (TMD). A review of the literature	
Dina Taimeh	111
Orofacial pain/temporomandibular disorders (TMD)	
ID: 5058 - Orofacial pain leading to diagnosis of pituitary lesion: a case report	
Christina Tran	112
Other oral mucosal lesions	
ID: 4041 - Recurrent form of oral candidiasis in liver transplant recipient	
Marketa Janovska.....	113

Other oral mucosal lesions	
ID: 4866 - Analysis of Risk Factors for Prosthesis-Related Oral Mucosal Lesions: A Retrospective Study	
Nuran Bayramov	114
Other oral mucosal lesions	
ID: 4874 - Sclerotherapy of oral venous malformations with polidocanol	
Ana Teresa Coelho	115
Other oral mucosal lesions	
ID: 4888 - Management of Median Rhomboid Glossitis: A Case Report	
Meltem Koray	115
Other oral mucosal lesions	
ID: 4896 - A case of Traumatic Ulcerative Granuloma with Stromal Eosinophilia	
Rachel Botrugno	116
Other oral mucosal lesions	
ID: 4897 - Lobular Capillary Hemangioma – Clinical case	
José Ferrão.....	117
Other oral mucosal lesions	
ID: 4932 - The prevalence of oral mucosal lesions among Israeli elderly population of different socioeconomic status	
Ayelet Zlotogorski Hurvitz	118
Other oral mucosal lesions	
ID: 4977 - Orofacial granulomatosis with or without concomitant crohn’s disease – a follow-up study	
Gita Gale.....	118
Other oral mucosal lesions	
ID: 5004 - Oral mucosal lesions among patients with psoriasis	
Amal Dafar.....	119
Other oral mucosal lesions	
ID: 5023 - Amyloidosis located on the palate: one of a few	
Ana Melissa Marques	120
Other oral mucosal lesions	
ID: 5024 - Oral mucosal histiocytosis. Case report	
Serban Tovar.....	121
Other oral mucosal lesions	
ID: 5028 - A swelling on the palate: Should I always worry?	
Noha Abdelaziz	122
Other oral mucosal lesions	
ID: 5038 - Pigmented oral compound nevus of the retromolar pad – case report	
Beatriz Batalha.....	122

Other oral mucosal lesions	
ID: 5042 - Study of the presence of desquamative gingivitis in a population group attending the Department of Oral Medicine of the University of Santiago de Compostela	
Valeria Sanmartin	123
Other oral mucosal lesions	
ID: 5055 - Comparative study of the knowledge towards oral candidiasis among the general population and dental medicine students. Multicentric study	
Ioanina Parlatescu	124
Other oral mucosal lesions	
ID: 5070 - Amyloidosis of the tongue secondary to a diagnosis of multiple myeloma: a case report	
Simrat Dhanjal	125
Other oral mucosal lesions	
ID: 5075 - Plasma cell mucositis in a lymphoma patient. A coincidental phenomenon or a potential etiologic correlation?	
Efstathios Pettas	125
Other oral mucosal lesions	
ID: 5079 - Multifocal epithelial hyperplasia (Heck's disease): Report of a case showing HPV-13 positivity	
Konstantinos Tzanavaris	126
Other oral mucosal lesions	
ID: 5080 - Acquired intraoral compound melanocytic nevus in a young child. Report of a rare case	
Styliani Tziveleka	127
Other topics	
ID: 4809 - Oral Medicine New Patient Telephone Clinic Efficacy and Environmental Sustainability, in the COVID-19 Era	
Adam Bhanji	128
Other topics	
ID: 4823 - Satisfaction Related Factors in Distance Learning for Dental Education	
Gonca Mumcu	129
Other topics	
ID: 4849 - Giant Cell Arteritis Mimicking a Sebaceous Cyst	
Angela Boscarino	130
Other topics	
ID: 4856 - Oral manifestations related to COVID-19: A preliminary study	
Zeynep Seda Pekcetin-Bayav	131
Other topics	
ID: 4861 - Erythema multiforme symptoms in patient with the SARS-CoV-2 infection	
Agata Dudzik	131
Other topics	
ID: 4871 - Orofacial Granulomatosis (OFG) affecting the nose successfully treated with intra-	

lesional corticosteroid	
Vignesh Murthy	132
Other topics	
ID: 4944- An unusual case of trigeminal sensory neuropathy	
Rachel Theresa Lavelle	133
Other topics	
ID: 4997 - Xenofree regeneration of human oral mucosa from iPS cells derived from normal oral fibroblasts	
Ridhima Das	133
Other topics	
ID: 4998 - Oral manifestations during pregnancy. Presentation of a case report and brief literature	
Efi Stergiadou.....	134
Other topics	
ID: 5000 - Tooth eruption cysts: clinical case	
Ana Melissa Marques	135
Other topics	
ID: 5012 - Simultaneous Occurance of Central Giant Cell Granuloma and Radicular Cyst in Mandible: A Case Report	
Zeynep Seda Pekcetin-Bayav	135
Other topics	
ID: 5015 - Buccal microbiome; a pilot study on the Sudanese population and the effects of smokeless tobacco use; Toombak, on micro-organisms of the buccal cavity	
Amel Sami	136
Other topics	
ID: 5040 - The influence of COVID-19 pandemic confinement on patients with oral pathology in Galicia	
Eva Chao Deán	138
Other topics	
5052 - Oral diseases and taste sensitivity in patients infected with SARS-CoV-2 and patients with COVID-19 disease	
Danica Vidovic Juras.....	139
Other topics	
ID: 5060 - Giant central ossifying fibroma of the maxilla: an uncommon case report	
Ana Vasconcelos	140
Other topics	
ID: 5078 - Juvenile Trabecular Ossifying Fibroma in the maxilla of a young child: A Case Report	
Nikolaos Apostolidis	140
Other topics	
ID: 5081 - Benign fibrous histiocytoma of the tongue: Case report and review of the literature	
Anastasia Andreou.....	141
Other topics	

ID: 5082 - Isolated unilateral hypoglossal nerve palsy: an uncommon condition Beatriz Dominguez.....	142
Other topics	
ID: 5389 - Effect of a single dose of low-level laser therapy on oral mucosa pain Maria Jose Garcia Pola Vallejo.....	143
Saliva/salivary gland disorders	
ID: 4890 - Salivary canalicular adenoma- a diagnostic dilemma Sandeep Acharya.....	143
Saliva/salivary gland disorders	
ID: 4937 - Periodontal status in primary Sjögren's syndrome Julia Serrano.....	144
Saliva/salivary gland disorders	
ID: 4949 - Influence of salivary disorders on quality of life in relation to oral health in hypertensive patients Lucía Ramírez.....	145
Saliva/salivary gland disorders	
ID: 4966 - Salivary disorders in the patient with Diabetes Mellitus Isabel Sanchez Garrido.....	145
Saliva/salivary gland disorders	
ID: 4989 - Myoepithelioma of minor salivary gland – a case report António Pedro Barbosa.....	146
Saliva/salivary gland disorders	
ID: 5009 - Analysis of salivary constituents in healthy and Sjögren's syndrome patients Miloš Hadži-Mihailovic.....	147
Saliva/salivary gland disorders	
ID: 5017 - Association between xerostomia, oral and general health, and obesity in adults. A cross-sectional pilot Alba Pérez González.....	148
Saliva/salivary gland disorders	
ID: 5051 - Relationship between quantitative determination of hyposialia, dry mouth sensation and influence on quality of life Yasmine Abouzahr.....	149
Saliva/salivary gland disorders	
ID: 5054 - A case report of minor salivary glands cystadenoma of the lower lip Rui Seixas.....	150
Saliva/salivary gland disorders	
ID: 5061 - Yes, teenagers too may have Sjogren's Syndrome Maria João Morais.....	150
Saliva/salivary gland disorders	
ID: 5066 - Palatal cystadenoma — a rare case report Maria Inês Oliveira Borges.....	151
Taste disorders/Halitosis	

ID: 4923 - Prevalence and potential predictors of self-reported halitosis in inflammatory bowel disease patients	
Ema Saltovic	152
Taste disorders/Halitosis	
ID: 5039 - Dysgeusia in covid patients 19	
María Martín García.....	153

The background features three large, overlapping geometric shapes: a blue shape on the left, an orange shape on the right, and a peach-colored shape at the bottom left. The text 'ORAL PRESENTATION' is centered in the lower half of the page.

ORAL PRESENTATION

ID: 4941

Expression profiling of miRNAs in Oral Lichen Planus

Aphthous stomatitis

Mrs. Heba Mousa Ali

Oral Medicine and Biomedical Science

Oral lichen planus (OLP) is a chronic T-cell-mediated immune disease of unknown aetiology. Micro-RNA (miRNAs) are short non-coding RNAs capable of regulating mRNA that are closely correlated with cytokines in various inflammatory diseases. The aim of this study was to investigate the profile of miRNAs in a cohort of OLP patients.

Oral biopsy specimens from 24 patients (12 females, mean age 57.3 years,) with clinical and pathological diagnosis of OLP and 10 controls (5 females, mean age 57.2 years,) with other disorders causing oral white patches were snap-frozen. All experimental procedures were approved by the NRES Committee North East - Newcastle North Tyneside (13/NE/0368) and the enrolled patients gave their informed written consent. Total RNA was extracted from fresh frozen biopsies and the Nano string nCounter Analysis System was used to analyse total RNA samples. Nano string expression was confirmed by RT-PCR analysis. The raw data was processed using the nSolver software version 4.0. *P* value <0.05 was considered statistically significant.

Genes targeting up and down regulated miRNAs were identified using Target Scan human (www.targetscan.org) and DIANA (www.diana.imis.athena-innovation.gr/DianaTools),

The results show that 9 miRNAs had an increased expression level (mir155, mir146a, mir3195, mir342, mir4516, mir21, mir29a, mir193, mir222), whereas 9 miRNAs (mir221, let-7, mir23b, mir200b, mir149, mir205, mir23a, mir27b, mir95) had lower expression in OLP patients compared to controls, respectively. Four upregulated (mir3195, mir4516, mir193, mir222) and

2 downregulated miRNAs (mir149, mir95) were novel discoveries.

Target gene analysis has shown that miRNAs in OLP may be involved in T-cell recruitment and apoptosis.

ID: 4838

Development of a multi-cellular tissue engineered model of oral lichen planus

Bullous or Immuno-bullous disorders and other immune-mediated diseases

Ms. Asma Muftah Mohamed El Howati¹; Dr. Helen Colley²; Prof. Craig Murdoch¹;

¹School of Clinical Dentistry, University of Sheffield, Sheffield, UK.; ²University of Sheffield;

Introduction: Despite advances in oral lichen planus (OLP) research, investigations into this condition are hampered by the lack of effective complex experimental models.

Aim: To develop tissue-engineered oral mucosal equivalents (OME) containing polarised T-cells to replicate OLP for use in the development of novel treatments.

Methods: CD4+ and CD8+ T-cells were isolated from buffy coat, activated, and CD4+ cells polarised to Th1. The purity of isolation, viability, activation and polarisation of these cells were determined by measuring surface and intracellular markers using flow cytometry and ELISA. T-cells were incorporated within a collagen hydrogel with or without normal oral fibroblasts (NOF) and cell viability and proliferation analysed by PrestoBlue and visualised by staining with HE. Full-thickness OME were created by seeding immortalised oral keratinocytes (FNB6) on top of the T-cell/NOF populated hydrogels and cytokine secretion profiles measured by cytokine array.

Results: T-cells were isolated with high purity (85-95%) and viability (>90%). Upon activation, CD69 levels were increased. Only polarised Th1 cells secreted IFN- γ and TNF- α and showed a higher expression of T-bet. Up to 92% of CD8 T-cells produced granzyme B when activated in the presence of CD4 T-cells. T-cells extracted from the hydrogels were 97% viable after 14-days in culture. HE-staining of OME revealed a multi-layered stratified squamous epithelium on top of a fibroblast-populated connective tissue. Chemokines relevant to T-cell chemotaxis in OLP were secreted from activated OME.

Conclusion: T-cells were successfully isolated, polarised, and maintained viability in 3D. Moreover, primed OME was able to simulate the OLP environment.

ID: 4845

Erythema Multiforme-Like Lips Presentation in Pemphigus Vulgaris Patients: A Case Series

Bullous or Immuno-bullous disorders and other immune-mediated diseases

Dr. Sara Waheeb¹; Dr. Ghidaa Subahi²; Dr. Nada Binmadi²; Dr. Soulafa Almazrooa²; Dr. Amal Dafar³;

¹Ibn Sina National College's Hospital, Jeddah, Saudi Arabia; ²Oral Diagnostic Sciences Department, Faculty of Dentistry, King Abdulaziz University, Jeddah, KSA; ³Department of Oral and Maxillofacial Surgery, King Fahad General Hospital, Jeddah, Saudi Arabia;

Pemphigus vulgaris (PV) is a chronic autoimmune mucocutaneous blistering disease. Autoantibodies are directed against desmogleins leading to formation of intra-epithelial bullae. PV as other autoimmune mucocutaneous disorders of the oral cavity demonstrates diagnostic and therapeutic challenges among clinicians.

About 50-70% of cases present first with oral lesions. It usually starts as vesicles or bullae that rapidly rupture leading to erosions and ulcerations. Palatal, gingival, buccal, and labial mucosa are most commonly affected sites.

Oral PV can mimic several other diseases that cause mucosal erosion and /or ulceration. Erythema multiforme (EM) is one of those mimickers. EM is an acute immune mediated self-limiting hypersensitivity condition mostly associated with herpes simplex infection. Oral lesions can be variable but a very characteristic presentation with labial haemorrhagic erosions, ulcerations and crusting is usually seen.

In this case series, we present six cases of PV (one male and five females; age ranged from 34-65 years old). All patients presented with haemorrhage and crusting of the lips besides the multiple intra-oral erosions and ulcerations. Three patients presented with oral and skin lesions. All patients were biopsied, and PV diagnosis was confirmed. All patients were treated with steroids (topical and systemic) and variable steroid sparing agents.

This case series emphasizes that oral PV may be misdiagnosed as EM in a subgroup of patients presented with persistent lips haemorrhage and crusting. Therefore, comprehensive history, clinical examination and incisional biopsies should be considered for such patients.

ID: 4865

IgG4-related disease: A case series of four patients in Oral Medicine

Bullous or Immuno-bullous disorders and other immune-mediated diseases

[Dr. Sandeep Joshi¹](#); [Dr. Pepe Shirlaw¹](#); [Dr. Jackie Brown¹](#); [Dr. Martyn Ormond¹](#);

[¹Guy's St Thomas' NHS Foundation Trust](#)

Background: IgG4-related disease (IgG4-RD) is a chronic fibroinflammatory, multisystem condition with features that can mimic other inflammatory, neoplastic and rheumatological conditions such as lymphoma and Sjögren's syndrome. The clinical features alone are insufficient to establish a diagnosis and often lead to treatment delay. An appreciation of the characteristic histopathological, immunological and radiological features, coupled with the evolving clinical picture, is required to establish the diagnosis.

Cases: We present four cases of IgG4-RD seen in Oral Medicine at Guy's Hospital, London. All cases fulfilled the 2019 ACR-EULAR classification criteria:

1. 45-year-old female presented with xerostomia and keratoconjunctiva sicca and abdominal symptoms which pancreatic histopathology subsequently confirmed as IgG4-RD.
2. 58-year-old male with multisystem involvement including salivary glands, biliary system, pancreas and kidneys.
3. 64-year-old female with symptoms predominantly affecting the salivary glands with serological and radiological evidence of IgG4-RD.
4. 62-year-old female with IgG4-RD involving the lacrimal, parotid and submandibular glands confirmed on serological and histopathological investigations.

Patients were managed in a multidisciplinary setting with input from Oral Medicine, Rheumatology and Gastroenterology. Management included systemic corticosteroids or immunosuppression.

Conclusion: This rare condition is now increasingly being recognised by an array of medical specialities as the unifying disease process for a wide range of disease manifestations. It is of particular relevance to Oral Medicine due to the head and neck findings. IgG4 disease is highly treatable. Improving early recognition of the disease is crucial to avoid the cumulative effects of indolent disease or repeated flares which can lead to end-stage organ failure.

ID: 4892

Paraneoplastic mucous membrane pemphigoid

Bullous or Immuno-bullous disorders and other immune-mediated diseases

[Dr. Sangeetha Yogarajah](#)¹; [Dr. Ali Alqarni](#)²; [Dr. Barbara Carey](#)¹; [Prof. Jane Setterfield](#)³;

¹[Guy's St Thomas' NHS Foundation Trust, UK](#); ²Taif University, Saudi Arabia; ³[King's College London, UK](#);

Mucous membrane pemphigoid (MMP) is a chronic subepithelial blistering disorder that primarily affects mucosal surfaces. MMP with autoantibodies directed against laminin-332 has been associated with an increased risk for internal malignancy, most commonly solid organ malignancies. The diagnosis of malignancy is often made months after MMP diagnosis.

A 59-year-old male presented with a 5-year history of DIF-confirmed MMP with oral, ocular, nasal and oesophageal involvement. He had entropion with conjunctival scarring, and ulceration of the nasal septum, hypopharynx, supraglottis, gingivae and palate. Previous treatments included mycophenolate mofetil, prednisolone, dapsone, sulphamethoxypyridazine, sulphapyridine, IV methylprednisolone and cyclophosphamide. Indirect IMF revealed positive laminin-332 autoantibodies. The patient was later diagnosed with bladder carcinoma and underwent TURBT and intravesicular chemotherapy. There was complete resolution of ulceration at 4-month review.

A 61-year-old male was referred with recalcitrant MMP involving the oral cavity, eyes and nasopharynx. There was conjunctival scarring with symblepharon, and ulceration of the buccal mucosa, gingivae and palate. There was a partial response to sulphamethoxypyridazine, mycophenolate mofetil, prednisolone and IV methylprednisolone. Indirect IMF revealed positive laminin-332 autoantibodies. CT chest, abdomen and pelvis revealed bladder carcinoma. Following radical cystectomy, there was clinical remission at 3-month review.

The pathophysiological relationship of MMP to cancer is unknown. Expression of laminin-332 has been detected in malignant cells, and laminin-332 appears to be capable of promoting tumour cell growth, invasion and metastasis. Emerging evidence suggests that early identification of laminin-332 autoantibodies with evaluation for malignancy should be performed based upon a review of systems, physical examination and age-appropriate screening.

ID: 4914

Burning-fog: Cognitive impairment in Burning Mouth Syndrome

Burning mouth syndrome

[Dr. Daniela Adamo](#)¹; [Dr. Federica Canfora](#)¹; [Dr. Elena Calabria](#)¹; [Dr. Roberta Gasparro](#)¹; [Dr. Giuseppe Pecoraro](#)¹; [Dr. Lorenzo Ugga](#)¹; [Dr. Renato Cuocolo](#)¹; [Dr. Giuseppe Buono](#)¹; [Prof. Massimo Aria](#)¹; [Prof. Michele Davide Mignogna](#)¹;

¹[University of Naples Federico II](#)

Background: Cognitive impairment (CI) is commonly associated with chronic pain, but it has never been evaluated in Burning Mouth Syndrome patients (BMSs).

Aims: To assess CI in BMSs and its relationships with pain, mood disorders and age-related white matter changes (ARWMC) assessed with Brain Magnetic Resonance imaging.

Methods: 40 BMSs and 40 controls were enrolled. Neurocognitive assessment [Mini Mental Status Examination; Digit Cancellation test; Digit Span Forward and Backwards; Corsi Block-tapping test; Rey-Auditory Verbal learning Test (RAVLT); Copying Geometric Drawings (CGD); Frontal Assessment Battery and Trail-Making A and B]; psychological assessment [Hamilton rating scale for Depression and Anxiety (HAM-D and HAM-A); Pittsburgh Sleep Quality Index (PSQI) and Epworth Sleepiness Scale (ESS), Short-Form (36) Healthy Survey (SF-36)] and pain assessment [Visual Analogic Scale (VAS) and Total score of Pain-Rating index (T-PRI) , Brief Pain Inventory (BPI) and Pain Detect questionnaire (PD-Q)] were performed.

Results: Patients with BMS had impairments in majorities of cognitive domains compared with controls ($p < 0.001^{**}$) except in RAVLT and CGD. The HAM-D, HAM-A, PSQI, ESS, SF-36, VAS, T-PRI, BPI and PD-Q scores were statistically different between BMS patients and controls ($p < 0.001^{sup>**}$). The WMC frequency and ARWMC scores in the right and left temporal lobes were higher in the BMS patients ($p:0.023^{*}$).

Conclusions: BMS is associated with a higher cognitive decline, particularly in attention, working memory, executive function. The early identification of CI and associated factors may help clinicians to identify patients at risk to develop neurodegenerative disorders, such as Alzheimer's disease and vascular dementia.

ID: 3240

Inhibition of 4NQO-induced oral squamous cell carcinoma progression by novel TGF- β inhibitors and PD-L1 antibodies

Cancer and cancer therapy

Dr. Nils Ludwig¹; Mr. Saigopalakrishna Yerneni²; Dr. Juliana Azambuja³; Dr. Lukasz Wieteska³; Dr. Cynthia Hinck³; Prof. Torsten Reichert¹; Prof. Andrew Hinck³; Prof. Theresa Whiteside³;

¹University of Regensburg; ²Carnegie Mellon University; ³University of Pittsburgh;

The role of TGF- β as a therapeutic target in oral squamous cell carcinoma (OSCC) has been investigated with limited success. This study evaluates two novel TGF- β inhibitors as mono or combinatorial therapy with PD-L1 antibodies (Abs) in a murine OSCC model.

Immunocompetent C57BL/6 mice bearing malignant oral lesions induced by the carcinogen, 4-nitroquinoline 1-oxide, were treated intraperitoneally for 4 weeks with TGF- β inhibitors mRER (50 μ g/d) or miniProtein (10 μ g/d) alone or in combination with PD-L1 antibodies (7 doses of 100 μ g/72h). Tumor progression and body weight was monitored. TGF- β serum levels were quantified using MFB-F11 reporter cells. Tumors were analyzed by immunohistology and splenocytes were analyzed by flow cytometry.

Therapy with mRER or miniProtein reduced numbers and size of tumors ($p < 0.05$) and decreased the loss of body weight ($p < 0.01$) compared to control mice. In inhibitor-treated mice, serum levels of TGF- β were not detected, while they increased with tumor progression in controls. mRER reduced levels

of myeloid-derived suppressor cells ($p < 0.001$). In combination with PD-L1 Abs, the TGF- β inhibitors further reduced weight loss and number of tumors per mice ($p < 0.05$).

The data show that targeting TGF- β with novel inhibitors, mRER and miniProtein, is a promising approach for OSCC treatment. The inhibitors promoted anti-tumor immune responses and in combination with immune checkpoint inhibitory Abs were especially effective in inhibiting tumor progression.

ID: 4988

Oral Cavity Malignant Lymphomas Are Exceptionally Rare, Highly Aggressive and Are Most Commonly A Sign Of Relapse – A Ten Year Retrospective Analysis In A Single Institution

Cancer and cancer therapy

Dr. Tal Berg

Rambam Health Care Campus

Background: Malignant non – Hodgkin's lymphoma (NHL) is the third most common after SCC and salivary gland tumors. The head and neck is the second most common frequent site of extra-nodal manifestation. Only 0.1% to 5% present in the oral cavity of which the majority are Diffuse Large B Cell Lymphomas (DLBCL).

Intra-oral cases usually appear as part of a progressive or recurrent disease when treatment failed. Primary NHL in the oral cavity are exceptionally rare.

In our study, we conducted a retrospective clinical-pathologic analysis of all intra-oral soft tissue malignant lymphoma cases.

Cases: Between 2008 – 2018, 11 cases of intra-oral soft tissue NHL that included extremely rare cases. All patients were HIV negative. Ages ranging from 14 to 77 years old.

Presentation of lesions was diverse and ranged from swelling mimicking dental abscess to deep ulcers mimicking SCC and even deep fungal infections. Thus, a fast and accurate differential diagnosis was of high importance. Over 90% of all intra-oral lymphomas were the first sign of relapse.

55% of these patients died within 6 months of oral presentation, therefore, early detection of intra-oral relapses is critical and highly important.

Summary: Oral mucosal expression of NHL is rare and, in most cases, the first sign of relapse.

Many types of NHL can be presented in oral soft tissues, most of them are fatal, so clinicians should take NHL into consideration when making their differential diagnosis: NHL lesions can mimic periodontal disease, acute abscess or even other malignancy.

ID: 4992

Mucosal immune response in BNT162b2 COVID-19 vaccine recipients

Infectious diseases/HIV

Dr. Lorenzo Azzi¹; Dr. Vittorio Maurino¹; Dr. Daniela Dalla Gasperina²; Prof. Fabrizio Maggi¹; Prof. Giovanni Veronesi¹; Dr. Fabio Croveri¹; Dr. Mariam Shallak¹; Prof. Greta Forlani¹;
¹University of Insubria; ²Università of Insubria;

Introduction: Although the BNT162b2 COVID-19 vaccine is known to induce IgG neutralizing antibodies in serum protecting against COVID-19, it has not been studied in detail whether it could generate specific immunity at mucosal sites, which represent the primary route of entry of SARS-CoV-2.

Methods: Samples of serum and saliva of 60 BNT162b2-vaccinated healthcare workers were collected at baseline, two weeks after the first dose and two weeks after the second dose. S-protein IgG and IgA total antibodies titres and the presence of neutralizing antibodies against the Receptor Binding Domain in both serum and saliva were measured by quantitative and by competitive ELISA, respectively.

Results: Complete vaccination cycle generates a similar serum IgG antibody titre as a single dose in previously infected seropositive individuals. Serum IgA concentration reaches a plateau after a single dose in seropositive individuals and two vaccine doses in seronegative subjects. After the second dose IgA level was higher in seronegative than in seropositive subjects. In saliva, IgG level is almost two orders of magnitude lower than in serum, reaching the highest values after the second dose. IgA concentration remains low and increases significantly only in seropositive individuals after the second dose. Neutralizing antibody titres were much higher in serum than in saliva.

Discussion: The mRNA BNT162b2 vaccination elicits a strong systemic immune response by drastically boosting neutralizing antibodies development in serum, but not in saliva, indicating that at least oral mucosal immunity is poorly activated by this vaccination protocol, thus falling in limiting virus acquisition upon its entry through this route.

ID: 4828

Oral Leukoplakia Classification and Staging System with Incorporation of Differentiated Dysplasia

Oral leukoplakia and other potentially malignant disorders

Dr. Elisabeth Brouns¹; Dr. Ilkay Evren¹; Mr. Leon Wils¹; Dr. Jos Poell¹; Prof. Ruud Brakenhoff¹; Prof. Elisabeth Brouns¹; Prof. Jan De Visscher¹;
¹Amsterdam UMC, location VUmc

Introduction: A classification and staging system for oral leukoplakia (OL) was introduced to promote uniform reporting. In this system, size of the lesion and the histopathologic diagnosis are assessed and combined in a staging system. The various stages could be predictive for malignant

transformation of OL and it could be helpful in the decision on the type of treatment. Differentiated dysplasia (DD) was recently recognized as a separate type of oral epithelial dysplasia and is highly associated with malignant transformation (MT) of OL. In the present study DD was incorporated in the OL-system. The aim of the present study was to test the adapted system on a hospital-based cohort of patients with OL.

Patient and methods: The group consisted of 140 patients. The size, absence or presence and degree of classic epithelial dysplasia (CD) and DD were incorporated into the OL-system.

Results: In 31 out of 140 patients MT occurred. Size of OL was not statistically significant with MT ($p = 0.422$). The presence of oral epithelial dysplasia was predictive for MT ($p = 0.005$), whereby severe CD and DD were highly statistically significant for MT ($p = 0.000$). Stage IV was statistically significant for MT ($p = 0.000$).

Discussion and conclusion: The present study emphasizes the value of the slightly modified OL-system with incorporation of DD in uniform reporting of OL and the value in predicting MT. The presence of CD and DD is an important independent risk factor for MT of OL whereas size was not. Staging of OL may be helpful in the assessment of an individual patient's risk for MT of OL.

ID: 4913

Assessment of patient-clinician agreement on information needs about oral epithelial dysplasia

Oral leukoplakia and other potentially malignant disorders

Dr. Abdullah Alsoghier¹; Dr. Richeal Ni Riordain¹; Prof. Stefano Fedele¹; Prof. Stephen Porter¹;

¹UCL Eastman Dental Institute

Introduction: Patient-clinician agreement is important to ensure that patients are able to make informed decisions concerning the management of oral epithelial dysplasia (OED). The present study assessed the level of agreement between patients and clinicians on OED-related information that patients may require.

Methods: 86 patients with known OED in the UK completed the Oral Epithelial Dysplasia Information Needs Questionnaire. This validated instrument includes 31 patient-information based topics under 6 domains, rated importance on a 4-point importance scale. 77 members (clinicians) of the EAOM and BSOM likewise completed the questionnaire. Descriptive and agreement (weighted and Fleiss Kappa's [k] coefficients) analyses were performed between and among both cohorts.

Results: Clinicians had low level of agreement with patients on the importance of topics concerning OED ($k = 0.053$). However, they were generally able to predict the most important topics to patients (e.g disease grades and risk of developing mouth cancer). There was greater disparity in the opinions on these topics between the clinicians ($k = 0.090$) than between the patients ($k = 0.251$), this difference being significant at the <0.05 level.

Conclusions: While clinicians may be able to predict some of the possible information needs of patients with OED there is a need to ensure that communication by clinicians correctly addresses all the needs of patients – and hence lessen any physical and/or psychological distress.

ID: 4921

Oral cancer prediction by noninvasive genetic screening

Oral leukoplakia and other potentially malignant disorders

Dr. Jos Poell¹; Mr. Leon Wils¹; Mr. Arjen Brink¹; Mr. Ralf Dietrich²; Dr. Eunike Velleuer³; Dr. Elisabeth Brouns¹; Prof. Jan de Visscher¹; Prof. Elisabeth Bloemena¹; Prof. Bauke Ylstra¹; Prof. Ruud Brakenhoff¹; ¹Amsterdam UMC; ²Fanconi-Anämie Hilfe e.V.; ³Children's Hospital Neuwerk;

Objectives: Oral squamous cell carcinoma (OSCC) develops in precancerous fields in the mucosal lining characterized by tumor-associated genetic alterations, which may present as white oral leukoplakia (OL) lesions. OL frequently recurs after treatment and patients remain at risk for developing OSCC. The aim of this study is to evaluate a noninvasive genetic assay using next-generation sequencing (NGS) on brushed cells to detect the presence of genetically altered fields.

Methods: Brushed cells and matched tissue biopsy samples were obtained from 40 OL lesions. Brushed cells of 29 age-matched healthy individuals were included as controls. We also examined brushed cells from 19 Fanconi anemia patients who developed head and neck cancer, and 27 who remained disease-free. All samples were subjected to low-coverage whole genome NGS, followed by target-enrichment NGS of genes that are commonly mutated in OSCC.

Results: Of 31 biopsy samples with genetic changes, one or more of these changes were detected in 26 matched brushed samples (84%). Genetic changes were highly specific, since none were found in the 29 samples of healthy individuals, nor in the 9 brush samples of which the matching biopsy contained no genetic changes. In Fanconi anemia patients, detection of genetic changes from brush samples was associated with an increased risk of head and neck cancer.

Conclusions: NGS analysis on noninvasively collected samples offers a highly accurate method to detect genetically altered fields in the oral cavity, and predicts development of head and neck cancer in high risk individuals. Noninvasive genetic screening can be employed to screen high-risk populations and monitor interventions.

ID: 4931

The genetic profile of oral leukoplakia and its relation to malignant progression

Oral leukoplakia and other potentially malignant disorders

Mr. Leon Wils¹; Dr. Jos Poell¹; Mr. Ilkay Evren¹; Dr. Elisabeth Brouns¹; Prof. Jan de Visscher¹; Prof. Ruud Brakenhoff¹; Prof. Elisabeth Bloemena¹;

¹Amsterdam UMC

Introduction: Oral leukoplakia is the most common oral potentially malignant disorder with a malignant transformation rate into OSCC of 1.5-4.1% annually. Lesions are treated when possible followed by watchful monitoring. Although several risk factors for oral leukoplakia have been investigated for their prognostic value, no definitive risk stratification model has been proposed yet. Best predictors are dysplasia, particularly with the recent introduction of differentiated dysplasia, and genetic changes. Next generation sequencing offers potential for the creation of a genetic profile which can be used to predict the risk for progression.

Methods: We investigated a retrospective cohort consisting of 101 oral leukoplakia patients for the presence of genomic copy number alterations (CNA) and mutations in twelve cancer genes associated with OSCC.

Results: In 31/101 (31%) patients, OSCC developed during follow-up. CNA's were present in 66/101 (65%) of patients, most commonly gains of chromosome arms 8q (28%) and 3q (21%) and loss of 3p (21%). Mutations were present in 69/101 (68%) of patients, most commonly in TP53 (39%), FAT1 (36%) and NOTCH1 (22%). Based on these results we created a prediction model for the progression of oral leukoplakia, containing the most important genetic variables (Log Rank, $p = 0.0003$) and subsequently combined the genetic data with dysplasia grading.

Conclusion: This study provides the most extensive description of genetic alterations underlying oral leukoplakia and its relation to malignant progression to date. Based on this we provide a robust model for the prediction of malignant progression in oral leukoplakia using dysplasia and genetic markers.

ID: 5018

The development of Proliferative Verrucous Leukoplakia on a background of Oral Lichen Planus: A case series

Oral leukoplakia and other potentially malignant disorders

Dr. Caroline McCarthy¹; Dr. Alizey Kazmi²; Dr. Timothy Austin³; Mr. Michael Ho⁴; Dr. Bijaya Rajlawat²; Prof. Richard Shaw⁵; Prof. Anne Field²;

¹University of Liverpool/Department of Oral Medicine, Liverpool University Dental Hospital;

²Department of Oral Medicine, Liverpool University Dental Hospital; ³Leeds Dental Institute; ⁴Dept of Oral and Maxillofacial Surgery, Leeds Teaching Hospitals NHS Trust; ⁵Liverpool Head and Neck Centre,

Liverpool;

Oral Lichen Planus (OLP) is a chronic mucocutaneous condition affecting 2% of the population and is associated with oral cancer development in 1-2% of cases. Proliferative Verrucous Leukoplakia (PVL) is also a potentially malignant disorder but with much higher rates of malignant transformation (60-100%). Both conditions are more prevalent in females and non-smokers and commonly share a number of other clinicopathological features, particularly in the early stages of the disease. We have identified 7 patients from one Oral Medicine and one Oral and Maxillofacial Surgery Department in the UK, who have developed PVL on a background of OLP. All patients were female and non-smokers and all fulfilled published diagnostic criteria for both conditions at relevant points in their disease course. All patients initially presented with classic reticular striae and subsequently developed plaque-like and verrucous oral lesions. There are three cases of oral cancer development to date, one squamous cell carcinoma and one verrucous carcinoma, with mean follow up time of 13 years (range 7-23 years). Time between diagnosis of OLP and PVL ranged from 15 months to 18 years.

The debate as to whether the lesions of OLP transform to PVL or there is a continuum of the same shared precancerous process has yet to be resolved. Our case series reinforces the importance of clinicopathological correlation for the diagnosis of both conditions. There is a need for periodic review of patients with OLP and biopsy of new plaque-like areas, to allow early-detection of PVL and appropriate ongoing management.

ID: 5030

Lesion-related determinants for surgical treatment of oral leukoplakia: Oral Medicine Practitioners' attitudes

Oral leukoplakia and other potentially malignant disorders

Dr. Samuele Sutura¹; Prof. Giovanni Lodi²; Prof. Jose V. Bagan³; Prof. Camile S. Farah⁴; Prof. Monica Pentenero¹;

¹Department of Oncology, Oral Medicine and Oral Oncology Unit, University of Turin, Turin, Italy;

²Department of Biomedical, Surgical and Dental Sciences, Università degli Studi di Milano, Italy;

³Department of Stomatology University of Valencia, Hospital General Universitario de Valencia. Spain;

⁴Australian Centre for Oral Oncology Research & Education, Australian Clinical Labs, Perth WA, Australia;

Introduction: Surgical treatment represents the main option for active treatment of Oral Leukoplakia (OL) despite the lack of internationally accepted indications.

Methods: 140 Oral Medicine Practitioners (OMPs) from EAOM and OMAA completed an online survey designed by EAOM Working Group on Diagnosis and Management of Oral Leukoplakia. The section of the survey addressing the management of OL was used for the present study. Data analyses were performed using SPSS release 27.0 (SPSS Inc. Chicago IL, USA).

Results: OL active treatment was considered mandatory for all patients by 20% of respondents. The remaining 80% reserved treatment for selected cases being driven by lesion-related features. All OMPs considered dysplasia status but for 45% of them, the presence of mild dysplasia was enough to mandate active treatment. Non-homogenous clinical appearance drove 86% of OMPs to active

treatment. The lesion site was considered by 76% of OMPs: floor of the mouth (98%), lateral/ventral surface of the tongue (92%) and soft palate (41%). Lesion size was inconsistently considered by 55% of OMPs. Large or small lesions were treated by 67% or 33% of OMPs respectively, with a diameter of 20 mm used as a cut-off value. Further analyses investigated the effect of OMP characteristics on clinical practice.

Discussion: Most OMPs considered the known determinants for risk of malignant progression in order to mandate active treatment of OL. Inconsistent assessments were observed when considering the presence of mild dysplasia and lesion size.

ID: 5041

Immune expression profile in proliferative verrucous leukoplakia

Oral leukoplakia and other potentially malignant disorders

Dr. Alex Proaño¹; Dr. Carlos Llorens²; Dr. Leticia Bagan¹; Dr. Cristina Peña³; Prof. Jose Vicente Bagan⁴; ¹Department of Stomatology, Oral Medicine, Universitat de València, Valencia, Spain.; ²Biotechvana, Parc Científic, Universitat de València, Valencia, Spain.; ³Medical Oncology Department, Instituto Ramón y Cajal de Investigación Sanitaria, Madrid, Spain.; ⁴Department of Stomatology and Maxillofacial Surgery, University General Hospital of Valencia, Spain.;

Objectives: To investigate the pathophysiology and describe the transcriptomic profile of proliferative verrucous leukoplakia (PVL) through a RNAseq case-control study.

Material and methods: We conducted a RNAseq study by Illumina Technology in fresh frozen oral biopsies from 10 PVL patients without signs of malignancy and from 5 healthy patients. Using bioinformatic methods, we investigated the gene differential expression and gene ontology (GO) enrichment analysis. We performed network biology methods to investigate functional relations among those genes that were differentially deregulated.

Results: A total of 140 differentially expressed genes were found, 100 were upregulated and 40 downregulated in PVL group. We found 44 GOs overexpressed that correspond to cellular components, biological processes and molecular functions. Functional network showed two major functional groups involved in immune response as well as in tissue and organ morphogenesis, development, and organization. At least 111 of these 140 genes have been previously described as deregulated cancer biomarkers, being 35 of them reported in oral squamous cell carcinoma. Of these 140 genes, 26 were highlighted for future investigations as potential biomarkers and targets for immunotherapeutic approaches.

Conclusions: The differentially expressed genes in PVL compared with healthy controls are enriched in biological process related to modulation of immune surveillance as well as tissue and organ morphogenesis that impacts on normal immune system function. It could be hypothesized that this pathology modifies the immunosurveillance as one of the first steps of tumor initiation. This could provide the opportunity to develop new treatment strategies.

ID: 5067

Predicting malignant progression in oral potentially malignant disorders by DNA ploidy analysis: a prospective study comparing oral leukoplakia and proliferative verrucous leukoplakia

Oral leukoplakia and other potentially malignant disorders

Prof. [Monica Pentenero](#)¹; Dr. [Samuele Sutera](#)¹; Dr. [Patrizio Castagnola](#)²;

[¹University of Torino, Italy](#); [²IRCCS AOU, San Martino –IST, Genova, Italy](#);

Introduction: DNA ploidy status has been reported in retrospective studies as a reliable predictive factor for malignant transformation in Oral Potentially Malignant Disorders (OPMDs).

Methods: Over a 73-month period, 153 OPMD patients were consecutively enrolled in a prospective observational study: 133 oral leukoplakia (OL) and 20 proliferative verrucous leukoplakia (PVL) patients. At enrolment all patients had histological diagnosis and flow cytometric DNA ploidy status assessment. Kaplan-Meier methods and log rank test were used to estimate the time to progression and percentage of patients who underwent malignant transformation by ploidy status.

Results: When considering the whole patient group, 14 out of 153 patients progressed to carcinoma in a mean time of 31 months (SD = 24): 14% of patients with aneuploid status and 7% of patient with diploid status. The risk of malignant transformation was significantly associated with the presence of oral dysplasia in both OL and PVL patients ($p=0.001$ and $p<0.001$ respectively). A significant association with the DNA aneuploid status was observed in OL patients ($p=0.039$), but not in PVL patients ($p=0.876$).

Conclusions: The present data support a predictive role for the DNA ploidy status in malignant transformation of OL but remark the PVL could follow different paths in its progression towards oral squamous cell carcinoma.

Patterns and predictors of recurrence in oral leukoplakia: An immunohistochemical study

Oral leukoplakia and other potentially malignant disorders

Dr. Maria Georgaki¹; Dr. Dimitris Avgoustidis²; Dr. Vasileios Ionas Theofilou³; Dr. Evangelia Piperi¹; Dr. Efsthios Pettas¹; Dr. Demos Kalyvas⁴; Dr. Dimitrios Vlachodimitropoulos⁵; Prof. Christos Perisanidis⁴; Prof. Andreas Lazaris⁶; Prof. Nikolaos Nikitakis⁷;

¹Department of Oral Medicine Pathology and Hospital Dentistry, School of Dentistry, NKUA;

²Department of Oral and Maxillofacial Surgery, 'Evangelismos' General Hospital, School of Dentistry;

³Department of Oncology and Diagnostic Sciences, School of Dentistry, University of Maryland;

⁴Department of Oral & Maxillofacial Surgery, School of Dentistry, NKUA; ⁵Department of Forensic Medicine-Toxicology, School of Medicine, NKUA; ⁶Department of Pathology, School of Medicine, National and Kapodistrian University of Athens, Greece; ⁷Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry;

Background: Oral leukoplakia (OL) has a propensity for recurrence and malignant transformation (MT), which has been correlated with several clinical, histopathologic and molecular markers. However, their propensity to recur after initial treatment has not been thoroughly studied nor correlated with specific prognosticators.

Objective: To evaluate sociodemographic, clinical, microscopic and immunohistochemical parameters as predictive factors for OL recurrence.

Materials and Methods: Thirty-three patients with OL, completely removed either by excisional biopsy or by laser ablation following incisional biopsy, were studied. The mean follow-up period was 48.3 months. Selected cell cycle and apoptosis-related molecules, including pStat3, Bcl-xL, survivin, cyclin D1 and Ki-67, were analyzed immunohistochemically.

Results: A total of 135 OL lesions were analyzed, including 97 primary lesions (PLs), 31 of which recurred at least once for a total of 38 recurrent lesions; none of them underwent MT. There was no statistically significant difference among the various parameters in recurrent vs. non-recurrent PLs; however, recurrence was most frequent among non-homogeneous ($p=0.087$) and dysplastic vs. hyperplastic (34.5% vs. 15.4%) lesions. Lower levels of Bcl-xL and survivin were identified as significant risk factors for OL recurrence. Recurrences were smaller and more frequently homogeneous and non-dysplastic compared to their corresponding PLs, but exhibited increased pSTAT3 and Bcl-xL immunohistochemical expression.

Conclusion: Notwithstanding the limitation of a small cohort, it seems that excision and close monitoring of all lesions reduce the risk of MT despite the relatively frequent development of recurrences. It is possible that predictors of recurrence may be different from those correlated with MT.

A service evaluation of treatment of erosive oral lichen planus at Newcastle Dental Hospital

Oral lichenoid lesions

Mr. Samuel McCarthy¹; Mr. Richard Walton¹; Prof. Marco Carrozzo¹;

¹Department of Oral Medicine, School of Dental Sciences, Newcastle University

The mainstay of therapy for oral lichen planus (OLP) is through topical corticosteroids. This would initially involve a potent strength topical corticosteroid in various formulations. However, in a proportion of cases, this first line therapy may be inadequate and a number of different strategies have been proposed to control the patient's symptoms. Moreover, real-life data on standard clinical management of erosive OLP are scarce.

A retrospective service evaluation of patients with a histologically confirmed diagnosis of erosive OLP treated in the Oral Medicine Department at Newcastle Dental Hospital between 2007-2021 was undertaken. Records of 52 patients (Male: 13, Female: 39, Average age: 72 years) were reviewed for diagnosis, previous therapies and subsequent therapeutic strategy. The median follow up time was 59 months.

Forty-seven patients (90%) received topical therapy with Clobetasol Propionate 0.05% in carboxymethylcellulose, with 17 (36%) receiving an adjuvant short tapering course of systemic prednisolone.

For 33 (70%) patients this proved the definitive therapeutic strategy; 7 (15%) required further escalation of therapy and 7 (15%) de-escalated to less potent topical corticosteroids.

These real-life data shows the majority of patients with erosive OLP received treatment with Clobetasol Propionate 0.05% in carboxymethylcellulose as a topical therapy. Although no formal measurement of treatment outcome was completed, this appeared to provide adequate control of symptoms in the majority of patients as to avoid further escalation of therapy. No adverse reactions were reported, though patients were prescribed concurrent antifungal prophylaxis and anecdotal issues with compliance were noted.

ID: 4052

Next-Generation Sequencing Profiles of the RNA Transcriptome in Peripheral Blood Mononuclear Cells in Young Female Patients with Temporomandibular Joint Osteoarthritis: possible contribution of immunological dysfunction

Orofacial pain/temporomandibular disorders (TMD)

Prof. Jeong-Hyun Kang

Ajou University

Objective: To date, the pathogenesis of temporomandibular joint osteoarthritis (TMJ OA) in young patients remains unclear. The aim of the present study was to identify differentially expressed genes (DEGs) related to immunological functions through next-generation sequencing and bioinformatics analysis.

Methods: The whole RNA-sequencing (RNA seq) technology was applied to analyse the transcriptome of peripheral blood mononuclear cells in 24 females with TMJ OA (mean age 19.3 ± 3.1 years; age range 15 – 25 years) and 11 control (mean age 20.5 ± 3.7 years; age range 15 – 24 years) individuals. Gene ontology functional classification was performed to gain functional annotation of genes. Significantly differentially expressed transcripts were validated by quantitative reverse transcription-polymerase chain reaction (qRT-PCR).

Results: Of 22 DEGs, 11 genes were up-regulated and 11 genes were down-regulated ($|\log_2 \text{fold change}| > 1.5$ and $P < 0.05$). Five dysregulated genes with potential immune-regulating functions were identified. Membrane spanning 4-domains A3 (MS4A3), Fc fragment of IgE receptor 1a (FCER1A), and C-X-C motif chemokine ligand 8 (CXCL8) showed significant up-regulation and major histocompatibility complex, class I (HLA-C) and transmembrane protein 176B (TMEM176B) showed significant down regulation. The results from qRT-PCR showed that mRNA expression levels of MS4A3, FCER1A, CXCL8, HLA-C, and TMEM176B showed significant differences between patients with TMJ OA and controls.

Conclusion: The current findings suggested new perspectives in relationships between immune-dysfunction and TMJ OA in young females which may assist in finding new targets for TMJ OA treatment.

ID: 5077

Cheilitis Glandularis: A series of 14 cases with emphasis on etiopathogenesis

Other oral mucosal lesions

Dr. Evangelia Piperi¹; Dr. Anastasia Andreou²; Dr. Grigorios Thermos²; Dr. Efstathios Pettas²; Dr. Styliani Tziveleka²; Dr. Maria Georgaki²; Prof. Nikolaos Nikitakis²;

¹Department of Oral Medicine and Pathology, School of Dentistry, National and Kapodistrian University of Athens; ²Department of Oral Medicine and Pathology, School of Dentistry, National and Kapodistrian University;

Introduction: Cheilitis Glandularis (CG) is a rare chronic inflammatory disorder, most commonly affecting the minor salivary glands of the lower lip. The etiology of CG remains obscure, although it has been linked to smoking and actinic damage.

Objective: To present 14 cases of CG with emphasis on the etiopathogenesis.

Materials and methods: All CG cases diagnosed at the Department of Oral Medicine and Pathology, School of Dentistry, Athens, Greece from January 2014 to June 2021 were retrieved and analysed according to possible predisposing factors and clinicopathological characteristics.

Results: Among 8.740 biopsy specimens, 14 (0.16%) CG cases with a mean age of 68.1 years and a male-to-female ratio of 1.8:1 were identified. Regarding potential predisposing factors, 9 (64.3%) patients were smokers, 4 (28.6%) complained of xerostomia including 3 (21.4%) diabetic patients, 2 (14.3%) had cosmetic filler injections in the area and in 1 (7.1%) actinic cheilitis was present. In 12/14 (85.7%) cases, the lesions were located in the lips, 6 of which were extending to the buccal mucosa, while in 2/14 (14.3%) only the buccal mucosa was affected. Asymptomatic submucosal nodules with dilated ductal orifices and mucopurulent discharge upon pressure were typically observed. Histopathologically, ductal ectasia, frequently accompanied by oncocytic metaplasia and periductal fibrosis in a dense chronic inflammatory background, was noted, while in 2 cases pools of hyaluronic acid in close proximity to the salivary glands were also evident.

Conclusion: Besides smoking and solar damage, reduced saliva secretion and cosmetic filler injections may contribute to the etiopathogenesis of CG.

ID: 4891

Expression of pancreatic transcription factors by minor salivary gland stem cells. A challenge for insulin-secreting b-cell lineage trans-differentiation

Other topics

Dr. Achilleia-Maria Pavlou¹; Prof. Dimitrios Andreadis¹; Prof. Athina Bakopoulou²; Dr. Ioannis Bonovolias²; Prof. Aristeidis Kritis³; Prof. Athanasios Pouloupoulos¹;

¹Department of Oral Medicine/Pathology, School of Dentistry, Aristotle University of Thessaloniki, Greece; ²Department of Prosthodontics, School of Dentistry, Aristotle University of Thessaloniki, Greece; ³Department of Physiology, School of Medicine, Aristotle University of Thessaloniki, Greece;

Introduction: Stem cells (SCs) derived from salivary glands are capable for trans-differentiation into several cell types. This could be valuable for tissue regeneration including not only salivary glands but also liver and pancreas. Furthermore, it is questionable whether the pancreatic trans-differentiation could lead to secretion of insulin or related products.

Objective: To investigate the expression of characteristic transcription factors of both the endocrine and exocrine compartments of pancreas in cultured SCs from minor salivary glands.

Materials and Methods: SCs from the labial minor salivary glands were obtained, characterized for the presence of stem cell markers using flow cytometry and cultured in DMEM/F-12 medium containing 10% FBS, antibiotics/antimycotics, retinoic acid, activin-A and GLP-1. Real time RT-PCR was used in order to evaluate the expression of pancreatic transcription factors: Ptf1a , Hb9, Arx , Maf A.

Results: At the first day of the differentiation process the cells (passage 3) expressed high levels of Hb9(early stages of pancreatic development/ b-cells) and MafA (final stages of b-cell differentiation). **High levels of Ptf1a**(exocrine pancreas) were observed 7 days later and the highest levels of Arx(a-cells) were recorded 14 days later .

Conclusion: **Transcription factors' expression indicates the ability of minor salivary gland SCs to trans-differentiate** not only into the exocrine portion (Ptf1a) of pancreas but interestingly into endocrine compartment of pancreas including a-cells (Arx) and b-cells (Hb9, MafA) that theoretically may produce glucagon and insulin respectively. Further study is needed to confirm the formation of the insulin using salivary SCs.

ID: 4822

Salivary Flow Rates are associated with Major Salivary Gland Involvement evaluated by OMERACT Ultrasonography Scoring in Patients with Primary Sjögren Syndrome

Saliva/salivary gland disorders

Prof. Gonca Mumcu

Marmara University

Aim: The aim of the study was to analyse the relationship between whole salivary flow rates (SFRs) and Outcome Measures in Rheumatology ultrasonography (OMERACT US) scores of patients with primary Sjögren syndrome (pSS).

Methods: In this cross-sectional study, 59 patients with pSS (F/M: 55/4) were included. Both stimulated (S-SFRs) and unstimulated salivary flow rates (U-SFRs) of patients were calculated. Patients were grouped as hyposalivation (≤ 0.1 ml/min) and normal according to U-SFRs. OMERACT US score range is from 0 (normal) to 3 points (severe inhomogeneity) in each gland. After preliminary analyses, the best US scores for parotid gland (PG) and submandibular gland (SMG) were determined for hyposalivation by using ROC analysis.

Results: U-SFRs (median: 0.14 mL/min) and S-SFRs (0.7 mL/min) were correlated with US scores of PG and SMG ($p < 0.05$). **Patients with "hyposalivation" (35,6%) had higher OMERACT US scores (2 points for PGs and SMGs) than the others (1 point for both glands)($p = 0.000$ for all).** Since US scores of right and left glands were strongly correlated with each other, right glands were selected for ROC analysis. The best US cut-off values (AUC: 0,834 in PG vs AUC: 0,781 in SMG) were found to be 2 points

in both PG and SMG for hyposalivation (sensitivity: 0,762 in both glands; specificity:0,816 in PG and 0.737 for SMG).

Conclusion: OMERACT US scoring system showed good sensitivity and specificity for hyposalivation. Since hyposalivation is associated with moderate US involvement, early involvement in the glands can be demonstrated by US before functional loss occurs.



POSTERS

ID: 4863

The use of thalidomide in the management of oral ulceration

Aphthous stomatitis

Miss Katherine Eccles¹; Dr. Vignesh Murthy²; Dr. Helen McParland²; Dr. Abgeena Khan²; Dr. Rui Albuquerque²; Dr. Pepe Shirlaw²; Dr. Barbara Carey²;
¹Guy's and St Thomas' Trust (GSTT); ²GSTT;

Thalidomide has been used for many years for recurrent oral ulceration but its use has been limited by unfavourable side effects and teratogenic potential. The aim of this study was to assess the efficacy and safety of thalidomide in the treatment of oral ulceration in a single centre.

All patients had been referred to the Oral Medicine department Guy's and St Thomas' Hospital, London. A retrospective analysis of patients prescribed thalidomide between 1992 and 2021 was performed. Parameters analysed included patient demographics, indication, previous therapies utilised, dosage and side effects.

Thalidomide was prescribed for 52 patients, data analysis was undertaken on 44. Diagnoses included RAS (n=32), Behcet's (n=10) and HIV (n=2). Thalidomide was prescribed as 50mg daily, with variable dosing regimens. The average duration of thalidomide therapy was 3 years 11 months, with treatment ongoing for 21 patients. Side effects were reported by 30 (68%) patients and included subjective tingling, tremors or sensory deficit, somnolence, rash, gastrointestinal disturbance, dizziness and mood disturbance.

Electrophysiology studies were recorded for all patients. Nine patients had objective changes, two had changes indicative of a thalidomide-induced neuropathy.

Mean ulcer severity scores at baseline, 3 months and 6 months were 38 (n=9), 16 (n=7) and 17 (n=9), respectively. Recurrence of ulceration was reported during drug-free periods, therefore, complete remission rate was not calculated.

Our data has shown thalidomide to be an effective treatment option for the management of recalcitrant aphthous stomatitis, HIV ulceration and Behcet's when other therapies have failed.

ID: 4878

A feasibility study for treatment of hematinic deficiencies in recurrent aphthous stomatitis with AfteNova multivitamin

Aphthous stomatitis

Dr. Maria Bankvall

Department of Dental Medicine, Karolinska Institutet, Huddinge, Sweden

Objectives: Recurrent aphthous stomatitis (RAS) is recognised as a multi-factorial condition. Despite, the aetiology remaining in part unsolved hematinic deficiencies are considered a potential risk factor. The aim was to evaluate treatment with AfteNova multivitamin.

Methods: Nineteen patients suffering from RAS without a diagnosed hematinic deficiency or supplemental medication/diet were included. An Ulcer Severity Score (USS) form was filled out for each patient at base-line and after 3- and 6-months treatment.

Comparisons between time-points were statistically calculated using the Friedman test. Also, Wilcoxon's signed rank test was used to compare differences between 3- and 6-months treatment.

Results: Use of AfteNova multivitamin did not reduce the number of lesions. However, the size of the lesions decreased significantly (mm; $p=0.0003$), as well as the duration (weeks; $p=0.0002$), length of the lesion-free periods (weeks; $p=0.04$) and the level of pain (VAS; $p=0.0003$) when comparing base-line, 3- and 6- months treatment. No additional effect was found when comparing 3 and 6 months, yet the effect remained.

USS decreased between base-line (range 21-43, mean $31.4 \pm SD 6.2$), 3 months (range 12-35, mean $20.9 \pm SD 7.1$) and 6 months (range 0-34, mean $19.9 \pm SD 10.6$) ($p<0.0001$).

Conclusions: AfteNova multivitamin likely has an effect on symptoms of RAS. The tablet allows individual absorption levels to permit a suitable dosage for each patient.

Relevance: The present approach allows development of non-prescription drugs for RAS and to understand more about the effects of hematinic deficiencies in this condition.

ID: 4887

Escalation to systemic medications in the management of paediatric recurrent aphthous stomatitis (RAS): two case reports

Aphthous stomatitis

Dr. Priya Thakrar¹; Dr. Krupali Patel¹; Dr. Adele Johnson¹; Dr. Tim Hodgson¹;

¹Eastman Dental Hospital, UCLH

Background: Recurrent aphthous stomatitis (RAS) is the most common diagnosis amongst children and adolescents presenting with recurrent oral ulceration. Whilst this idiopathic condition is self-limiting, it has a **significant impact on patients' quality of life**. Management of paediatric RAS typically involves topical analgesics and topical corticosteroid therapies. Management of severe disease can present a significant challenge, where careful consideration is given to the risk benefit ratio of introducing systemic medications to improve disease control.

Objectives: To present the challenges of managing severe RAS in the paediatric patient where systemic therapy is indicated.

Case reports: We present two cases of RAS, both refractory to topical therapies. Their histories revealed frequent crops of up to 10 ulcers with an ulcer free period of 2 days. Clinical examination confirmed typical aphthous ulceration with no mucosal scarring. The severity of disease resulted in

significant time off of school, reduced oral intake and a negative impact on mental health. Both cases were investigated to rule out underlying systemic disease with Case 1 undergoing full gastroenterology review. Discussion with each family revealed different concerns and treatment expectations, culminating in two distinctly different treatment strategies. Case 1 underwent treatment escalation to colchicine with subsequent disease improvement. Case 2 declined colchicine but subsequently required emergency use of systemic corticosteroid tablets to manage a severe exacerbation.

Conclusions: There is limited evidence in the literature around systemic therapy treatment of RAS in the paediatric cohort. These two cases demonstrate systemic treatment escalation pathways resulting in successful disease control.

ID: 4975

The role of herpes group viruses in the pathogenesis of aphthous stomatitis

Aphthous stomatitis

Dr. Jagriti Kakar¹; Mr. Nikola Rispoli²; Prof. Modra Murovska³; Prof. Ingrida Cema¹;

¹Riga Stradinš University, Institute of Stomatology, Department of Oral Medicine/Pathology, Riga, La;

²Riga Stradinš University, Faculty of Dentistry, Riga, Latvia; ³Riga Stradinš University, Institute of Microbiology and Virology, Riga, Latvia;

Objectives: Herpes group viruses infect almost 90% of the population, mostly in childhood. In a large number of cases, the viruses are not fully eliminated after the primary infection and remain in the form of persistent infection throughout life. Aphthous stomatitis affect around 25% population and is considered a multifactorial disorder but there is strong evidence that mucosal destruction is connected with immune response dysregulation, activated by unknown antigenic stimulation. This work intends to highlight and explain the possible role of herpes group viruses in the pathogenesis of apthae.

Methods: Retrospective and crosssectional data from the patient records who visited RSU Oral pathology clinic with the complain of aphthous stomatitis compiled together since August 2017 till March 2021.

Results: Total of 184 patients with aphthous stomatitis were consulted and treated, 40 of whom (21.7%) blood tests revealed elevated IgG antibodies to herpes group viruses CMV, EBV, HSV and HZV. Recommended local and systemic antiviral therapy significantly reduced clinical symptoms and prolonged the remission period.

Conclusion: The results of this pilot study suggest that herpes group viruses mainly CMV, EBV, HSV and rarely HZV is significantly associated with increased risk of recurrent aphthous stomatitis (RAS). However, high-quality, large-scale studies are required to further explore the potential role of herpes viruses in RAS. Also it is found the use of antiviral therapy considerably reduces the duration of RAS and recurrence is also delayed. The change in the treatment protocol could possibly help to reduce the severity and recurrence of RAS.

ID: 4978

The Impact of A Diagnostic Dilemma On Mental Health

Aphthous stomatitis

Miss Pavneet Chana¹; Miss Molly Harte²; Ms. Daniela Ion³;

¹Liverpool University Teaching Hospital; ²Royal National ENT and Eastman Dental Hospitals, University College London Hospitals; ³Royal National ENT and Eastman Dental Hospitals, University College London;

Background: Recurrent oral ulceration affects up to 25% of the population with associated factors including stress, trauma, drugs, food hypersensitivity, nutritional deficiency, hormonal changes and tobacco. We present a diagnostically challenging case of oral ulceration that highlights the impact of this condition on mental health.

Case Presentation: A 36-year-old Brazilian male was referred to the Oral Medicine department by his dentist for investigation of extensive, irregular, deep, atypical recurrent oral ulceration, affecting both keratinised and non-keratinised mucosa. Episodes occurred every 2-3months and lasted up to 3weeks. No other muco-cutaneous lesions, gut symptoms or systemic features were reported.

The patient provided an extensive photographic ulcer diary. Alongside the atypical ulceration, there was background recurrent aphthous stomatitis minor.

Medically, his anxiety and GORD were managed with mirtazapine and omeprazole. He denied smoking and consumed little alcohol.

The differential diagnoses given by the oral mucosal biopsy included a vasculitic process, infection or drug reaction. Extensive haemato-serological investigations, including for vasculitis and infection, were repeatedly unremarkable. Direct indirect immunofluorescence were negative.

Despite extensive investigations, the diagnosis of this unusual oral ulceration remains unclear.

The relapsing-remitting oral ulceration was responsive to topical corticosteroid treatment. Episodes of ulceration have had a significant impact on the patient's mental health, necessitating additional anxiolytic therapy with venlafaxine and clonazepam.

Conclusion: This case highlights the negative impact diagnostic dilemmas can have on psychological, physical and social well-being with subsequent limitation of various day-to-day activities. Establishing a diagnosis may reduce the frequency of ulceration and improve the patient's overall well-being.

ID: 5001

Efficacy of Hyaluronic Acid on pain control in Aphthous ulcers. Systematic Review and Meta-analysis

Aphthous stomatitis

Dr. Luis alberto moreno-lópez¹; Dr. Yelka J. Peña-Campana¹;

¹Universidad Complutense de Madrid

Aphthous ulcers are a very frequent cause of pain in oral mucosa. Now, there is not a definitive treatment to manage the pain that they originate. There are many Over the Counter products based on

Hyaluronic Acid to treat this disease, but it seems that there is not a great scientific evidence to support its use.

We have carried out a systematic review and Meta-analysis in order to find out whether HA is effective to control pain in Aphthous Ulcers. Our Population is patients with Recurrent Aphthous Stomatitis ulcers, participant in a Randomized Clinical Trial. The Intervention is treatment with HA, Compared with placebo or alternative treatment. We have look for pain evaluation of lesions as Outcome.

We have found 429 articles in the first search, after eliminating duplicates and not RCT we have read 11 complete articles. Finally, only 2 articles provide data to perform meta-analysis. Metanalysis estimate is 1,1 ($p < 0,001$) for controlling pain after 4 days of treatment in aphthous ulcers.

There is a very poor evidence to support HA to control pain in aphthous ulcers.

ID: 5048

La asignatura de medicina oral en la prevención del cáncer oral en alumnos de Odontología

Behavioural dentistry

Dr. Catalina Barba Montero¹; Dr. Andrés Blanco Carrión¹; Dr. Gisela Cristina Vianna Camolesi¹; Dr. Mario Pérez-Sayans García¹; Dr. Abel García García¹; Dr. Pilar Gándara Vila¹;

¹Máster de Medicina Oral, Cirugía Oral e Implantología. Universidad de Santiago de Compostela

Objectives: to assess the impact of oral cancer knowledge on the professional attitude of the Odontology students

Material and Methods: A descriptive study of the Dentistry Degree students of the Santiago de Compostela University was carried out. They were divided in two groups: one integrated by first and second year students who had not attended any clinical course and another group that had studied the Oral Medicine subject. All of them were given a questionnaire in which the following parameters were collected: course, sex, age and 8 items on oral cancer knowledge. All data were entered into a database and analyzed using the SPSS 2.0 software for Windows (SPSS, CHICAGO, IL, USA).

Results: they will be exposed during oral communication

Conclusions: they will be exposed during the oral communication

ID: 3768

Management of chronic oral Graft versus host disease: A systematic review

Bullous or Immuno-bullous disorders and other immune-mediated diseases

Dr. Alaa Shousha¹; Prof. Shereen Ali¹;

¹Faculty of Dentistry, Cairo University

Objectives: Patients treated with allogeneic hematopoietic stem cell transplantation (HSCT) may experience chronic oral graft-versus-host disease (GVHD) that may significantly affect their quality of life. Management of these oral lesions represent a real challenge. This review was conducted to assess the effect and safety of treatments of chronic oral GVHD.

Methods: MEDLINE-PubMed and CENTRAL were searched to identify clinical trials.

Results: Included studies showed diversity in study design with low number of RCTs and small samples size. Studied treatment modalities included Corticosteroids (triamcinolone acetonide, dexamethasone, clobetasol, budesonide), other immunosuppressive drugs (tacrolimus, thalidomide) and other modalities (nutraceuticals, photomodulation, extracorporeal photopheresis, autologous platelets).

Conclusion: We recommend conducting RCTs with large sample size, sufficiently long follow-up period as well as standardized formulations and outcome measures to have strong evidence regarding the effectiveness of the previously studied therapeutics.

ID: 4824

Isolated oral vasculitis: the challenges encountered

Bullous or Immuno-bullous disorders and other immune-mediated diseases

Dr. Molly Harte¹; Dr. Krupali Patel¹; Dr. Daniela Ion¹;

¹Royal National ENT and Eastman Dental Hospitals, University College London Hospitals

Background: Systemic autoimmune vasculitides can present with oral manifestations. Oral lesions as an isolated presenting feature are rare. Early recognition of oral lesions can aid diagnosis, and a multi-disciplinary approach allows for timely management and prevention of severe disease.

Case Presentation: A 50-year-old female was referred to the Oral Medicine department from a Vasculitis Clinic for investigation of isolated and extensive non-healing palatal ulceration. The patient denied other muco-cutaneous lesions, gut symptoms and other systemic features suggestive of systemic disease.

Medically she had osteoarthritis, hypertension and a hiatus hernia, all managed with systemic medication. She stopped smoking 5 years prior to presentation and did not consume alcohol.

Investigations: One oral biopsy of the multiple ones undertaken demonstrated fibrin deposits within a blood vessel and neutrophils within vessel walls and lumen, possibly suggestive of vasculitis. Extensive haemato-serological investigations and imaging were repeatedly unremarkable. Direct indirect immunofluorescence was negative.

Treatment: The relapsing-remitting oral ulceration was corticosteroid-responsive at doses of Prednisolone >20mg/day. Azathioprine had been initially effective in achieving a sustained ulcer-free period of up to 6 months but was stopped due to HPV-related VIN3. Mycophenolate mofetil was poorly tolerated and the ulceration was non-responsive to biologic agents. Through a multi-disciplinary approach, treatment was escalated to cyclophosphamide infusions which led to complete resolution of symptoms.

Conclusion: Isolated oral vasculitic lesions are rare, and when encountered can be challenging to diagnose and manage, requiring escalation to treatments rarely used otherwise in the field of Oral Medicine. A multi-disciplinary approach is crucial for the successful management of these patients.

ID: 4875

Web-based information on Sjogren's syndrome - Quality and Readability

Bullous or Immuno-bullous disorders and other immune-mediated diseases

Dr. Miss Sara AlBassam¹; Dr. Richeal Ni Rioirdain¹; Prof. Stefano Fedele¹; Prof. Stephen Porter¹;

¹University College London

Objectives: To categorise the content and evaluate the quality and readability of the patient-oriented web-based information concerning Sjogren's syndrome (SS).

Methods: An online search using two different search terms: "Sjogren's syndrome" and "Treatment of Sjogren's syndrome" was undertaken utilising the Google search engine. The first 100 websites obtained from the two searches were considered for analysis. These were evaluated for content and quality, using DISCERN, JAMA benchmarks, and the Health on Net (HON) seal. Readability was assessed using the Flesch Reading Ease Score (FRES).

Results: The search terms "Treatment of Sjogren's syndrome" and "Sjogren's syndrome" generated 947,000 and 1,610,000 hits respectively. A total 56 websites remained for assessment. Of these websites, 24 (42.85%) and 21 (37.5%) were non-profit organisation and commercial, respectively. The content of the majority (97%) was exclusively related to SS. The mean and standard deviation of the overall DISCERN score was 1.83 ± 0.96 . Only 6 websites (11%) achieved all 4 JAMA benchmarks. Only 12 websites (21%) had the HON certification. The FRES of the websites ranged between 10.4 and 74.6. The mean rating was $49.5 (\pm 11.9)$, which is considered difficult to read.

Conclusions: The available online information likely accessed by patients on SS is generally of poor quality and/or likely to be poorly understood. The informational needs of patients with SS require to be determined to create appropriate online resources that address such wishes.

ID: 4912

Sequential IgG autoantibody titres in laminin 332 confirmed mucous membrane pemphigoid and their relationship to oral disease severity

Bullous or Immuno-bullous disorders and other immune-mediated diseases

[Dr. Ali Alqarni](#)¹; Prof. Charles Kelly¹; Prof. Stephen Challacombe¹; Prof. Jane Setterfield¹;

[¹King's College London](#)

We have recently shown in a cross-sectional study of well-defined cohort of patients (n=117) with mucous membrane pemphigoid (MMP), (48 of whom had laminin 332 autoantibodies), that the titre of anti L332 IgG antibody correlated with the oral MMP disease severity. In this study we sought to ascertain whether in MMP patients who had laminin 332 autoantibodies, sequential titres of L332 antibodies might be associated with changes in oral disease activity.

Methods: 11 L332-MMP ELISA positive sera, with 11 matched whole saliva samples were screened for IgG IgA antibodies to commercially available recombinant human L332 using ELISA. Four matched samples per patients were collected at 3 monthly intervals. Antibody titres were correlated with the Oral Disease Severity Score (ODSS) recorded at each follow-up visit.

Results: There was a positive correlation between the titre of serum IgG antibody to L332 and ODSS in MMP during follow-up (Spearman $r = 0.63$ $p = < 0.04$), but neither serum IgA nor saliva IgA and/or IgG anti-L332 antibodies were found to be significantly correlated with the ODSS. The mean salivary IgG and IgA anti-L332 antibody titres showed statistically significant decreases over the 9-month period. ($p = < 0.01$).

Conclusion: The data suggest that serum IgG L332 antibodies may be a biomarker of oral disease activity. The reduction in salivary IgG and IgA is likely to be associated with systemic therapy and further follow up may determine whether this is reflected in a reduction in ODSS.

ID: 4924

Erythema Multiforme: a case report

Bullous or Immuno-bullous disorders and other immune-mediated diseases

Dr. Isabel Ventura¹; Dr. António Duarte Silva¹;

¹Hospital do Espírito Santo de Évora, EPE

Erythema Multiforme (EM) is an uncommon mucocutaneous, inflammatory, immune-mediated disorder. It may present with mucosal lesions, cutaneous lesions, or both. Oral mucosa lesions are common, frequently exuberant and may be the first clinical feature or even the only manifestation at clinical examination. EM it is nominated major or minor, considering the presence or absence of oral manifestations. EM is commonly associated with virus infections, mainly herpes simplex virus (HSV) and mycoplasma pneumoniae or following certain medications. Despite being usually self-limited, more severe clinical forms of the disease may demand a customized treatment and careful clinical follow-up. Since oral mucosa lesions have an early onset and sometimes are the unique clinical manifestation of EM, the oral health professional must be aware of its suggestive clinical features, in order to make the correct diagnosis and promptly therapeutics may be given. Early treatment can avoid EM evolution to life threatening systemic complications but also reduce patient's morbidity.

We present a case report of an EM major in a 14-year-old healthy male, brought to the emergency room (ER) with severe eating impairment due to painful, multiple and progressive oral mucosa ulcerations, following an episode of recurrent labial herpes. The clinical picture, evolution and therapeutic workout are presented.

ID: 4930

Sleep disturbance and psychological profile in pemphigus vulgaris patients: a case-control clinical study

Bullous or Immuno-bullous disorders and other immune-mediated diseases

Dr. Elena Calabria¹; Dr. Daniela Adamo¹; Dr. Stefania Leuci¹; Dr. Noemi Coppola¹; Dr. Elvira Ruoppo¹; Dr. Federica Canfora¹; Prof. Massimo Aria²; Prof. Michele Davide Mignogna¹;

¹University of Naples, Federico II, Department of Neuroscience, Reproductive Science and Dentistry;

²University of Naples, Federico II, Department of Economics and Statistics;

Background: Pemphigus Vulgaris (PV) is a severe autoimmune blistering disease which may affect Quality of Sleep (QoS) and psychological profile of affected patients. As few data is available from the literature, we sought to evaluate quality of sleep (QoS), anxiety and depression in PV patients.

Methods: 60 PV patients and 60 healthy controls were enrolled. The Pittsburgh Sleep Quality Index (PSQI), Epworth Sleepiness Scale (ESS), Hamilton Rating Scale for Depression (HAM-D) and Anxiety (HAM-A) were administered. Descriptive statistics, including the Mann-Whitney U test and hierarchical multiple linear regression analysis, were used.

Results: The PV patients had statistically higher median scores in the PSQI, HAM-A and HAM-D than the controls (p-values: <0.001) and in the majority of the PSQI's sub-items, namely "subjective

sleep quality”, “habitual sleep efficiency”, “sleep duration”, “use of sleeping medications” and “daytime sleepiness” (p-values: 0.017, 0.001, 0.001, 0.049, 0.001). Thirty-three (55%) of the PV patients were poor sleepers (PSQI >5) with higher scores in the HAM-A and HAM-D (p-values: 0.012, 0.003) compared with the good sleepers (PSQI <5). PV patients with exclusive mucosal involvement presented higher median scores only in the “sleep disturbance” sub-item (p.value: 0.037) compared with the mucocutaneous PV, while no statistically significant difference was detected with respect to the clinical status.

Conclusions: PV patients presented an impaired QoS and higher levels of anxiety and depression in comparison with the controls. Therefore, clinicians should monitor periodically their QoS and psychological profile in order to guide treatments also towards improving their overall quality of life.

ID: 4953

Oral mucosal lesions in psoriatic patients with different therapy regimes

Bullous or Immuno-bullous disorders and other immune-mediated diseases

Mrs. Maria Olejnik¹; Prof. Zygmunt Adamski²; Prof. Barbara Dorocka-Bobkowska¹;

¹Department of Gerodontology and Oral Pathology, Poznan University of Medical Sciences, Poland;

²Department and Clinic of Dermatology, Poznan University of Medical Sciences, Poland;

Background: The study was designed to investigate the frequency of oral lesions in psoriatic patients and to identify a possible association between mucosal involvement and a form of treatment.

Methods: One hundred twenty-seven patients diagnosed with psoriasis and managed at the Dermatology Department, Poznan University of Medical Sciences were enrolled in this study. The oral mucosa evaluation was based on the clinical appearance, location and morphology of the lesions. The patients were classified according to the type of treatment, which included topical, systemic and biological option.

Results: The most common oral lesions in patients with psoriasis were found to be fissured (FT), white coated (CT) and geographic tongue (GT). A significantly lower prevalence of GT was evident in the group managed with a new class of biological drugs. Only 25% of patients presented normal oral mucosa.

Conclusions: Tongue lesions seem to be associated with skin psoriasis regardless of the treatment. The type of treatment may affect the prevalence of oral lesions. Further investigations including the measurement of inflammation markers and biopsy are required to confirm the influence of biological therapies on mucosal improvement.

ID: 5027

Oral symptoms and oral mucosal lesions in patients with inflammatory bowel disease treated with anti-TNF-alpha

Bullous or Immuno-bullous disorders and other immune-mediated diseases

Prof. Miranda Muhvic Urek¹; Dr. Ema Saltovic²; Prof. Brankica Mijandrušić Sincic³;

¹Department of Oral Medicine, University of Rijeka, Faculty of Dental Medicine, Croatia; ²Clinic of Dental Medicine, Clinical Hospital Center Rijeka, Croatia; ³Department of Internal Medicine, Clinical Hospital Center Rijeka, Croatia;

Introduction: Biological therapy has been used for the past 20 years in the treatment of inflammatory bowel disease (IBD). Although this therapy has significantly resulted in the improvement of symptoms and the achievement of disease remission, the use of these drugs is accompanied by side effects in many organs and systems of the body including the oral cavity.

The aim of this study was to determine oral symptoms and oral mucosal lesions in patients with IBD treated with anti-tumor necrosis factor-alpha (anti-TNF-alpha).

Materials and methods: The study included 20 IBD patients treated with anti-TNF-alpha (infliximab i.v.) (mean age 45.5±18.2, 13 men), 20 IBD patients who did not receive biological therapy (mean age 47.1±10.8, 5 men), and 20 healthy control subjects (mean age 47.2±11, 11 men). Subjects completed a questionnaire about oral symptoms. The presence of oral mucosal lesions were recorded through clinical examination.

Results: IBD patients most often complain of bad breath, 30% in the group treated with anti-TNF-alpha, 45% in the group of patients who did not receive biological therapy. Other symptoms (dry mouth, burning sensations, taste disturbance) were reported in small percentages. Specific oral lesions were not recorded in this study. The most lesions were recorded on tongue (coated tongue and atrophic tongue), but no statistically significant difference was found between the groups ($p > 0.05$).

Conclusion: According to our results, patients treated with anti-TNF-alpha do not report more oral symptoms and do not have significantly more oral lesions compared to IBD patients without biological therapy and control subjects.

ID: 5031

Mucous Membrane Pemphigoid (MMP). A clinicopathologic analysis of 62 patients with oral manifestations

Bullous or Immuno-bullous disorders and other immune-mediated diseases

Dr. Efi Stergiadou

Aristotele university of Thessaloniki

Purpose: MMP belongs to immune-related bullous diseases with manifestations in oral mucosa. The clinicopathologic analysis of patients diagnosed with oral-MMP at the Department of Oral Medicine, School of Dentistry, Aristotle University of Thessaloniki, Greece was the aim of this study.

Methods: Retrospective analysis of 62 pemphigoid cases during 2009-2020 has been evaluated based on their clinicopathologic characteristics.

Results: Oral mucous membrane pemphigoid represents 2,87% of total biopsies performed in the last decade. From 62 patients in our study, 74.2% were women and 25.8% men with median age 65yo (28-87yo, 50% were over 70yo). The most common site of mucosal involvement was gingiva (desquamative gingivitis) 77.4%. Interestingly, hard palate involvement showed a different men-women frequency (70.8% vs 29.2%), as well as buccal mucosa (50% vs 41.3%). Most of the cases showed no skin involvement (63%), while 37% had skin manifestations alone, or together with other mucous membranes involvement. Many patients were non-smokers (77.4%) and non-alcohol abusers (91.9%), respectively. Most of our patients (85,5%) were under medication for systemic diseases (67.7% were treated for cardiovascular diseases). The treatment after diagnosis included combined administration of systemic-local corticosteroids (45.2%), Local (25.8%) and systemic only (27.4%). After careful follow-up for at least 12 months, 46.8% of the patients experienced 1-2 recurrences after the initial treatment.

Conclusions: In accordance with previous studies, oral mucous membrane pemphigoid remains a common immune-related oral disease with variety of clinical severity, and problematic management as indicated by the recurrence rate.

ID: 5053

An evaluation of therapeutic interventions for Mucous Membrane Pemphigoid in a tertiary blistering disease service

Bullous or Immuno-bullous disorders and other immune-mediated diseases

[Dr. Richard Walton](#)¹; Dr. Samuel McCarthy¹; Dr. Philip Hampton²; Prof. Marco Carrozzo¹;

¹[Newcastle University](#); ²Royal Victoria Infirmary, Newcastle;

Mucous membrane pemphigoid (MMP) is an uncommon heterogeneous chronic, inflammatory autoimmune disease resulting in sub-epithelial bullae often localized to the oral cavity. We present a cohort of mucous membrane pemphigoid patients at a tertiary blistering disease service and the therapeutic interventions utilised with a commentary on disease outcome and treatment duration.

We have undertaken a retrospective cohort evaluation of patients diagnosed with MMP between 1997 and 2020 through accepted diagnostic criteria including positive direct immunofluorescence and/or positive indirect immunofluorescence/ELISA. 126 patients (85 females, mean age 66 years) were included in this service evaluation with therapeutic interventions, disease control and duration of therapy determined through review of the medical records.

The largest majority of patients within the tertiary blistering disease service required systemic steroid therapy +/- other systemic agent (37.3%) followed by topical only therapy (30.2%). Median follow up time for patients within the service was 48 months (2-288 months). 67.5% of patients are in clinical remission with 29.1% of those off treatment. When clinical remission-off treatment was achieved, 38.5% achieved this with systemic steroids +/- other systemic agent followed by Dapsone +/- non steroid systemic agent 11.5%.

In a tertiary blistering disease service, over two thirds of patients achieved clinical remission with the most effective therapy being systemic steroids +/- a further systemic agent. This highlights the importance of steroid therapy in management of MMP.

ID: 5056

Oral manifestations as the first presenting sign of Crohn's disease in a pediatric patient

Bullous or Immuno-bullous disorders and other immune-mediated diseases

[Miss Ioanna Tsouri](#)¹; Dr. Maria Georgaki¹; Mr. Efstathios Pettas¹; Dr. Eleana Stoufi¹; Dr. Evangelia Piperi¹; Prof. Nikolaos Nikitakis¹;

¹[National and Kapodistrian University of Athens](#)

Introduction: Crohn's disease (CD) is a **granulomatous inflammatory bowel disease (IBD)** that may affect any part of the gastrointestinal tract from mouth to perianal area. The oral manifestations of Crohn's disease may coincide with intestinal inflammation or precede it. In children, oral findings are present in around 10-80% of cases and in approximately 30% represent the first manifestation of the disease. A case of CD in a pediatric patient is reported here, focusing on the clinical features, diagnostic procedures, treatment and outcome.

Case report: A 12-year-old boy presented with persistent lip swelling of two months duration. Clinical examination also revealed angular cheilitis, enlarged erythematous gingiva, mucosal tags, cobblestoning and staghorn appearance of the sublingual folds. With a provisional diagnosis of orofacial granulomatosis, a partial biopsy of the lower labial mucosa was performed, revealing non-specific granulomatous inflammation. Referral to gastroenterology and additional investigation, including colonoscopy and calprotectin test, sealed the final diagnosis of CD. Systemic treatment included methylprednisolone, azathioprine followed by methotrexate, mesalazine and diet modification resulted in CD remission, while oral manifestations were further managed with topical and intralesional corticosteroids. Eight months after the initial diagnosis, the patient remains free of oral or other CD manifestations.

Conclusions: Awareness of oral CD manifestations in pediatric patients is vital to ensure early diagnosis, preserve normal child growth and maintain high quality of life. The differential diagnosis in these cases includes a variety of local and systemic diseases, the diagnosis and management of which require cooperation by a team of healthcare providers.

Comparison of different therapeutic options for treatment of burning mouth syndrome

Burning mouth syndrome

Dr. Bozana Loncar Brzak¹; Dr. Ivana Skrinjar²; Dr. Ana Andabak Rogulj³; Dr. Vlaho Brailo²; Dr. Lada Sumilin⁴; Dr. Danica Vidovic Juras²;

¹School of Dental Medicine, Department of Oral Medicine, University of Zagreb; ²School of Dental Medicine, Department of Oral Medicine, University Clinical Hospital Zagreb; ³School of Dental Medicine, Department of Oral Medicine; ⁴Polyclinic Aviva, Zagreb, Croatia;

Introduction: Burning mouth syndrome is a painful condition of unknown etiology that impairs quality of life and lacks adequate therapeutic options.

Objectives: The purpose of this study was to determine the most effective treatment option for burning mouth syndrome. Informative treatment alone, B-vitamin injections, oral cavity probiotics and low level laser treatment (LLLT) were evaluated and compared.

Material and methods: The study included a total of 62 patients diagnosed with burning mouth syndrome and excluded local and systemic causes. Everyone was clearly explained about the diagnosis and given an information leaflet. At the beginning of the study, they filled out a self-perceived quality of life questionnaire (Oral Health Impact Profile; OHIP-14) and determined the intensity of mucosal symptoms according to the visual-analog scale (VAS), which was also repeated at the check-up.

A total of 13 patients were given verbal and written information only, 17 patients were given information and vitamin B injections, 17 patients got information and oral cavity probiotics and 15 patients were given information and were treated with LLLT.

Results and conclusions: There was no statistically significant difference in age and gender between the groups ($p = 0.99$). Differences in OHIP scores before and after different types of therapy have shown significant for oral cavity probiotics and LLLT. Standardized effect sizes between OHIP scores in patients with different types of therapy have shown that oral cavity probiotics have been the most effective treatment for improvement of quality of life. Further investigation on larger group of patients is required.

ID: 4064

The Psychological Impact of Pain Intensity and Qualities in Burning Mouth Syndrome Patients

Burning mouth syndrome

Miss Pavneet Chana¹; Prof. Tara Renton²;

King's College Dental Institute; ²King's College London;

Objective: To explore the qualities and intensity of pain experienced by Burning Mouth Syndrome (BMS) patients and explore the relationships with psychological function and health related quality of life (HRQoL).

Methods: A cross sectional study of 36 BMS patients who attended a specialised Orofacial Pain Clinic was undertaken, all patients completed self-reported questionnaires. The Short-Form McGill Pain Questionnaire (SFMPQ-2) was used to assess the sensory, affective and evaluative qualities of pain alongside the pain intensity. Mood was evaluated by the 9-item Patient Health Questionnaire and the 7-item generalised anxiety disorder tool. The oral health impact profile (OHIP-13) and generic HRQoL were also assessed. These tools have shown to be reliable and valid assessment tools in chronic pain patients.

Results: Pain intensity varied widely with patients reporting none-mild (38.5%), moderate (26.9%) and severe (34.6%). Overall, SFMPQ-2 scores reflected patients' reported symptoms of elevated continuous rather than intermittent pain, and notable levels of neuropathic and affective pain. Total SFMPQ-2 scores indicating pain intensity showed significant associations with HRQoL (oral: $p < 0.001$, generic: $p < 0.001$). Interestingly, scores on the affective subscale were most strongly linked with HRQoL and psychological function, although high continuous pain scores were significantly related to greater anxiety levels ($p < 0.001$).

Conclusions: Findings in this study should be used to guide treatment decisions to ensure the HRQoL and mood of BMS patients is improved. Identification of patients scoring on the affective and continuous subscales should be identified and managed in a multidisciplinary approach with psychological support.

ID: 4825

Taste and smell in Response in Burning Mouth Syndrome

Burning mouth syndrome

Prof. Pia Lopez-Jornet¹; Ms. Collado Murcia Yolanda²; Dr. Pons-Fuster Eduardo³; Dr. Tvarijonavičiute asta⁴; Dr. Lamey Elsa⁵; Prof. Gomez García Francisco³;

¹University of Murcia; ²University of Murcia; ³University Murcia; ⁴University Murcia; ⁵University of Evora Portugal;

Background: Taste and smell are considered to be functions that contribute to the maintenance of good nutritional status. The present study evaluates taste and smell chemosensory function in patients with burning mouth syndrome (BMS) versus a control group.

Methods: A comparative cross-sectional study was made of 36 consecutive patients with BMS and 56 health controls. Smell was assessed using the Sniffin' Sticks test, while taste was evaluated with Taste Strips. Oral quality of life was assessed with the Oral Health Impact Profile-14 (OHIP-14), and the severity of dry mouth with the Thompson Xerostomia Inventory.

Results: The 36 patients with BMS had a mean age of 60.4 0±10.5 years, while the 56 controls had a mean age of 61.3±19 years. No significant differences in smell were recorded between the two groups (p=0.407). In contrast, significant differences in taste function were observed between the patients with BMS and the controls (p<0.001).

Conclusions: The patients with BMS suffered taste alterations compared with the healthy controls. Further studies in such patients are needed to allow improved management of the chemosensory problems in BMS.

ID: 4803

Multidisciplinary management of a Paediatric case of oral graft versus host disease

Cancer and cancer therapy

Dr Dr. Adam Bhanji¹; Mr. Andrew Fulton¹; Ms. Zoe Shrivastva¹; Dr. Jodie Montgomery-Cranny¹;

¹Leeds Dental Institute

Background: Graft Vs Host Disease (GvHD) is where tissue grafted into a host, in treatment of acute leukaemias, invokes autoimmunity in the host. Oral manifestations cause pain, functional impairment and reduced quality of life. It is also linked to increased risk of Squamous Cell Carcinoma.

Presenting problem: A 16-year-old male referred by the paediatric haematology team with "frilly tongue covered in white plaques" to Paediatric Dentistry, diagnosed with Acute B Lymphoblastic Leukaemia in November 2019, which failed to respond to chemotherapy. He subsequently received an

allogeneic haematopoietic stem cell transplant in May 2020. Initial oral symptoms began in September 2020, constituting dryness, c white plaques and oral ulceration.

Clinical management: Initial management involved the assessment of dentition and oral soft tissues by Paediatric Dentistry, with subsequent input from Oral Medicine team. A lower soft splint was provided to prevent soft tissue trauma from the dentition. Mycology rinse showed fungal infection, which was treated successfully with fluconazole. Medical management included prescription o saliva substitutes, topical corticosteroids high dose systemic corticosteroids, followed by hydroxychloroquine and mycophenolate mofetil and further high dose oral corticosteroid.

Discussion: Graft versus host disease often requires multiple medical and sometimes dental specialties to work together in a multi-disciplinary team to improve outcomes for the patient. It can be difficult to manage with heavy immunosuppression, polypharmacy and multi-organ involvement complicating management further. This case provides a chronological account of the evolution of this syndrome in a paediatric patient and its subsequent management.

ID: 4847

Metastatic oral malignant neoplasms. A case report and brief review of the literature

Cancer and cancer therapy

Dr. Apostolos Matiakis¹; Mrs. Effimia Stergiadou¹; Dr. Eleftherios Anagnostou¹; Dr. Athanasios Pouloupoulos¹;

¹Dental School, Aristotle University of Thessaloniki, Greece

Introduction: Oral metastatic tumors are very rare, being 1-2% of oral cavity malignant tumors, appearing in the jaws and, rarely, in the soft tissues. Differential diagnosis is important especially in patients whose medical history includes previous malignancy.

Case details: A female 46 year old patient presented to our Clinic, appearing three intraoral tumor-like lesions. Her medical history included surgically excised colon adenocarcinoma and metastatic left lung tumor three years ago. Intraoral examination revealed a 5 cm in diameter, red in colour, unpainful, scleroelastic in palpation, sessil, expanding from vestibular to lingual gingivae on the premolars right side tumor. Two similar lesions were on the maxilla, on the molars side, expanding from vestibular to palatal gingivae. OPG revealed intraosseous invasion. The biopsy revealed a low differentiated metastatic colon adenocarcinoma. Immunohistochemistry included positivity both in cytokeratin-20 and cdx-2. Further imaging investigation (cranial CT, cerebral MRI and full body scanning) revealed a metastatic lesion in the cerebellum with spreaded osceous metastatic lesions. The patient was referred to a specialized in cancer hospital for further treatment.

Discussion: Metastatic oral tumors are very rare, usually originating from gastrointestinal tract carcinomas, lungs, prostate, renal and breast, mainly appearing in gingivae. Patient's medical history of previous malignancies is taken under consideration in the differential diagnosis approach. Histopathological examination establishes the final diagnosis.

Conclusion: Medical history is of great importance, especially in malignancy. The lesion biopsy and histopathological examination are essential for the establishment of the diagnosis and the indicated treatment of the patient.

ID: 4877

Hepatocellular Carcinoma Metastasis at Oral Cavity: a Case Report

Cancer and cancer therapy

[Dr. Filipa Contente](#)¹; Dr. Teresa Coelho¹; Dr. Tiago Oliveira¹; Dr. Paulo Palmela¹; Dr. Dolores López-Presa¹; Prof. Francisco Salvado¹;

¹[Centro Hospitalar de Lisboa Norte](#)

Hepatocellular carcinoma (HCC) is the most frequent primary liver malignancy, representing 75-85% of all primary liver tumors. Usually HCC develops on the background of chronic liver disease, such as, hepatitis C virus (HCV) and hepatitis B virus (HBV) infections, alcohol abuse, obesity or hemochromatosis. These tumors have a global poor prognosis with the presence of extra-hepatic metastasis in 30-50% of the patients. The commonest sites of extra-hepatic metastasis are the lungs, the intra-abdominal lymph nodes, the bone and the adrenal glands. Oral cavity is an uncommon site of extra-hepatic metastasis and it is related with an aggressive condition, with poorer outcome, usually due to simultaneous multiple organ metastasis. A 82-year-old male patient with a past medical history of HCC and right hepatectomy, was referred to our oral medicine outpatient clinic. He presented a growing exophytic nodular lesion, in the tongue. At clinical evaluation the lesion mimicked squamous cell carcinoma. In order to obtain a correct diagnosis, a biopsy was performed with a pathology report of HCC metastasis. This case report illustrates the challenge of differential diagnosis of an oral cavity growing exophytic lesion.

ID: 4893

Haematological malignancies presenting as atypical oral swellings

Cancer and cancer therapy

[Dr. Sangeetha Yogarajah](#)¹; Dr. Donal McLornan²; Dr. David Wrench²; Dr. Barbara Carey¹;

¹[Department of Oral Medicine, Guy's St Thomas' NHS Foundation Trust, London, UK](#); ²Department of Haematology, Guy's & St Thomas' NHS Foundation Trust, London, UK;

Haematological malignancies may present in the oral cavity. The presence of lymphoma within the oral cavity typically follows disseminated spread from an extraoral site. Involvement of extramedullary tissues in chronic myeloid leukaemia (CML) is generally limited to patients with blast crisis.

A 67-year-old male presented with a 2-week history of a painful enlarging mass involving the left buccal mucosa. Background medical history included AML, having recently transformed from CML. Examination revealed a 40mm firm mass of the left cheek. There was superficial ulceration, swelling and ecchymosis of the left buccal mucosa. Ultrasound revealed a solid mass suspicious for chloroma. Histopathology demonstrated atypical monocytoid cells, consistent with leukaemic deposits.

A 79-year-old male was referred with a 3-week history of an asymptomatic lump involving the right buccal mucosa. He denied any B-symptoms. On examination, there was a 20mm round, firm, mobile lump in the buccal sulcus. Ultrasound revealed a well-defined hypoechoic lesion with prominent vascularity pattern. Biopsy was consistent with mantle cell lymphoma (MCL). PET-CT showed low-moderate metabolic activity corresponding to the right buccal sulcus, lymph nodes above and below the diaphragm, bilateral pleura and lungs, suspicious of disseminated MCL.

The differential diagnoses include benign lumps including mucoceles, fibromas, lipomas and benign salivary gland tumours. Malignant tumours are rare, accounting for less than 1% of soft tissue swellings. These cases highlight the importance of soft tissue examination and for atypical swellings, ultrasound and biopsy, to discriminate between benign and malignant lesions.

ID: 4911

DCC hypermethylation in oscc and oral leukoplakia

Cancer and cancer therapy

Prof. Athanasios Pouloupoulos¹; Mr. Apostolos Chatzivasileiou¹; Mr. Petros Papadopoulos¹; Dr. Eirini Louizou²; Mrs. Aikaterini Tsirtsaki²; Dr. Eustathios Tsitsopoulos²; Prof. Dimitrios Andreadis¹; ¹Aristotle University of Thessaloniki; ²Bioiatriki SA;

Background:

Epigenetic changes (including hypermethylation) are heritable modifications in gene expression without alterations of the DNA sequences.

Epigenetics may play a key role in the initiation and progression of OSCC and hypermethylation was implicated as an effective mechanism of tumor suppressor gene inactivation.

DCC(18q21.2) is a tumor suppressor gene, associated with hypermethylation in different types of human cancers including OSCC.

Methods:

We evaluated DCC hypermethylation in samples taken from the laboratory of Oral Medicine of Dentistry School (Aristotle University of Thessaloniki): 41 samples of oral leukoplakia-OL (subdivided into groups: hyperkeratosis, mild, moderated and severe dysplasia) 61 samples of OSCC as well as normal oral tissues. The DCC hypermethylation was evaluated using bisulfate conversion and Methylation specific PCR-MSP.

Results: DCC hypermethylation was associated with OSCC but not with OL.

Significant difference in DCC hypermethylation was found between OSCC and normal tissues ($p < 0.001$) and between OSCC and OL ($p < 0.001$). 90% of samples of OL-moderated dysplasia expressed DCC hypermethylation. Significant difference in

DCC hypermethylation was found between OL-hyperkeratosis and OL-moderated dysplasia($p=0,046$) and between OL-mild dysplasia and OL-moderated dysplasia($p=0,006$).

No significant difference in DCC hypermethylation was found between OL and normal tissues ($p=0.226$).

Conclusions:

Since epigenetic changes occur early in carcinogenesis and are potentially reversible, they could be used as bio markers, even as therapeutic targets in human cancer.

These results indicate that DCC is epigenetically inactivated by hypermethylation in most cases of OSCC but not in OL and this could be associated with the initiation, progression and prognosis of OSCC.

ID: 4916

Efficacy of Prunus Armeniaca on Oral Squamous cell carcinoma Cell Line: An Ex-Vivo study

Cancer and cancer therapy

Prof. Maha Abdelkawy¹; Prof. Ahmed Nabil Fahmi¹;

¹Faculty of Dentistry, Beni-Suef University

Introduction: Prunus Armeniaca (Egyptian apricot) is the plant of Rosaceae family which is widely known for its fruit. It has high nutritional value as it contains essential amino acids, proteins, carbohydrates, and lipids. Kernel oil extracted from it was found to have antibacterial, antifungal, antioxidant, and anti-inflammatory effects. Its therapeutic effect is still under research. Apricot extracts were found to inhibit in vitro growth of breast cancer and hepatocellular carcinoma.

Objectives: Evaluating the effect of Prunus Armeniaca (P.A) extract on Oral Squamous cell carcinoma (OSCC)

Methods: Egyptian P.A seeds were macerated and added to 90% methanol for 7 day for alcohol extract preparations. OSCC cell line of human tongue were cultured and divided onto 2 groups. Group -1 was treated with the P.A alcohol extract. Group-2 were untreated cell line of the OSCC human tongue as a negative control group. Caspase-3 and -8 activity assay, Cell viability and cytotoxicity, and Cell cycle analysis were performed.

Results: *Group-1* showed significant increase in caspase-3 -8 than *group 2*. *Group-1* showed significant minimal cytotoxicity in comparison to Staurosporine. Cell cycle analysis revealed cell growth arrest in S- phase for *group-2* with total apoptosis 7.7 folds than *group-1*.

Conclusion: P.A extract yields anti-growth properties on human tongue OSCC cell line.

* *Oral Pathology department, Faculty of dentistry, Beni-Suef University, Beni-Suef, Egypt.*

** *Oral Medicine Periodontology department, Faculty of dentistry, Beni-Suef University, Beni-Suef, Egypt*

ID: 4922

Primary presentation in the oral cavity of non-Hodgkin lymphoma – case report

Cancer and cancer therapy

Dr. Ana Teresa Coelho¹; Dr. Filipa Contente¹; Dr. Nuno Zeferino Santos¹; Dr. Adelina Aguiar¹; Dr. Francisco Salvado¹;

¹Centro Hospitalar Universitário Lisboa Norte

Lymphoma is a heterogenous malignant disease of the lymphatic system, characterized by a proliferation of lymphoid cells or their precursor. Non-Hodgkin lymphoma presents as extra-nodal disease in approximately 23-30% of cases, most commonly affecting gastrointestinal tract followed by head and neck. Oral cavity involvement is seen in only 2% of cases and may affect either the jaws or occur within the soft tissues. Occasionally, oral manifestations may present as the first and only sign of disease.

A 89-year-old female patient attended the emergency department with a growing nodular lesion of the upper left maxilla with sporadic pain over 2 months. The swelling had spontaneous bleeding and involved teeth 24 to 26 which had signs of gingival degloving and excessive mobility. Due to dental hypermobility the patient had already been observed in dental office 2 weeks earlier and performed exodontia of 27.

According to computerized tomography scan there was total bone destruction of the left antral floor related to isodense mass lesion (40x30mm) extending from the oral cavity to ipsilateral orbital floor. It was performed a biopsy of the lesion with histopathologic diagnosis of diffuse large B-cell non-Hodgkin lymphoma. The patient initiated palliative chemotherapy, however, after 3 cycles, has passed away related to respiratory tract infection.

The aim of this case report is to illustrate that clinical features of oral cavity lymphomas can mimic other diseases such as periodontal disease, osteomyelitis or other malignancies which may delay the correct diagnosis and appropriate treatment.

ID: 4940

An extra- and intra-oral swelling in a patient with primary Sjögren's syndrome

Cancer and cancer therapy

Dr. Christopher Platais¹; Dr. Shalini Nayee²; Dr. Pepe Shirlaw²; Dr. Kiran Beneng³; Dr. Jackie Brown¹; Dr. Martyn Ormond²;

¹Department of Oral and Maxillofacial Radiology, Guy's and St Thomas' NHS Foundation Trust;

²Department of Oral Medicine, Guy's and St Thomas' NHS Foundation Trust; ³Department of Oral Surgery, Guy's and St Thomas' NHS Foundation Trust;

Background: Primary Sjögren's syndrome is an autoimmune condition associated with a wide range of systemic complications, including a 5-10% lifetime risk of B-cell lymphoma.

Presentation: A 75-year-old female patient with primary Sjögren's syndrome (1999); right parotid pleomorphic adenoma (2001); MALT lymphoma left parotid gland (2006); left tongue (2011) and anterior mediastinum (2013) attended Oral Medicine in 2021. She presented with diffuse swelling over the right angle of the mandible and a nodular swelling of the soft palate. Systems review revealed 3kg unintentional weight loss and breathlessness.

Biopsy of the soft palate and subsequent PET-CT scan confirmed relapsed multifocal stage 4 marginal zone lymphoma of the right parotid, oropharynx, nasopharynx and lungs. Following two cycles of R-CVP chemotherapy, the patient re-attended prior to her third cycle with a new lump at the right angle of mandible, exuding a blood stained, purulent discharge. Examination excluded dental disease with ultrasound imaging revealing a vascular, hypoechoic nodule superficial to the right masseter, consistent with a further marginal zone lymphoma deposit. Despite oral and intravenous antibiotics, the suppuration worsened prompting repeat ultrasound imaging. An extra-oral sinus was then evident continuous with the retained right parotid duct and a sialolith in the distal duct. The sialolith was deemed to be a nidus for infection and basket retrieval was scheduled prior to the next chemotherapy cycle.

Conclusion: Sjögren's syndrome is a complex disease requiring ongoing review and multidisciplinary input. Ultrasound imaging has an important role in the monitoring of Sjögren's syndrome and identification of complications including lymphoma.

ID: 4950

A rare presentation of a primary MALT lymphoma of the lower lip

Cancer and cancer therapy

[Dr. Fabienne Aurora](#)¹; [Dr. Rachel Lavelle](#)¹; [Dr. Gemma Davis](#)¹; [Dr. Rachel Cowie](#)¹;

[¹University of Bristol](#)

Isaacson and Wright first described mucosa-associated lymphoid tissue (MALT) lymphoma as a distinct disease entity in 1983. The World Health Organisation has since categorised MALT lymphoma as an extranodal marginal zone lymphoma of mature B-cell origin, a neoplasm that accounts for 8% of all Non-Hodgkin's lymphomas and is the third most common histological subtype. The stomach is the most well-documented site of disease. Sjogren's syndrome is known to have a 44-fold excess risk of developing Non-Hodgkin's lymphoma, particularly MALT lymphoma. This case describes an isolated lower lip swelling as the sole presenting feature of MALT lymphoma without a previous diagnosis of Sjogren's. Primary MALT lymphoma presenting in this manner without underlying Sjogren's syndrome is exceptionally rare. A 69-year-old male patient presented to the Oral Medicine department with a history of an 8-week painless submucosal swelling of the lower lip which was slowly increasing in size. An excisional biopsy was organised with a differential diagnosis of a mucocele or minor salivary gland tumour. Histopathology subsequently confirmed marginal zone lymphoma, (MALT type) of the lower left labial mucosa. The patient was referred to a Haematology-Oncology centre where further imaging showed no disease at sites other than the lip. Bone marrow biopsy was also negative for lymphoma. The patient remains under the care of Oncology with proposed treatment of 24G radiotherapy within three weeks of his oncology consultation. This case demonstrates the importance of appropriate

biopsies for swellings of an unknown cause, and to maintain awareness of rarer diseases despite subtle clinical presentation.

ID: 4972

Anticoagulant-dependent cellular cytotoxicity on oral squamous cell carcinoma cells in vitro

Cancer and cancer therapy

Dr. Li-Qiao Ling¹; Dr. Zichen Lin¹; Dr. Rita Paolini¹; Prof. Camile S Farah²; Dr. Antonio Celentano³;

¹[University of Melbourne](#); ²Fiona Stanley Hospital; ³Australian Centre for Oral Oncology Research & Education;

Introduction: The links between the coagulation cascade and cancer biology has sparked an interest in the use of anticoagulants in cancer prevention and treatment. Furthermore, the interactions between anticancer drugs and anticoagulants are not fully understood, and little is known about the effect of anticoagulants on oral squamous cell carcinoma (OSCC).

Aim: The aim of this study was to investigate the in vitro effects of anticoagulants on OSCC proliferation and their interaction with the chemotherapeutic agent 5-fluorouracil (5-FU).

Materials and methods: Cell proliferation was assessed at 0/24/48/72 hours in two human OSCC cell lines (H400 and H357) treated with one anticoagulant among warfarin, heparin, rivaroxaban, dabigatran, and apixaban, alone or in combination with 5-FU using MTS in vitro assay. Statistical significance was evaluated with ANOVA.

Results: The addition of all but one anticoagulant (apixaban) did not modify the cytotoxic efficacy of 5-FU in treatment of malignant oral keratinocyte cell lines H357 and H400. Remarkably, heparin (5, 20, 80U/ml), dabigatran (5, 10, 20uM), apixaban (0.2, 1ug/mL) and rivaroxaban (5, 20uM) elicited a significant reduction in cell proliferation in H357 and H400 cells in a time-dependent manner. Conversely, warfarin (10uM) caused a significant increase in cell proliferation in the H400 cell line.

Conclusion: We have demonstrated, for the first time, that commonly prescribed anticoagulants, namely heparin, dabigatran, apixaban and rivaroxaban, have potential anticancer effects on OSCC, and that warfarin may increase cancer cell proliferation. Our findings highlight an avenue for further in vivo research on the role of anticoagulants in OSCC treatment.

Atypical presentation of sclerosing basal cell carcinoma

Cancer and cancer therapy

Ms. Diana E. Ramos Peña¹; Leticia Rodrigues Castro¹; Dr. Jaciara Miranda Gomes da Silva¹; Dr. Alfredo Ribeiro-Silva²; Dr. Graziela Vieira Cavalcanti²; Dr. Silvia Maria Leli²; Dr. Luiz Carlos Conti de Freitas²; Dr. Ana Carolina Fragoso Motta¹;

¹School of Dentistry of Ribeirão Preto, University of São Paulo; ²Ribeirão Preto Medical School, University of São Paulo;

Sclerosing basal cell carcinoma (BCC) is the most aggressive histologic subtype of BCC. Is usually locally invasive, with a high rate of positive tumor margins and resistance to the usual treatment, this tumor can also present perineural and perivascular invasion as a marker of aggressivity. We report an atypical case of sclerosing BCC in the lower lip of an 80-year-old male patient that reported the development of an ulcer after a domestic accident. Over 4 months, the ulcer expanded and progressed to extensive labial fenestration. The patient had a history of acute myocardial infarction (20 years before) and was using acetylsalicylic acid (100 mg/day). Our main diagnostic hypothesis included infectious granulomatous diseases, malignant cutaneous neoplasm, and pyoderma gangrenosum. Two incisional biopsies were performed with inconclusive results. Surgical excision was performed, and the histopathological examination revealed small islands of basaloid cells with peripheral palisading, hyperchromatic nuclei, and scant cytoplasm within the dense fibrous stroma. Immunohistochemical analysis showed positive staining for Bcl-2 (diffuse pattern), BerEP4, CD34, Ki67 (50%) and p53 (50%). The final diagnosis was sclerosing BCC with positive margins and perineural invasion. Reconstructive surgery of the lower lip was performed, with successful postoperative outcome. Sclerosing BCC is rarely reported due to its low occurrence; 3.1% of the cases affect the lips, usually involving the deep subcutis, showing a high chance of residual tumor and recurrence after surgery, as in this case, in which a new surgical approach was required. The immunohistochemistry is an important tool in the differential diagnosis.

Obestatin reduces oral mucosa inflammation in rat model. A potential candidate for Oral Mucositis treatment

Cancer and cancer therapy

Miss Agnieszka Stempniewicz¹; Prof. Piotr Ceranowicz²; Prof. Wojciech Macyk³; Dr. Jakub Cieszkowski²; Dr. Zbigniew Warzecha²; Dr. Krystyna Galazka⁴; Ms. Malgorzata Maraj²; Prof. Beata Kusnierz-Cabala⁵; Mr. Grzegorz Ginter²;

¹Jagiellonian University Medical College; ²Department of Physiology, Faculty of Medicine, Jagiellonian University Medical College, Cracow, Pol; ³Department of Inorganic Chemistry, Faculty of Chemistry, Jagiellonian University, Cracow, Poland; ⁴Department of Pathomorphology, Faculty of Medicine, Jagiellonian University Medical College, Cracow; ⁵Department of Diagnostics, Chair of Clinical Biochemistry, Faculty of Medicine, Jagiellonian Univer;

Prevention and treatment of oral mucositis in cancer therapy is frequently a subject of academic research. Recent studies have shown that obestatin presents a protective effect and accelerates the healing of inflammation in the gastrointestinal tract. Our previous study showed similar reaction in lingual mucosa. The aim of the study was to investigate if administration of obestatin alleviates the severity of induced gingival ulcers in rats.

Gingival ulcers were evoked by acetic acid in Wistar rats. Rats were treated intraperitoneally twice a day with saline or obestatin (in doses of 4, 8 or 16 nmol/kg) for six days.

Examination of following parameters was conducted: gingival mucosa morphology, cell proliferation, mucosal blood flow and mucosal pro-inflammatory interleukin-1 β level (IL-1 β).

In rats without gingival ulcers treatment with obestatin was without any effect.

In rats with gingival ulcers administration of obestatin in all doses increased the healing rate. Doses 8 or 16 nmol/kg caused similar and the strongest therapeutic result.

This effect was accompanied by a significant increase in blood flow and cell proliferation in gingival mucosa, as well as by a significant decrease in IL-1 β level. Obestatin is a promising factor and requires further research.

Agnieszka Stempniewicz acknowledges the support of InterDokMed project no. POWR.03.02.00-00-I013/16

ID: 5006

Oral SCC - Can you spot it?

Cancer and cancer therapy

Miss Merendeep Basra¹; Miss Nersheranjeet Basra²; Mr. Rishi Pandya²;

¹Royal United Hospitals Bath; ²University Hospital Coventry and Warwickshire;

Objectives: The objective of this case presentation is to highlight the importance of early detection and management of Oral Squamous Cell Carcinoma, as delayed diagnosis and treatment can negatively impact overall patient survival.

Introduction: Oral cancer is one of the most prevalent cancers worldwide. Oral squamous cell carcinoma is an epithelial malignant neoplasm of squamous cells and accounts for 90% of oral cases. The common aetiological risk factors are: tobacco, alcohol, nutritional deficiencies and genetics. Early diagnosis is imperative as a 5-year overall survival is significantly reduced with nodal or metastases involvement.

Case Report: 57-year-old female presented to Worcester Royal Hospital Accident and Emergency department on the advice of her General Dental Practitioner over concern of a worsening right facial swelling localised to the right cheek, which failed to respond to oral antibiotic intervention. The patient was investigated and managed on three separate occasions across a two week period by differing on-call oral maxillofacial senior house officers, prior to the case being raised to senior clinicians, whereby she was investigated and diagnosed with advanced oral squamous cell carcinoma stage IV.

Across the three separate attendances, the patient's symptoms progressed; initially the patient presented with mobile lower right 8 and lower right 7, which were thought to be periodontially involved and thus the cause of the facial swelling. Following conservative then interventional management, the patient continued to re-present with worsening red flag signs and symptoms including trismus, non-healing extraction socket, persistent facial swelling, which became firm and indurated on palpation. As practitioners, it is easy to become de-sensitised to peripheral information as repetitive cases trigger an auto-pilot response, however, it is vital to correlate the patient's signs, symptoms and investigative results to the clinical picture.

ID: 5011

Identifying the range of patient reported outcome measures in osteoradionecrosis literature

Cancer and cancer therapy

Dr. Niaz Shokri¹; Dr. Stefano Fedele¹; Prof. Stephen Porter¹; Dr. Richeal Di Riordain¹;

¹University College London

Introduction: Osteoradionecrosis (ORN) is a severe adverse effect of head and neck cancer therapy, characterised by bone necrosis and failure of healing. It can have a significant impact on oral function and therefore the daily life of a patient. Patient Reported Outcome Measures (PROMs) are questionnaires developed to record an outcome in a healthcare setting, in the form of data that can be

utilised, from the perspective of the patient. The use of PROMs in clinical practice and in research has become increasingly important.

Objective: To explore the PROMs used in studies related to ORN

Methods: Literature searches were performed on MEDLINE and EMBASE to retrieve relevant studies related to PROMs used in patient with osteoradionecrosis. All identified PROMs were categorised based on outcome domains and measurements.

Results: Fifteen papers met our inclusion criteria. A total of 11 different PROMs were used in literature for ORN patients. These questionnaires were classified into four categories: generic, cancer-specific, head and neck cancer-specific and speech and swallow questionnaires. The most commonly used instruments were SOMA, UW QoL and EORTC HN35.

Conclusion: Further research is needed to develop a condition-specific PROM for patients with ORN. This instrument will be specifically tailored to ORN and therefore more specific and sensitive to detect relevant changes from a patient perspective. The use of such a tool in clinical practice and research will aid in exploring treatment options that are both beneficial and acceptable to patients.

ID: 5021

Malignant transformation of oral submucous fibrosis into papillary squamous cell carcinoma in a betel chewer: a case report

Cancer and cancer therapy

[Dr. Paula Maria Leite](#)¹; Dr. Filipa Veiga¹; Dr. Cristina Rodrigues Barros¹; Dr. Catarina Machado Ferreira¹; Dr. Luisa Figueiredo¹; Dr. Patricia Caixeirinho¹;

[¹Centro Hospitalar Universitário Lisboa Central](#)

Oral cancer is the most common head and neck cancer, and squamous cell carcinoma (SCC) is the most common entity, making up almost 90% of all malign tumours of the oral cavity. Papillary SCC is a rare variant with an exophytic and papillary pattern and a more favourable prognosis than conventional SCC. One of the risk factors for oral cancer is betel use, which is the main cause of oral submucous fibrosis and is associated with around 60% of all oral cancer cases.

We present a case of a 52-year-old male from Bangladesh who complained of a lesion on the left buccal mucosa, with 2 months of evolution. His medical history included betel chewing and excision of similar lesions bilaterally in the buccal mucosa 20 years ago. A CT scan showed thickening of the left buccal mucosa and small submental nodes.

Clinically, there was an exophytic lesion, firm and ulcerated, on the left buccal mucosa, as well as thickening of the right buccal mucosa and trismus. There were no palpable nodes. An incisional biopsy of the lesion on the left buccal mucosa diagnosed oral papillary SCC. Surgical excision with free margins and node dissection was performed.

Despite the papillary pattern having a more favourable prognosis, SCC of the oral cavity has a high mortality rate when not diagnosed early. Therefore, the correct screening and diagnosis of suspect lesions is crucial to increase the survival rate of patients.

ID: 5025

Oral mucosal involvement in classic kaposi sarcoma – a rare case report

Cancer and cancer therapy

Dr. Cristina Rodrigues Barros¹; Dr. Filipa Veiga¹; Dr. Paula Maria Leite¹; Dr. Catarina Machado Ferreira¹; Dr. Ana Teresa Tavares¹; Dr. Gonçalo Esteves¹; Dr. Maria do Céu Machado¹;

¹Centro Hospitalar Universitário de Lisboa Central, E.P.E

Introduction: Kaposi sarcoma (KS) is a rare angioproliferative tumor (1:100.000) caused by human herpesvirus-8 (HHV-8). Four clinical variants are recognized: classic, endemic, iatrogenic, and human immunodeficiency virus (HIV) associated. Classic KS usually presents with cutaneous lower limbs lesions. Extracutaneous involvement is less common with exclusively oral and cutaneous findings described in 5% of cases.

Case Report: 75-year-old caucasian male, with chronic heart and kidney disease and no relevant immunosuppression factors presented with a painless, solitary, irregular violaceous macule, in the midline region, in the hard to soft palate transition. Two related red to bluish-purple exophytic masses were seen. Similar lesions, compatible with KS, were described on the upper limbs, gluteal region, and feet, 6-month prior. No regional nodal involvement was seen on extra-oral examination. Systemic workup was unremarkable. Notably serology was negative for HIV and positive for HHV-8. Histological examination of palatal lesion was compatible with KS. Computed tomography did not show bone erosions of the palate. Due to comorbidities, the patient did not start chemotherapy and remained under surveillance.

Discussion: Classic KS occurs often in over 50-year-old, Mediterranean, and Eastern European men. Typical lesions are characterized by red to bluish-purple macules, papules, and nodules. Biopsy confirms the diagnosis. Therapeutic approaches range from no treatment, surgical excision, local intervention, radiotherapy, or chemotherapy. If untreated, patients may develop lethal secondary malignancies.

Conclusion: It is of utmost importance for clinicians to be aware of KS lesions in oral cavity, mucous membranes, and skin to provide early treatment and ensure better clinical outcomes.

ID: 5026

Exploring clinical manifestations of chemotherapy and radiation therapy-related oral and oropharyngeal mucositis

Cancer and cancer therapy

Dr. Michelle Kang¹; Mr. Aaron Pritchard²; Ms. Cheryl Bedford³; Dr. Terry Whittle⁴; Prof. Mark Schifter¹; Ms. Melissa Burns²; Prof. Michael Veness²; Dr. Jennifer Curnow⁵; Prof. Purnima Sundaresan²;

¹Department of Oral Medicine, Westmead Hospital; ²Radiation Oncology Network, Western Sydney LHD;

³Department of Oral Medicine, Westmead Centre for Oral Health; ⁴Faculty of Medicine and Health, The University of Sydney; ⁵Department of Haematology, Westmead Hospital;

Introduction: Oral/oropharyngeal mucositis (OM) may be caused by certain chemotherapy (CT) agents and radiation therapy (RT) to mucosal structures. CT-induced OM has a systemic effect, involving the mouth and gastrointestinal tract, whereas RT-induced OM only affects the locally irradiated mucosa.

Objective: Document differences in clinical manifestations of CT and RT-induced OM.

Material and methods: Clinical presentation of OM was mapped using a modified Oral Mucositis Assessment Scale (OMAS). Study participants were 10 patients undergoing RT for head and neck cancer (HNC) and receiving oral cavity/oropharynx irradiation, and 20 haematopoietic stem cell transplantation (HSCT) patients undergoing mucositis-inducing CT.

Results: Although both groups demonstrated a marked increase in OMAS scores during treatment before decreasing back to baseline over time, the time course in which these changes occurred were different. There was a shorter duration for the CT group compared to the RT group. The maximum mucositis coverage score was higher in the RT group (5.50) compared to the CT group (3.06). The highest OMAS scores occurred at days 10-12 post stem cell infusion for the CT group, and occurred at weeks 6 and 8 for the RT group.

Conclusions: Differences in the clinical presentation of OM was observed between RT and CT groups including duration, location and severity of OM. Further studies may improve understanding of OM relating to its aetiopathogenesis, allow development of different management strategies between the RT and CT groups and ultimately optimise cancer treatment outcomes for patients.

ID: 5034

MLH1, MSH2, MRE11, and XRCC1 in Oral Leukoplakia and Oral Squamous Cell Carcinoma

Cancer and cancer therapy

Miss Alba Pérez González¹; Dr. Sergio Piñeiro Donís¹; Dr. Monica Ghislaine Oliveira Alves²; Dr. Bruna F Do Carmo Carvalho³; Dr. Camila CP Ferreira³; Dr. Janete Dias Almeida³; Dr. Elena Padín Iruegas⁴; Dr. Cintia M Chamorro Petronacci¹; Dr. José M Suárez Peñaranda¹; Dr. Mario Pérez-Sayáns García¹; Dr. Mario Pérez-Sayáns García¹;

¹Universidad de Santiago de Compostela; ²Anhembi Morumbi University, São José dos Campos, São Paulo. Universidade Mogi das Cruzes, São Paulo; ³São Paulo State University; ⁴Fundación Idichus, Laboratorio Oncología Translacional;

Background: DNA damage is accumulated in the cells over time as the result of both exogenous and endogenous factors. The objective of this study was to analyze the immunohistochemical expression of the repair proteins in oral leukoplakia (OL) and oral squamous cell carcinoma (OSCC).

Materials and methods: Paraffin blocks were selected from the archives of the Laboratory of Hospital Clínico Universitario de Santiago de Compostela, Spain. The sample was composed of 16 cases of OL without dysplasia, 14 cases of OL with dysplasia, and 15 cases of OSCC. The patients' clinical data were collected and immunohistochemical analysis was performed for MLH1, MSH2, MRE11, and XRCC1. The data were submitted to the χ^2 and the Kruskal-Wallis ($P \leq 0.05$) tests.

Results: MSH2 was overexpressed in OSCC ($P=0.020$) and was positive in 100% of patients with OL with dysplasia or OSCC ($P=0.019$). Positivity for MLH1 was significantly associated with comorbidity ($P=0.040$), especially in patients who presented with 2 or more pathologies ($P=0.028$). XRCC1 positivity was also associated with comorbidity ($P=0.039$). No significant associations were found for the MRE11A expression. Although the simultaneous positivity for the 4 markers was observed in presence of comorbidities ($P=0.006$).

Conclusions: This study supports the effect of the overexpression of MSH2 protein in samples of OL with dysplasia and OSCC, most notably in patients who present with comorbidities and negativity for OL without dysplasia.

ID: 5035

Evaluation of epidemiological variables in surveillance of labial and intraoral cancer in Region of Madrid. Analysis of data from Registro de Tumores of Madrid, RTMAD: 2014-2019

Cancer and cancer therapy

[Dr. luis alberto moreno-lópez](#)¹; Dr. Gregorio Garrido-Cantarero²; Dr. M Carmen Mallagray-Montero¹;

¹[Universidad Complutense de Madrid](#); ²Registro de Tumores de Madrid, RTMAD;

Tumor Registry of Madrid (RTMAD) is a hospital registry in operation since 2014, data from the TURM tumor registry from previous years have been added. RTMAD only collects cases from public hospitals in Madrid, so the rates obtained may be underestimated. Objective: to analyze the relationship of age, sex and stage at diagnosis with survival of lip and intraoral cancer. MM: Analysis of the cases registered from 1/1/2014 to 12/31/2019. An approximation to survival has been carried out using the “survival” library of the R-software and using the method of Hakulinen. Survival analysis was performed using the Kaplan-Meier method. We have used Cox regression model for comparisons between different categories or factors. Results: in lip cancer, 478 cases have been analyzed. Male sex has a HR of 0.8 (CI 0.5-1.2; $p = 0.224$); the regional stage an HR 5.2 (CI 3.1-8.8; $p < 0.001$) the disseminated stage HR 4.1 (CI 2.2-7.7; $p < 0.001$); Age older than 70 years presents a HR of 4.0 (CI 2.2-7.6; $p < 0.001$). As for intraoral cancer, 2,023 cases have been analyzed. The male sex presents a HR of 1.2 IC 1.1-1.4; p

<0.001); the stage at regional diagnosis an HR of 2.1 (CI 1.8-2.5; p <0.001), the disseminated stage an HR of 3.6 (CI 2.8-4.6; p <0.001); the age of 40 to 70 a HR of 3.5 (CI 1.6-7.9; p <0.005), the age older than 70 a HR 7.0 (CI 3.1-15.7; p <0.001). **Conclusions:** both age, sex and stage at diagnosis are variables that statistically influence survival from lip and intraoral cancer.

ID: 5049

Oral squamous cell carcinoma patients with other malignancies: a descriptive analysis

Cancer and cancer therapy

Mr. Iñaut Amezaga Fernandez¹; Jorge Arenaz Bua¹; Cintia Micaela Chamorro Petronacci¹; Andrés Blanco Carrión¹; José Manuel Aguirre Urizar²; Abel García García¹;

¹University of Santiago de Compostela; ²University of the Basque Country;

Introduction: It is estimated that one out of three people in developed countries will suffer from cancer over a lifetime. Therefore, the risk of developing more than one cancer is also high. Despite having been studied in some types of neoplasms, there is little evidence about oral squamous cell carcinoma (OSCC) patients with multiple primary neoplasms. Here we show general data from OSCC patients that developed some other cancer.

Materials and method: We reviewed historical data of patients diagnosed with OSCC in the healthcare area of Santiago de Compostela (Galicia, Spain) between the years 2010-2015. Of a total of 245 OSCC patients, 61 had had diagnosed some other neoplasm. We recorded variables such as age, sex, risky habits, type and location of the other primary tumors, time of diagnosis and survival. We performed a descriptive analysis using this data.

Results: The mean age of OSCC diagnosis was 66 years, and 78,7% of patients were men. 52,5% and 48,1% were smokers and drinkers, respectively. 51,1% of patients were diagnosed with one malignancy apart from OSCC; 39,1% with two other malignancies; and 9,8% with 3 other cancers. 10,9% of these malignancies were synchronous with OSCC. The most common site involved was the lung (18,5%), followed by the skin (16,3%) and prostate (13%). 5-year survival rate was 41%.

Conclusions: OSCC patients with other malignancies have slightly different characteristics comparing to those with just OSCC. Further research is needed in this topic.

ID: 5064

Clinical-pathological characteristics of oral papillary squamous cell carcinoma. Systematic review

Cancer and cancer therapy

Miss Asmae Talbaoui¹; Dr. Pilar Gándara Vila²; Dr. Samuel Rodríguez Zorrilla²; Dr. José Manuel Suárez Peñaranda²; Dr. Andrés Blanco Carrión²; Dr. Abel García García²;

¹University of Santiago de Compostela; ²University Of Santiago De Compostela;

Objective: Papillary squamous cell carcinoma (PSCC) is a variant of squamous cell carcinoma characterized by a papillary growth pattern with thin fibrovascular nuclei covered by dysplastic epithelial cells or basaloid cells with minimal or no maturation. Although it is most frequently found in the upper aerodigestive tract, its appearance in the oral cavity (OPSCC) is uncommon with limited cases reported. In this study, we analyze the clinicopathological characteristics of OPSCC by conducting a systematic review of the literature.

Material and methods: We carried out a bibliographic search in the PubMed, Scopus, Web Of Science and Cochrane databases using the keywords: "papillary squamous cell carcinoma" and "oral" / "head and neck" / "upper aerodigestive tract".

Results: After analyzing the literature, we included 19 studies that described a total of 228 cases of PSCC in the oral cavity. The average age of appearance of this variant is 68,7±12,3 years and it is just as common in both men and women. The most frequent location is the gum and clinically it has a papillary, verrucous and exophytic appearance. 54.55% of the cases it is treated only with surgery and 78,84% of the patients they progress towards healing.

Conclusions: Because OPSCC is rare, few studies are available. It should be noted that it is an entity to consider when evaluating carcinomas that develop in proliferative verrucous leukoplakia since, on occasions, it is not taken into account in the differential diagnosis with other variants such as verrucous carcinoma or well-differentiated conventional oral squamous cell carcinoma.

ID: 5065

A nodular gingival tumefaction as a manifestation of a B cell Lymphoma – a case report

Cancer and cancer therapy

Dr. Eduardo Barreira¹; Dr. Ana Vasconcelos¹; Prof. Júlio Pacheco¹; Prof. Filomena Salazar¹; Prof. Luís Monteiro¹;

¹Post-graduated Master in Oral Medicine and Oral Pathology, IUCS, CESPU

Introduction: Lymphomas are neoplasms that develop from lymphoid cells, which include two main groups: Hodgkin's lymphomas and non-Hodgkin's lymphomas. Non-Hodgkin's lymphomas constitute about 90% of all lymphoma cases and are divided into subtypes that differ according to their

clinic-pathological characteristics. Among the various subtypes of non-Hodgkin's lymphoma, B-cell lymphoma, although rare, represents one of the most common lymphomas affecting the oral cavity.

Aims: To show the main manifestations of a Lymphoma in a patient presenting in a dental clinical setting.

Case report: A 63-year-old man was sent to our Oral Medicine service due to a nodule in the mouth with 3 months of evolution, without other relevant diseases. Clinical examination revealed a large reddish nodular lesion, located in the lower and anterior gingival region. An incisional biopsy was performed, which revealed B-cell lymphoma. The patient was referred to the oncology consultation where he underwent chemotherapy.

Discussion and conclusion: The existence of a swelling of soft consistency and progressive increasing growth may be the presentation of a malignant neoplasm such as the B-cell lymphoma as observed in this case. The dentist may play a key role in diagnosing this type of cancer with very fast growth.

ID: 5071

Oral Manifestations of The Acute Myeloid Leukemia: A Case Report

Cancer and cancer therapy

Dr. Olga Vascan¹; Dr. Maria Morais¹; Dr. Sofia Correia¹; Dr. Beatriz Dominguez¹; Dr. Francisco Marques¹; Dr. João Abreu¹; Prof. José Pedro Figueiredo¹;

¹Centro Hospitalar e Universitário de Coimbra

Acute myeloid leukemia (AML) is an aggressive e malignant myeloid neoplasm that results from clonal transformation of haematopoietic precursors through the acquisition of chromosomal rearrangements and multiple gene mutations. AML is a relatively unusual disease, represents a 25% of all types of leukemia among adults in the western world. Oral manifestations occur frequently, and they include petechial hemorrhages of the tongue, lips, posterior hard and soft palate, gingival hyperplasia, spontaneous gingival bleeding, oral ulcerations and mucosal pallor. AML increases with age, being more often diagnosed over the age of 65 and rarely diagnosed before forties. Also, it is more common in men.

A 50 year old caucasian female went to Stomatology Service of CHUC (Centro Hospitalar e Universitário de Coimbra), with a gingival ulcer and an ulcerous lesion in the left ventral site of the tongue with approximately 15 days of evolution, which progressed to necrosis. Due to the presence of the following changes found at clinical examination, was prescribed antifungal and antibiotic, to prevent more complications.

As complementary exams were performed an incisional biopsy, a cone-beam computer tomography, and a blood count, to detect a possible hematologic disease. Gingival biopsy and blood count were performed, indicating the presence of a myelomonocytic leukemia.

In conclusion the acute myeloid leukemia is an malignant neoplasm that requires an early diagnosis and management. Oral manifestations are very common in patients and may present as the

initial evidence of the disease, reinforcing the importance of the stomatologist in the early diagnosis and management.

ID: 5072

pS6 Ser235/236 as a prognostic biomarker in canine oral squamous cell carcinoma

Cancer and cancer therapy

Dr. Leonor Delgado

Instituto Universitário de Ciências da Saúde (IUCS – CESPU), Portugal

Introduction: Oral squamous cell carcinoma (OSCC) is a common canine tumour, being a local aggressive with increased rate of metastasis. The analysis and knowledge of the role of pS6, which is included in the PI3K/AKT/mTOR pathway, may offer a better understanding of oral carcinogenesis and give further insights of treatment possibilities for the treatment of these malignancies.

Aims: The aim of the present study was to evaluate the activated form (i.e., phosphorylated) of S6 protein expression in canine OSCC and relate it to clinical, pathological, and prognostic features.

Material and methods: Formalin-fixed/paraffin-embedded tissue samples of 61 canine OSCC submitted to the Pathology Laboratory - INNO were included. The variables analyzed comprised age, gender, breed, localization of the lesion, size of lesion, histopathological diagnosis, histopathological grade, presence of bone and vascular invasion and follow-up. Immunohistochemistry technique was performed directed pS6Ser235/236. Statistical associations and univariate survival and multivariate analysis were conducted.

Results: pS6Ser235/236 expression was classified as low in 7 (11.5%) cases and high-expression in 54 (88.5%) cases. A significant positive association was observed between pS6Ser235/236 intensity and histological type ($p=0.02$). In overall survival (OS) analysis, tumours with pS6Ser235/236 high expression had low OS ($p=0.023$) with an independent effect noted in multivariate analysis.

Conclusion: We observed for the first time to our knowledge, a role of pS6Ser235/236 as independent prognostic factor in canine OSCC. Further understanding may provide an improved insight of oral tumorigenesis and may open up new treatment possibilities in this species.

ID: 5073

Oral leiomyosarcoma presenting as an “gingival growth” – a case report

Cancer and cancer therapy

Dr. Rita cerqueira¹; Dr. Ana Vasconcelos¹; Prof. Júlio Pacheco¹; Prof. Filomena Salazar¹; Prof. Luís Monteiro¹;

¹Post-graduated Master in Oral Medicine and Oral Pathology, IUCS, CESPU

Introduction: Leiomyosarcoma is a malignant neoplasia with origin in smooth muscle with extremely rare prevalence in oral cavity. Most common manifestation includes a painless fast growing mass, but many times without specific characteristics to it´s early diagnosis.

Aims: The purpose of this work is to present the manifestations of a case of an oral leiomyosarcoma and the importance of their recognition for their diagnosis and treatment.

Case Report: A 39-year-old female was referred to oral medicine appointment due to the appearance of a gingival swelling in the upper gingiva. There were no other clinical relevant data. During clinical examination it was verified a large mass occupying the anterior alveolar ridge of the maxilla with 4 cm of diameter, with soft consistency and pain to palpation and with ulceration areas. There were no lymphadenopathies detected. Imagiology exams showed an irregular and invasive radiolucent lesion in the anterior maxilla. An incisional biopsy was performed, and a diagnosis of a high grade leiomyosarcoma of the maxilla was made. The patient was referred to maxillofacial department and performed a partial maxillectomy and is free of recurrence after 6 months of follow-up.

Conclusion: The identification of the characteristics of leiomyosarcoma is important, as described in this uncommon cancer, not only for diagnosis excluding other differential diagnosis and also to promote adequate treatment, increasing the patient´s quality of life.

ID: 4910

Dental workup of oncology patients before bisphosphonate therapy - retrospective study

Dental management of medically compromised patients

Prof. Vlaho Brailo¹; Dr. Lucija Majhen¹; Prof. Marko Granic¹; Dr. Kristina Horvat¹; Dr. Vesna Vucelic²; Prof. Ana Andabak Rogulj¹; Prof. Danica Vidovic Juras¹;

¹University of Zagreb, School of Dental Medicine; ²University Clinical Hospital Centre "Sestre milosrdnice";

Introduction: Medication related osteonecrosis of the jaw (MRONJ) is a serious complication of antiresorptive and/or antiangiogenic therapy. Main risk factor for MRONJ is tooth extraction. In order to minimize the risk for MRONJ development, patients need to undergo dental evaluation and complete dental treatment prior to the beginning of the antiresorptive treatment.

Aim: To review the data on dental workup in a cohort of oncology patients scheduled for bisphosphonate therapy.

Materials and methods: Retrospective chart review of oncology patients referred to a dental evaluation before the onset of antiresorptive therapy at the Dental Unit of the University Clinical Hospital Centre Zagreb from 1.1.2017-31.12.2019, was performed. Following data were registered: age, gender, diagnosis, DMFT, number of teeth for extraction, type of extraction, antibiotic treatment, postoperative complications, number of appointments and time needed to obtain dentist's clearance for the introduction of bisphosphonate therapy.

Results: Thirty oncology patients (mean age 63.9) participated in the study. Average DMFT index was 20 ± 6.8 . Twenty four (80%) patients needed one or more dental extraction. Average number of extractions per patient was 2.8 ± 2.8 . None of the patients experienced post operative complications. Average number of appointments was 2.2 ± 1.1 . Average number of days to obtain dentist's clearance for the beginning of bisphosphonate therapy was 12.9 ± 15.7 .

Conclusion: Majority of oncology patients with metastatic disease in this study needed one or more dental extraction before commencing bisphosphonate therapy. Dental treatment of the majority of patients can be completed within 14 days, which does not lead to a significant treatment delay while significantly reducing the risk for MRONJ development.

ID: 4939

Stomatological management of solid organ pre-transplant patients

Dental management of medically compromised patients

Dr. Cristina Rodrigues Barros¹; Dr. Paula Maria Leite¹; Dr. José Ferrão¹; Dr. Filipa Veiga¹; Dr. Rosário Marques¹; Dr. Maria do Céu Machado¹;

¹Centro Hospitalar Universitário de Lisboa Central, E.P.E

In 2020, 711 solid organ transplants were performed in Portugal, 55.3% and 27.1% were kidney and liver transplant, respectively. Organ failure patients often have poor oral hygiene and severe oral diseases. Several studies suggest that local inflammation caused by intraoral factors affect the transplant prognosis. Nevertheless, data on stomatological treatments in pre-transplant patients is scarce.

Pre-operative evaluation should include comprehensive stomatological assessment with clinical history (comorbidities, medication, oral hygiene habits), oral examination, image recording (orthopantomography, intra-oral X-ray, among others), and a treatment plan to minimize infections resulting from long-term immunosuppressive therapy. Conservative treatments (scaling, endodontic and cariological care) should be performed. Before invasive procedures, knowledge of the anaesthetics pharmacological particularities is essential. Lidocaine is a safe option as local anaesthetic, most of the times. **Tooth extraction should be done if prognosis is poor (pulp/furcation involvement, ≥ 5 -6 mm periodontal pockets, periapical lesions, semi-enclosed teeth, retained roots).** Prosthetic revision is necessary and implant treatments should be postponed until the stable period of the transplant. Screening other oral lesions such as lichenoid reactions, gingivitis, bleeding, xerostomia, and glossitis

due to medication and organ failure must also be performed for therapeutic readjustment. Additional considerations are the patient's haematological status and antibiotic treatment. Local haemostasis procedures are advised. Invasive procedures may require multidisciplinary intervention for anticoagulation reversal strategy. Active infection requires antibiotic therapy adjusted to the underlying pathology.

We provide a systematized oral preventive care protocol to guide stomatologist professionals with patient management throughout pre-transplant to support adequate intervention and reduce infection rates after surgery.

ID: 5002

The influence of cognitive state and physical abilities on dental status among Israeli community-dwelling elderly people

Dental management of medically compromised patients

[Dr. Osnat Grinstein-Koren](#)¹; Dr. Ayelet Zlotogorski Hurvitz¹; Dr. Keren Amira¹; Dr. Hanan Kashkush¹; Dr. Yohan Bellaiche¹; Dr. Miriam Altman¹; Dr. Wafaa Abdalla¹; Prof. Marilena Vered¹;

¹[School of Dental Medicine, Tel Aviv University](#)

Objectives: To determine the associations between cognitive state and physical abilities (PA), and dental status among elder Israelis.

Methods: A total of 145 community-dwelling participants (≥ 65 year) were included. Age, gender, socio-economic status, PA, presence of chronic diseases and oral health habits were recorded. The cognitive status was assessed by the clock-drawing test. Following oral examination, mucosal abnormalities, decayed, missing and filled teeth, removable dentures and presence of dental implants were recorded. Gingival health and oral hygiene were evaluated by mucosal-plaque score (MPS). ANOVA and Pearson's chi-square and correlation tests were used ($p < 0.05$).

Results: Participants with correct performance of the clock-drawing test had more dental fillings ($p = 0.002$) and less missing teeth ($p < 0.001$), while those with impaired performance had a higher prevalence of wearing at least one partial/complete denture ($OR = 2.41$, $p < 0.001$) and of wearing two complete dentures ($OR = 2.46$, $p = 0.004$). Participants with good PA tended to be younger ($p = 0.001$) and healthier ($p = 0.06$). PA was significantly correlated to the use of hygiene accessories ($p < 0.001$), frequent visits to oral hygienists ($p < 0.001$), more dental restorations ($p = 0.037$) and less missing teeth ($p = 0.01$). Participants who needed attendance had a higher prevalence of wearing a partial/complete denture ($OR = 1.8$, $p = 0.003$) and a lower prevalence of dental implants ($OR = 0.57$, $p = 0.017$).

Conclusions: Cognitive impairment and diminished PA might compromise dental health status, emphasizing the need for oral care education programs for elderly patients and their caregivers. Increased gerodontology-oriented dental training and improved accessibility of elderly population to dental services are of utmost importance.

ID: 5022

Hypocoagulation and dental procedures - A survey on practices of portuguese dentists

Dental management of medically compromised patients

Dr. Catarina Pinto¹; Dr. Inês Cardoso²; Dr. Rita Cacodcar²; Dr. Pedro Trancoso²; Prof. António Mano Azul²;
¹Instituto de Implantologia, Lisboa; ²Clínica Integrada de Medicina Oral, Lisboa;

Oral anticoagulant and antiplatelet agents are prescribed for individuals who are at high risk for or who have had thromboembolic events, including deep-vein thrombosis, pulmonary embolism and nonvalvular atrial fibrillation. These agents include the vitamin K antagonist warfarin, the newer direct-acting agents and oral antiplatelet agents. Adverse effects associated with these drugs can include prolonged bleeding or bruising, but without the anticoagulant/antiplatelet medications, these patients have higher risk for blood clot development, which could result in thromboembolism, stroke, or myocardial infarction. The serious risks of stopping or reducing these medication regimens need to be balanced against the potential consequences of prolonged bleeding, which can be controlled with local measures such as mechanical pressure, hemostatic agents and suturing.

The aim of this anonymous survey was to assess the knowledge and practice of Portuguese dentists managing their hypocoagulated patients. Descriptive, inferential statistical analysis (Chi-Square with significance level 5%) was performed. Of 273 respondents (70.59% females and 29.41% males), 98.9% takes patient's clinical history, either written or verbally, and 58.21% updates it each 6/12 months. Almost half (46.15%) treats hypocoagulated patients at least once a week. Nearly 53% believe that thromboembolic event risk is worst for the patient than the possible intra/post-operative bleeding. Almost 99% feels the need of clinical guidelines for the management of hypocoagulated patients. Full results will be presented and discussed against the limited published evidence.

ID: 5045

Oral Tissue Healing Using Laser Biostimulation in Diabetes Mellitus Patients with Denture Candidiasis

Dental management of medically compromised patients

Dr. George-Alexandru Maftei¹; Dr. Maria-Alexandra Martu¹; Dr. Ana-Maria Sciuca¹; Dr. Ioanina Parlatescu²; Dr. Cristina Popa¹;
¹"Grigore T. Popa" Iasi University of Medicine and Pharmacy; ²"Carol Davila" University of Medicine and Pharmacy;

Introduction and aim: Diabetes mellitus (DM) type 2 is a growing global condition with several systemic and oral complications, such as high risk infections, impaired tissue healing. When compared to non-diabetics, DM patients have an increased rate of edentulism and a high risk for developing denture candidiasis (DC).

This study aims to assess whether the addition of diode laser biostimulation (Low Level Laser Therapy - LLLT) in DM type 2 patients with DC provides supplementary benefits in candidiasis remission.

Materials and methods: 124 DM type 2 patients microbiologically diagnosed with DC have been divided into two equal groups: control group - 62 subjects treated with miconazole gel 2% for 14 days, and test group - 62 subjects treated with miconazole gel and diode laser (940 nm, 1W continuous mode, non-contact, 10 s/cm²) on the affected mucosal areas (in 4 sessions, each 4th day). The dentures were replaced in all patients. The degree of tissue inflammation was assessed by means of erythema index (Budtz-Jorgensen) at baseline, on day 7, 14 and 30. Another microbiological test was performed at day 30 to confirm the infection remission.

Results: Test group displayed significantly lower degree of mucosal erythema at days 7 (1.78 vs 2.33) and 14 (1.12 vs 1.67) when compared to the control group, however, at day 30, both groups showed similar values (0.67 vs 0.72) ($p < 0.001$).

Conclusion: Adjunctive LLLT with a diode laser may provide additional candidiasis remission benefits for diabetes mellitus patients with denture stomatitis.

ID: 5050

Dental management of anticoagulated patients: What does the health care population know about it?

Dental management of medically compromised patients

Dr. Clara Lopez¹; Dr. Eva Otero¹; Dr. Pablo Madrián¹; Dr. Tamara García¹; Dr. Abel García¹; Dr. Andrés Blanco¹;

¹University of Santiago de Compostela

Objective: To determine the degree of knowledge of the management of anticoagulated patients among dental students, dentists and cardiologists.

MATERIAL AND METHODS: A questionnaire validated by Bayón et al. on the use of anticoagulant drugs was used. The survey was carried out telematically among three groups: students of the Faculty of Dentistry of the University of Santiago de Compostela (N=87), dentists registered in the Official College of Dentists of A Coruña (N=55) and cardiologists in the southern area of Galicia (N=25). The results were analyzed in 3 sections: (1) degree of knowledge of anticoagulant drugs, (2) peri-intervention management, and (3) adverse effects.

Results: Both groups had knowledge of the drugs, although it was greater among the cardiologists (100% knowledge), with statistically significant differences in terms of the active ingredients and their mechanisms of action ($p = 0.001$). Students and dentists demonstrated greater knowledge of perioperative management ($p < 0.001$). The result regarding adverse events, demonstrated greater knowledge in favor of cardiologists ($p = 0.001$).

Conclusions:

- Dentists should improve their knowledge of anticoagulant drugs and cardiologists their notions on the peri-interventional management of these patients.
- A greater multidisciplinary interrelationship is necessary to establish correct protocols in these patients.

ID: 4043

The effect of subpressure on the accuracy of bioimpedance measurements of the oral mucosa

Diagnostics/laboratory medicine

Dr. Ivica Richter¹; Dr. Vesna Vucelic²; Dr. Kristina Horvat¹; Prof. Ana Andabak Rogulj¹; Prof. Vlaho Brailo¹;
¹Department of Oral Medicine, University of Zagreb, School of Dental Medicine; ²Department of Anesthesiology, Internal Medicine clinic, Clinical hospital centre " S. Milosrdnice";

Introduction: Bioimpedance (BI)-based diagnostic methods of the oral mucosa are becoming increasingly important due to their non-invasiveness, low costs and immediate results. Different devices and forms of terminal electrodes used in research are placed on the mucosa by the researcher's hand, and thus, can lead to inconsistent results due to hand movements.

Aim: To investigate the effect of fixed pressure value, as a method for the attachment of electrodes, on the results of oral mucosa BI measurements.

Material and methods: The study included 101 participants with healthy oral mucosa. BI was measured at 14 measurement points. The measurements were performed with an original measurement device comprising of an intraoral sensor, measuring instrument and a PC. During measurements the intraoral sensor was placed on the mucosa, and when the required subpressure was obtained, the system registered a measurement. The subpressures of 250 and 350 mB were used for the fixation of electrodes.

Results: Values of BI measured at higher subpressure were significantly lower at all frequencies and locations, except on the dorsum of the tongue, lateral tongue and sublingual mucosa. On these locations, the mucosa exerted lower resistance to subpressure allowing better adherence of the electrodes and less.

Conclusion: BI values can vary depending on the pressure exerted by measuring electrodes on the mucosa. Therefore, the design of a future measuring device should take into account the standardization of electrode pressure on the mucosa in order to avoid measurement errors due to pressure inconsistencies.

ID: 4898

Brush biopsy as a reliable and simple adjuvant diagnostic procedure for oral mucosal lesions' diagnosis

Diagnostics/laboratory medicine

Prof. Ana Pucar¹; Dr. Sanja Matic Petrovic¹; Dr. Uros Tomic¹; Prof. Drago Jelovac¹; Dr. Cedomir Kuzmanovic¹; Prof. Ivan Soldatovic²; Prof. Nada Tomanovic²;

¹School of Dental Medicine University of Belgrade; ²Faculty of Medicine University of Belgrade;

Introduction: Low survival rate of oral squamous cell carcinoma (OSCC) due to late diagnosis is a global health problem. Clinical oral examination (COE) is main tool for its recognition, while gold standard in OSCC diagnosis is a biopsy followed by histopathology. The aim of this study was to explore transepithelial „brush biopsy“ as quite simple and cheap adjuvant method to COE in diagnosis of oral mucosal lesions.

Methods: According to COE, 18 subjects suspicious to OSCC, 6 with reactive (benign) lesion and 15 subjects with potentially malignant oral disorders (POMD) were included in the study. Brush biopsy (results presented as NILM, LSIL, HSIL and OSCC) followed by insisional biopsy (results presented as SIN 0, SIN I, SIN II and OSCC) were performed at the same visit. Comparison between procedures were done using Kappa statistics.

Results: Fair agreement (21/40, 52.5%, kappa = 0.373, p < 0.001) was observed between clinical diagnosis and cytological results, as well as between clinical and histopathological diagnosis (21/40, 52.5%, kappa = 0.385, p<0.001). The highest discordance was observed for clinical diagnosis of POMD (erythroplakia / non-homogenous leukoplakia): 35.7% of these cases showed SIN 1/LSIL, while around 60% of cases presented OSCC. Comparison between cytological and histopathological diagnosis had shown good agreement (32/40, 80%, kappa = 0.701, p<0.001).

Conclusions: COE alone is not reliable method for oral mucosal lesions' diagnosis. Usage of brush biopsy as adjuvant method could decrease number of non-necessary biopsies of POMD and help in recognition of malignant transition of POMD to OSCC.

ID: 5003

A rare case of pulmonary empyema caused by campylobacter rectus

Diagnostics/laboratory medicine

Dr. Luísa Figueiredo¹; Dr. José Ferrão¹; Dr. Catarina Ferreira¹; Dr. Paula Maria Leite¹; Dr. Ana Fernandes¹; Dr. Maria João Costa¹;

¹Centro Hospitalar Universitário de Lisboa Central

We report a case of pulmonary empyema caused by Campylobacter rectus, a periodontal pathogen, which requires microaerobic or anaerobic conditions for their growth.

A 37-year-old woman suffering from sclerosing panencephalitis with severe cognitive and motor impairment was committed for suspicion of community acquired pneumonia.

CT with thoracentesis was performed and demonstrated pulmonary empyema. A chest tube was placed and the cultural exam of the drained fluid revealed the presence of an infection by *Campylobacter rectus*.

As *C. rectus* is implicated in chronic periodontitis and has rarely been recovered from extraoral specimens, it was necessary to check her bucco-dental health and to identify the portal of entry of the pathogen.

Despite lack of collaboration, we were able to make an appropriate periodontal probing, finding pockets up to 6mm. We also identified significant areas of inflammation and bleeding, allowing us to make a clinical diagnosis of periodontal disease.

Since the patient had previously undergone over 17 days of Piperacillin + Tazobactam, 4 days of Clindamycin, 21 days of Meropenem, and 24 hours of Amoxicillin and Clavulanic Acid treatment, the oral cultures (collected with a Gracey curette under anaerobic conditions) would very unlikely be positive. Which was proven to be the case.

In this very rare case, a focal pulmonary infection of periodontal origin is the most probable clinical diagnosis. We speculate that the orally-hosted organism was disseminated to the pleural space by aspiration, since the patient has a prior history of two episodes of pneumonia by aspiration.

ID: 5036

Descending necrotizing mediastinitis: a case report of a severe odontogenic infection

Diagnostics/laboratory medicine

[Dr. Catarina Machado Ferreira¹](#); Dr. Cristina Rodrigues Barros¹; Dr. Filipa Veiga¹; Dr. Paula Maria Leite¹; Dr. Luisa Figueiredo¹; Dr. Marcelo Prates¹;

¹[Centro Hospitalar Universitário de Lisboa Central](#)

Introduction: Descending necrotizing mediastinitis (DNM) is a rare complication of odontogenic infection (OI) and represents an aggressive form of mediastinitis where the infection spreads to the mediastinum via the cervical fascia. When DNM is present, the risk of developing septic shock appears to be much greater.

Clinical case: A 44-year-old man presented in our hospital with a three-day history of sore throat and dyspnea. Previously healthy, despite being an heavy smoker. On examination he was conscious, tachycardic with bronchospasm, had fever and a right submandibular mass. Cervical and thoracic tomography showed abscesses in the retropharyngeal, right sub-mandibular and upper paratracheal spaces. A drainage of seropurulent material was performed. Intravenous clindamycin and tazobactam/piperacillin were initiated empirically. Drained pus culture revealed a *Streptococcus constellatus*, with clindamycin sensitivity. Blood and urine cultures were negative. Despite cervical drainage and systemic antibiotics, his submandibular abscess extended to the mediastinal and pleural cavities. In the intensive care unit, septic shock was diagnosed. Hemodynamic and ventilatory support were required. Multiple drainage procedures and thoracotomies were required to treat the empyema and mediastinitis. Since an oral pathogen was isolated and other causes were excluded, an OI was

suspected. Radiographs showed an impacted third molar as a possible septic focus. Tooth extraction was performed. His recovery was slow but uneventful and he was discharged after 48 days.

Conclusion: OI can complicate with life-threatening conditions such as septic shock and DNM. Recognition of severe OI and aggressive management are required to reduce the morbidity and mortality of the disease.

ID: 4059

Age-Group Determination Using the First Molar X-ray Images based on Artificial Intelligence

Imaging

Prof. Yeon-Hee Lee

Kyung Hee University Dental Hospital

Estimating the age group of living individuals is challengeable and difficult, especially in adults rather than in children or adolescents. Typically, age estimation based on dental maturation and eruption schedules is possible and accurate in children and adolescents. However, there is no consensus method over 20 years of age, and the previously presented methods have a large error range. Thus, this study aims to provide an accurate and robust artificial intelligence (AI)-based diagnostic system for age-group estimation by incorporating a convolutional neural network (CNN) using dental x-ray images of the first molars. We evaluated the performance accuracy of CNNs and majority voting system. Data set was consisted of 4 first molar images from the maxilla and the mandible of each of 1,586 individuals, those were extracted from their panoramic radiographs, and used in set-up for the age-group determining AI model. The area under curve scores ranging from 0.94 to 0.98 for all age-groups, which means very outstanding performance. In addition, the estimation accuracy in our model was 89.05% to 89.21%. We tested heat maps and grad-CAMs for the visualization of the learned features, and revealed that CNNs focus on differentiated anatomical parameters including tooth pulp, alveolar bone level, and interdental space according to age and tooth origin. Furthermore, we provided deeper understanding of most informative region of them in distinguishing age groups. The prediction accuracy and heat map analyses support that the AI-based age-group determination model is plausible and useful.

ID: 4804

Sore Throat and Voice Change – **What’s Up, Doc?**

Infectious diseases/HIV

Dr. Dr. Melanie Simms¹; Mr. Cellan Thomas¹; Dr. Phil Atkin¹;

¹Cardiff Vale UHB

A 21-year-old male attended the oral and maxillofacial (OMFS) department with sore throat and hoarse, squeaky voice, present for 5 months, previously diagnosed as a viral throat infection by his GP. The symptoms continued, resulting in 1.5 stone weight loss meaning the patient returned to his GP with the same complaints accompanied by the recent development of mouth ulcers. He was prescribed hydrocortisone muco-adhesive tablets, urged to stop smoking, and was referred on the urgent suspected cancer pathway to secondary care, with a suspected oropharyngeal malignancy.

The patient described a persistent raw throat and a squeaky tone to the voice which was evident **during the consultation; akin to Mel Blanc, voicing the character ‘Bugs Bunny’**. He reported general malaise and a skin rash affecting the trunk and upper limbs lasting a few days. There was erythema of the oropharynx, enlarged tonsils, patches of keratosis on the tongue and ulcers on the labial mucosa. Nasendoscopy was noncontributory and a recent HIV test was negative.

Work-up for an alternative infective cause confirmed acute syphilis infection. The patient was immediately referred to the Sexual Health Clinic and received 1 dose of IM benzathine penicillin. He had a good treatment response and symptoms had resolved at clinical review.

Otolaryngological manifestations of secondary syphilis (including pharyngitis, laryngitis and tonsillitis) are probably better well-known in ENT clinics, but are an important manifestation to be aware of within the oral medicine setting where they may be a vital piece in the overall syphilis jigsaw puzzle.

ID: 4870

Oral hairy leukoplakia treated with valacyclovir

Infectious diseases/HIV

Dr. Vignesh Murthy¹; Dr. Parnyan Ashtari¹; Dr. Helen McParland¹; Dr. Barbara Carey¹;

¹Guy’s St Thomas’ NHS Foundation Trust

Objectives: Oral hairy leukoplakia is caused by the Epstein-Barr virus and is usually seen in immunocompromised individuals, such as those with human immunodeficiency virus (HIV) infection and systemic immunosuppression. It is characterised by white painless corrugated non-removable plaques, usually involving the lingual squamous epithelium.

Case: A 51-year old male was referred with an asymptomatic white patch on the left lateral tongue. The medical history was significant for hypertension and asthma. Medications included salbutamol and beclomethasone inhalers, amlodipine, bendroflumethiazide, amlodipine, candesartan and spironolactone. He was a non-smoker. Examination revealed a white corrugated patch involving the left lateral tongue, extending to the floor of mouth. HIV serology was negative. Histopathology showed

acanthosis and thick poorly organised parakeratin with layering of koilocyte-like cells strongly positive for EBV with in situ hybridisation, in the upper epithelial layer.

The patient developed widespread lesions involving the dorsum and lateral tongue and buccal mucosa. He was treated with valacyclovir for one week with complete resolution. The patient was referred to immunology and virology to perform immunostaining and for genetic testing as initial assessment and investigations were normal.

Conclusions: OHL should no longer be regarded as pathognomonic for HIV infection or systemic immunosuppression. Topical corticosteroid inhalers were contributory in this case. While studies show EBV replication can be suppressed by valacyclovir, persistent EBV infection and EBV entry from the blood into the tongue can occur. Treatment with acyclovir, ganciclovir and foscarnet has also been documented but treatment is not usually indicated.

ID: 4946

From a persistent oral ulcer to hidden tuberculosis

Infectious diseases/HIV

Dr. Ana Teresa Tavares¹; Dr. Francisco Proença¹; Dr. André Pereira¹; Dr. Luís Fonseca¹; Dr. Clara Matos²; Dr. Eduardo Dutra³;

¹Serviço de Estomatologia, Hospital São José - Centro Hospitalar Universitário de Lisboa Central;

²Serviço de Medicina 3 - Hospital Prof. Doutor Fernando da Fonseca; ³Serviço de Anatomia Patológica, Hospital São José-Centro Hospitalar Universitário de Lisboa Central;

Introduction: Tuberculosis (TB) is an infectious disease caused by Mycobacterium tuberculosis. It is classified as pulmonary and extrapulmonary. Extrapulmonary involvement is uncommon, accounting for approximately 10 to 15% of all patients. Oral TB is very rare and represents 0,05 to 5% of total TB patients. It occurs from primary inoculation and invasion of mycobacteria or secondary to pulmonary TB. The tongue is the most frequently involved site and it manifests frequently as ulceration. The diagnosis is challenging since the lesion mimics diseases such as squamous cell carcinoma. We present a case of oral TB in a Human Immunodeficiency Virus (HIV) patient with a chronic gingival ulcer.

Case Report: A 50-year-old male, HIV positive under therapy with optimal CD4 values and undetectable viral load, presented a large, chronic painful ulcer on the upper left gingiva and a nodule on his left buccal mucosa. He had no respiratory or other systemic symptoms and was unsuccessfully treated with antibiotics and anti-fungal therapy. Squamous cell carcinoma was considered. After three biopsies an infection by Mycobacterium tuberculosis was suggested. A fourth biopsy for Nucleic Acid Amplification Test confirmed the diagnosis. The patient was referred to his Infectious Disease Department for further study. Pulmonary TB was also diagnosed and he was admitted for a successful systemic treatment.

Discussion and conclusion: Oral TB is a very rare entity and its diagnosis is challenging since chronic ulcers mimic other diseases and pulmonary symptoms are not always present. Oral tuberculosis should not be ruled out, particularly in immunocompromised patients.

ID: 4976

Case Reports: Acquired Syphilis' Oral Manifestations

Infectious diseases/HIV

[Dr. Filipa Contente](#)¹; Dr. Teresa Coelho¹; Dr. Tiago Oliveira¹; Dr. Cecilia Caldas¹; Dr. Dolores López-Presa¹; Prof. Francisco Salvado¹;

¹[Centro Hospitalar de Lisboa Norte](#)

Syphilis is a sexually transmittable disease (STD) caused by *Treponema pallidum*. The infection occurs through genital or orogenital contact and through vertical transmission. In the past decade, in Europe and the United States, there has been an increasing incidence of syphilis mostly due to high-risk sexual behaviour associated with a decreased use of condom. Most cases occur in young adults. Oral cavity represents the most frequent extra-genital location for primary syphilis and is involved in 30% of secondary syphilis cases. Although tertiary syphilis is rare, in the oral cavity usually presents itself as a lesion with a necrotic central core in the palate. **Syphilis' diagnose may be challenging** because the oral lesions may resemble other disease entities. A clinician high level of suspicion is often necessary to the diagnose. Due to that, is expected that the clinician has the right knowledge of these lesions and that he is able to perform a medical history review and an accurate patient assessment. Four male patients presenting non pathognomonic oral lesions, were referred to our Oral Medicine Outpatient Clinic (OMOC). The aim of this paper is to report the acquired syphilis cases and discuss the differential diagnosis of these oral cavity lesions.

ID: 5057

Herpes zoster involving the maxillary branch of the trigeminal nerve: a case report

Infectious diseases/HIV

[Dr. Catarina Ferreira](#)¹; Dr. Cristina Rodrigues Barros¹; Dr. Filipa Veiga¹; Dr. Paula Maria Leite¹; Dr. Luisa Figueiredo¹; Dr. Marcelo Prates¹;

¹[Centro Hospitalar Universitário de Lisboa Central](#)

Introduction: Herpes zoster (HZ) is caused by reactivation of a latent varicella-zoster virus. It frequently occurs in older adults and immunosuppressed individuals. Cervical, thoracic, lumbar and first division of the trigeminal nerve are the most affected nerves, whereas the involvement of second and third division of trigeminal nerve is unusual. Clinical manifestations can be divided in a prodromal phase, an acute eruptive phase and a postherpetic neuralgia.

Clinical case: A 30-year-old woman presented with a four-day history of vesicular eruptions with severe oral pain. Eruptions were heralded by mild fever, malaise and sharp pain over the right cheek and palate. Antibiotic therapy was previously prescribed with no improvement. Past medical history included chickenpox. On examination she had erythema and swelling of the right upper gingiva and **palate with vesicular lesions that didn't cross the midline. Blood tests revealed raised erythrocyte sedimentation rate and c-reactive protein.** All other causes of odontogenic and orofacial pain were ruled out. Clinical diagnosis of herpes zoster of right maxillary nerve was admitted. Valacyclovir 1g thrice a day was prescribed alongside analgesic medication. One week later, vesicles and pain

disappeared but there was still erythema and swelling. After one month the patient was devoid of symptoms and the lesions healed with no complications.

Conclusion: HZ acute pain lowers quality of life and interferes with daily activities. This case signifies the importance of a thorough medical history and examination, highlighting how early diagnosis and treatment may aid in reducing the duration and severity of symptoms.

ID: 4826

Orofacial Granulomatosis complicated by late-onset Ornithine Transcarbamylase deficiency

Medical management/pharmacology

Dr. Shalini Nayee¹; Dr. Radha Ramachandran²; Dr. Martyn Ormond¹; Dr. Barbara Carey¹;

¹Department of Oral Medicine, Guy's and St Thomas' NHS Foundation Trust; ²Department of Adult Inherited Metabolic Diseases, Guy's and St Thomas' NHS Foundation Trust;

Objectives:

1. To present a case of orofacial granulomatosis (OFG) in a patient with Ornithine Transcarbamylase (OTC) deficiency, a urea cycle metabolic disorder.
2. To discuss how this metabolic disorder can complicate management of OFG.

Background: OFG is a rare inflammatory condition characterised by recurrent facial swelling, most commonly involving the lips. Dietary exclusion of cinnamon and benzoates is an established treatment modality.

OTC deficiency is a metabolic disorder that causes hyperammonemia and life-threatening metabolic decompensation. Pharmacologic treatment of hyperammonemia consists of sodium benzoate administration. This scavenges ammonia by creating an alternate pathway to excrete nitrogen precursors.

History, Examination and Diagnosis: A 28-year-old male patient with OTC deficiency was referred by the Adult Inherited Metabolic Disease clinic, with a 4-year history of angular cheilitis, diffuse right-sided perioral erythema, cheek swelling and lower lip enlargement. Intra-orally, there was generalised full thickness gingival erythema, cobblestoning of the buccal mucosa and mucosal tags on the lower labial mucosa. The history was negative for gastrointestinal symptoms. Haematological investigations and faecal calprotectin were normal. A clinical diagnosis of OFG was made.

Medical History: OTC deficiency, managed with arginine 2g four times daily, sodium benzoate 3.5g four times daily and multivitamins.

Management: Sodium benzoate was substituted for glycerol phenylbutyrate (Ravicti) to decrease the benzoate load and facilitate a cinnamon and benzoate exclusion diet. Clinical improvement was noted at review. Treatment is ongoing.

Conclusions: Management of OFG was complicated by the background diagnosis of OTC deficiency. This case highlights the importance of multidisciplinary management of such cases.

Aphthous-like ulcers following vemurafenib-cobimetinib therapy of malignant melanoma

Oral complications of drugs

Dr. Stepan Podzimek¹; Dr. Marketa Janovska¹;

¹Institute of Dental Medicine, GUH, First Faculty of Medicine, Charles University, Prague

Background: Melanoma is one of the skin malignant tumours. Aphthous-like ulcers are a common adverse effect of treatment with a wide variety of drugs.

In this case report, we present a patient with nodular malignant melanoma of the back and manifestation of aphthous-like ulcers following BRAF (vemurafenib) and MEK (cobimetinib) inhibitors therapy.

Case summary: A 71-year-old Caucasian male was presented to the Department of Oral Medicine for the examination of multiple ulcers on non-cornifying epithelium of the oral cavity. He reported a history of malignant melanoma treated by MEK (cobimetinib) and BRAF (vemurafenib) inhibitor therapy before ulcers appeared. After about a month of treatment with this therapy, the patient experienced rounded, sharply well-defined tissue defects affecting the non-cornifying oral epithelium, with a maximum occurrence on the mucosal part of the lower lip, buccal mucosal surfaces, and the ventral part of the tongue. As aphthous-like ulcers in the oral cavity occurred shortly after the onset of therapy, toxic drug reaction reflecting the elevation of both drug levels was initially suggested.

After dose reduction of both drug followed by cobimetinib discontinuation together with the onset of local therapy by combination of triamcinolone rinse, chlorhexidine digluconate rinse and panthenol solution, mucosal defects were healed within one month.

Conclusions: In the context of drug toxic reaction development that may manifest as aphthous-like ulcers, we can recommend the elimination or at least a dose reduction of BRAF (vemurafenib) and MEK (cobimetinib) inhibitors therapy together with the onset of local therapy by combination of triamcinolone rinse, chlorhexidine digluconate rinse and panthenol solution.

Acknowledgement: This study was supported by projects nr. NV19-08-00070 and 17-30753A (Ministry of Health, Czech Republic) and by project PROGRES Q29/1LF (First Faculty of Medicine, Charles University, Czech Republic).

ID: 4970

Ibrutinib Induced Lichenoid Reaction

Oral complications of drugs

Dr. Noa Stempler¹; Dr. Assaf Debby²; Dr. Mordechai Findler¹; Dr. Mor Bar-Ilan¹; Prof. Noam Yarom¹;

¹Oral Medicine Unit, Sheba Medical Center, Tel-Hashomer, Israel; ²Institute of Pathology, Sheba Medical Center, Tel-Hashomer, Israel;

Introduction: Ibrutinib, a Bruton's tyrosine kinase (BTK) inhibitor, is a novel agent for the treatment of B-cell malignancies and other related pathologies. Previous studies described ibrutinib-related adverse events; among them are mucosal lesions which are generally defined as "stomatitis". Other detailed publications concerning oral manifestations of ibrutinib, described aphthous like lesions. Here we report, for the first time to the best of our knowledge, a case of lichenoid reaction to ibrutinib.

Case description: A 61 y.o. woman presented to our clinic with long standing, painful oral lesions which lasted for at least four months. Relevant medical history included chronic lymphocytic leukemia (CLL), treated with ibrutinib with dose reduction due to the oral lesions which appeared one month after treatment initiation. Clinical examination revealed bilateral lichenoid lesions on the lateral tongue and buccal mucosa. Histopathologic examination demonstrated lichenoid mucositis with some epithelial atypia, direct immunofluorescence was nonspecific. Therefore, the diagnosis was ibrutinib induced lichenoid reaction. Management included topical dexamethasone which resulted in some improvement.

Discussion: Although mucosal toxicity associated with ibrutinib has been previously reported, the clinical appearance was described as aphthous like lesions. For the best of our knowledge, this is the first report of lichenoid reaction in patient treated with ibrutinib. Oral mucosal toxicities associated with targeted therapies are a well-known phenomenon with treatment implications including dose reduction or treatment secession. Early diagnosis and efficient treatment can improve symptoms.

ID: 5008

Spontaneous osteonecrosis of the jaws with oral bisphosphonates? - A case report

Oral complications of drugs

Dr. André Pereira¹; Dr. Luís Fonseca¹; Dr. Ana Teresa Tavares¹; Dr. José Ferrão¹; Dr. Filipa Veiga¹; Dr. Francisco Proença¹;

¹Centro Hospitalar Universitário Lisboa Central

Introduction: Bisphosphonates are drugs used in the treatment of bone metastases from various cancers, but also in bone metabolism pathologies, like osteoporosis. Osteonecrosis of the jaws is a common adverse effect of bisphosphonate therapy, especially intravenously. This is a case of mandibular osteonecrosis six months after initiating osteoporosis therapy with alendronic acid and without any recent mandibular surgery.

Case Report: A 64-years-old woman with osteoporosis was prescribed with alendronic acid. The patient had a history of All-on-6 implant-supported ceramic bridge procedure ten years ago and an All-on-4 implant-supported ceramic bridge procedure three years ago. Six months after starting alendronic acid orally, she had recurrent abscesses related to last lower left implant treated, until she was diagnosed with medication-related osteonecrosis of the jaws. She then stopped the alendronic acid therapy, and the implant involved in the lesion was removed. Six months later, the patient developed new episodes of infection.

The patient was referred to the Stomatology Department of Hospital São José, with CT imaging evaluation.

An incisional biopsy of the lesion was performed which revealed superinfection of the necrotic bone tissue.

Pathogen-direct antibiotherapy was performed and the patient underwent surgical debridement of the necrotic bone, with the removal of all involved implants.

After a month, there was good soft tissue healing, with no signs of osteonecrosis.

Conclusion: The purpose of this case is alert to the occurrence possibility of osteonecrosis of the jaws, although less frequent, with oral bisphosphonates and without recent maxillary surgery.

ID: 5010

Outcomes and outcome measures of clinical studies of MRONJ – a systematic review

Oral complications of drugs

Dr. Ashwaq Almutairi

Eastman Dental Institute

Objectives: The primary aim of this systematic review was to identify the types of outcomes and outcome measures commonly used in clinical studies of medication related osteonecrosis of the jaws (MRONJ). The secondary aim was to identify the range of existing patient-reported outcome measures (PROMs) used in these studies.

Materials and Methods: A systematic review of the literature was undertaken according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statements (PRISMA). An electronic search was done using the following databases: MedLine and EmBase via Ovid, and Central Register of Controlled Trials. Inclusion criteria were English language articles published between **September 2003 and February 2021 with a cohort of ≥ 10 MRONJ patients.**

Results: A total of 234 articles were eligible among 3787 identified records. Six different clinician-rated outcomes (ClinROs) and seven patient-reported outcomes (PROs) were used in the literature. The most reported ClinROs and PROs were mucosal integrity and pain followed by quality of life, respectively. Visual analogue scale and Oral Health Impact Profile 14 were the most utilised PROMs. Despite the varied outcomes used there was no evidence of an MRONJ-specific tool that could maximise the sensitivity of an instrument to changes relevant to this condition.

Conclusion: Further research is needed to ensure consistency regarding the outcome measures used in MRONJ research. This will facilitate comparisons across treatment modalities use and allow meta-analysis to ensure robust research recommendations.

ID: 5037

Mucocutaneous ulcer EBV positive: a clinical manifestation of the lymphoproliferative process associated with immunosuppression in the management of rheumatoid arthritis - a case report

Oral complications of drugs

Miss Gisela Cristina Vianna Camolesi¹; Prof. Pilar Gandara Vila¹; Prof. Abel García García¹; Prof. Andrés Blanco Carrión¹; Prof. Mario Pérez-Sayáns¹;

¹Facultad Odontología - USC - Medicina Oral

The B-cell lymphoproliferative processes of the mucocutaneous ulcer type resulting from immunosuppression are histologically similar to lymphoma and are often associated with Epstein-Barr virus (EBV) infection. This entity is usually described in the oral cavity and affects patients with immunosuppression (drugs, primary immunodeficiency, HIV) and/or advanced age.

The clinical case is of a 75-year-old woman with a history of rheumatoid arthritis and covid-19 in 2020, treated with methotrexate (MTX), among other drugs. Presented severe pain that made it impossible to use her lower dentures. On clinical inspection, a medium-sized ulcer was noted on the floor of the left mouth, well-defined, of a soft consistency and painful on palpation, with an evolution time of approximately 5 months. An incisional biopsy of the ulcer was performed to determine whether it was related to the use of MTX. The anatomopathological diagnosis was "Lymphoproliferative process compatible with EBV-positive mucocutaneous ulcer", having made a correct differential diagnosis with a possible lymphoma using specific stains. Given the context, it was decided together with the rheumatologist to suspend treatment with the immunosuppressant MTX, with the intention of spontaneous remission of the lesion.

Ulcers affect the skin, gastrointestinal tract and rarely affect primarily the oral cavity. These lesions usually regress when immune recovery is achieved. However, clinical-pathological correlation is necessary to establish the diagnosis.

ID: 5069

The use of the Integra Dermal Regeneration Template in medication-related osteonecrosis of the jaw

Oral complications of drugs

Dr. Rui Seixas¹; Dr. Natacha Ribeiro¹; Dr. Manuel Tolentino¹; Dr. Dinora Martins¹; Dr. Carlos Matos¹;
¹Serviço Estomatologia - Hospital São Bernardo, Centro Hospitalar de Setúbal, E.P.E.

Medication-related osteonecrosis of the jaw (MRONJ) is characterized by the exposure of necrotic gnathic bone or probed through a fistula. It is a difficult to treat condition due to the limited capacity for bone healing and patients end-up with limited therapeutical options.

In this case, a 69-year-old male patient diagnosed with prostate carcinoma and lung adenocarcinoma was referred to the Stomatology Department with exposed bone and mild mandibular pain in the past 3 months. Two exposed bone lesions were observed: a draining fistula in the maxilla adjacent to 1.7, and a sequestrum at the lingual surface of the right molar region, being classified as stage III ONJ. A CT confirmed the presence of a lingual cortical plate sequestrum in a destructive lucent lesion related to 4.7 with 4 cm. The treatment of choice was the surgical removal of the sequestrum and extraction of teeth 4.7. The intraoral defect was dressed with Integra Dermal Regeneration Template (IDRT).

Patient follow-up at day 7 post-surgery, revealed no inflammatory signs at the surgical site. IDRT silicone layer was removed at day 14, showing early granulation over the previously exposed bone. At 10 weeks postoperative, the oral defect had healed completely with no need for active intervention.

This application of IDRT is infrequently reported in the literature. The excellent result in this case, as the defect was completely covered by attached gingiva, allowed no further interventions, which are commonly associated with increased morbidity in MRONJ patients.

ID: 4058

Oral manifestations as an early clinical sign of haematological disorders. Report of two clinical cases

Oral leukoplakia and other potentially malignant disorders

Miss María Victoria Baltasar Corral¹; Mrs. Cristina Puente Gutiérrez¹; Mrs. Esther Delgado Somolinos¹;
Miss Cristina Golvano Tarancón¹; Mr. Antonio Francisco López Sánchez¹;
¹Oral Medicine Postgraduate Program. Rey Juan Carlos University. Madrid. Spain

Background: Leukemias and lymphomas are hematopoietic diseases characterized by an uncontrolled proliferation of white cells. These cells, called blasts if they are undifferentiated may permeate bone marrow such as in leukemia. In lymphomas, the cells proliferate in lymphoid tissue,

such as in nodes or in the spleen. Depending on the white blood cell series that proliferates and their degree of maturation, a classification of the different neoplasms is established.

Objective: We present two cases of oral representation of underlying hematopoietic disease.

Case presentation: 1° Case: 65-year-old male reported ulcerative lesions at the level of second inferior molar of two months of evolution, with no improvement after two weeks. Labs were recommended, and he was referred to the Hematology clinic, where he was later diagnosed of acute myeloid leukemia. 2° Case: A 24-year-old male complained of inflammation in molars of third quadrant, between 3.6 y 3.7, with associated teeth loss and perceived paresthesias on mental nerve region during a month. We performed a biopsy diagnosing our patient with diffuse large B-cell lymphoma.

Conclusion: It is imperative for the dentist to recognize the oral manifestations of hematopoietic diseases, despite not being pathognomonic, since they may constitute the first sign of the underlying condition, and their prompt identification may lead to earlier diagnosis and better prognosis for the patients.

ID: 4841

Associations between clinical and histopathological characteristics in oral leukoplakia

Oral leukoplakia and other potentially malignant disorders

Mr. Ilkay Evren¹; Dr. Elisabeth Brouns¹; Dr. Jos Poell¹; Mr. Leon Wils¹; Prof. Ruud Brakenhoff¹; Prof. Elisabeth Bloemena¹; Prof. Jan de Visscher¹;

¹Amsterdam UMC, location VUmc

Objectives: To identify possible associations between patients' demographics and habits, and the clinical aspects and histopathological characteristics of oral leukoplakia (OL) at patients' first visit.

Patients and methods: This retrospective study included 140 consecutive patients with OL at a single institute in the 1997-2019 period.

Results: There were 96 females and 44 males with a mean age of 58 years. OLs were found mainly on the tongue (41%) and floor of mouth (FOM) (18%). Homogeneous OLs (55%) were associated with smoking, subsite FOM and size < 2 cm, and non-homogeneous OLs (45%) with non-smokers. No dysplasia (ND) was present in 40% and any dysplasia (AD) in 60%. Tongue OLs were significantly correlated with the presence of AD (OR:6.0) and classic dysplasia (CD) (OR:5.7). FOM OLs were correlated with the presence of CD (OR:4.5). The presence of differentiated dysplasia (DD) was correlated with non-homogeneous OLs (OR:2.6).

Conclusions: Some associations between demographics, clinical manifestations and histological features of OL were found. Tongue and FOM OLs may indicate CD, and DD was associated with non-homogeneous OLs. However, they do not give consistent reliable information about the histopathological diagnosis in this series of patients and are therefore not applicable to the individual patient.

A simple brushing method to study the oral mucosa of patients with inflammatory and chronic pain disorders

Oral leukoplakia and other potentially malignant disorders

Dr. Jairo Robledo-Sierra¹; Dr. Jonas Sundberg²; Dr. Marina Baza²; Dr. Gita Gale³; Dr. Jenny Öhman²; Dr. Bengt Hasséus²; Prof. Elisabeth Hansson⁴;

¹CES University, Medellín, Colombia; University of Gothenburg, Sweden; ²Department of Oral Pathology and Medicine, University of Gothenburg, Sweden; ³Clinic of Oral Medicine, Public Dental Service, Region Västra Götaland, Gothenburg, Sweden; ⁴Department of Clinical Neuroscience, University of Gothenburg, Sweden;

Objective: To develop a simple, non-invasive sampling method for retrieving oral keratinocytes to aid in studying inflammatory and chronic pain disorders. We also analysed the biomarkers toll-like receptor 4 (TLR4) and β -actin related to inflammation and cell metabolism in healthy tissues.

Patients and methods: Five healthy volunteers were included in the validation of the brushing method. Samples using a Medscan Cytobrush Plus GT with a brushing and scraping technique were taken from lesional and non-lesional oral mucosa of patients with oral lichen planus (OLP, n=14) and leukoplakia (n=10), and from healthy oral mucosa of patients with burning mouth syndrome (BMS, n=9), and age-matched healthy controls (n=14). Histochemistry, Western blot, and immunocytochemistry were used for cell morphology and protein analysis.

Results: Retrieval of oral keratinocytes was confirmed and validated through identifying an epithelial-related protein (cytokeratin) in all samples. The non-lesional oral mucosa of patients with OLP showed a higher integrated density of TLR4 compared to the controls ($P < 0,05$). The lesional mucosa of patients with leukoplakia showed a lower integrated density of β -actin compared to the controls ($P < 0,05$). Also, in patients with leukoplakia, the integrated density of β -actin was significantly lower ($P < 0,001$) in the lesional sites compared to the non-lesional oral mucosa. No significant differences were found between patients with BMS and controls.

Conclusion: Our data show that this non-invasive, straightforward brushing method is valid for retrieving oral keratinocytes and epithelial proteins, which are pivotal in the investigation of inflammatory and chronic pain disorders.

ID: 4853

Prognosis of oral epithelial dysplasia in individuals with oral lichen planus

Oral leukoplakia and other potentially malignant disorders

Dr. Kununya Pimolbutr

Eastman Dental Institute

Objective: To investigate the role of pre-existing oral lichen planus (OLP) in determining the prognosis of oral epithelial dysplasia (OED).

Methods: A retrospective single-centre cohort study was performed using the database of patients managed in the Head and Neck Cancer and Oral Medicine units of University College London Hospital between November 2007 and February 2019. Cox regression models were conducted to assess the associations between OLP and relevant outcomes including the risk of subsequent OED, the progression to OSCC and survival.

Results: Of the 299 patients with OED, 20.74% (62/299: 35 OLP/OED and 27 non-OLP/OED) developed multiple OEDs and 14.05% (42/299: 19 OLP/OED and 23 non-OLP/OED) progressed to OSCC. Multivariate analysis found that OLP/OED individuals were at 2 times higher risk than OED alone individuals of having subsequent new primary OED events (HR=2.02, p=0.04) following the index OED during the first three years but thereafter it became non-significant (HR=0.45, p=0.12). The presence of OLP was not a predictor for worse survival (HR=0.84, p=0.61).

Conclusion: Patients with OLP-associated OED tend to develop subsequent OEDs during the first three years following the first OED but not beyond 3-year period likely due to limited number of cases who developed subsequent OED. Despite this, individuals with OED, with or without OLP, seem to have a similar risk of malignant progression and survival. It is therefore important to ensure that OLP-associated OED individuals are closely monitored and possibly more frequently than persons without OLP.

Development of a European-wide E-learning tool on the topic of **“Oral Potentially Malignant Disorders for Healthcare Professionals”**

Oral leukoplakia and other potentially malignant disorders

Dr. Cameron Herbert¹; Dr. Barbara Carey¹; Prof. Richard Cook¹; Prof. Michael Escudier¹; Prof. Marcio Freitas²; Dr. Jacobo Limeres²; Prof. Luis Monteiro³; Dr. Luis Silva³; Dr. Jean-Cristophe Fricain⁴; Prof. Giovanni Lodi⁵; Dr. Niccolò Lombardi⁵; Prof. Vlaho Brailo⁶; Dr. Rui Albuquerque¹;

¹Guy's and St Thomas' NHS Foundation Trust, King's College London, United Kingdom; ²University Santiago de Compostela, Spain; ³CESPU University, Portugal; ⁴University of Bordeaux, France; ⁵Università degli Studi di Milano, Italy; ⁶University of Zagreb, Croatia;

Despite advances in detection and treatment, oral squamous cell carcinoma (OSCC) remains a significant global health burden with poor survival rates. Oral potentially malignant disorders (OPMDs) are a group of conditions that place affected individuals at an increased risk to developing cancer. This group of conditions differ in nature, clinical presentation, diagnostic pathway and management. For some of them, the evidence is still limited.

Through a European Union funded project via Erasmus+, the Oral Medicine units based at Guy's Hospital, King's College London (Coordinator, United Kingdom), CESPU University (Porto), University of Bordeaux (France), Santiago de Compostela University (Spain), University of Milan (Italy) and University of Zagreb (Croatia), aim to reach a consensus on management of OPMDs.

The online resource will run collaboratively between all institutions. The project aims to ensure that content is relevant to the local context of individual healthcare professionals. The methodology will be similar to a previous project regarding smoking cessation training in Europe (www.smokingcessationtraining.com) with an impact of more of 40,000 views, multiple articles, book and posters. Other European projects with similar methodology related to prevention of Oral Cancer led to more than 8000 downloads and were adapted into the curriculum in some dental schools.

We aim to produce an E-learning package for healthcare professionals covering detection, investigation, diagnosis and management of patients presenting with OPMDs. To help build a sustainable model of best practice in the management of OPMDs, the package will build upon local, national and international knowledge and clinical experience. The online resource will be freely available and accessible in several languages.

ID: 4954

Immunohistochemical expression of cancer stem cell markers CD147 and ALDH in oral leukoplakias and oral squamous cell carcinomas

Oral leukoplakia and other potentially malignant disorders

Mr. Vasileios Zisis¹; Prof. Dimitrios Andreadis¹; Dr. Eleftherios Anagnostou¹; Dr. Pinelopi Anastasiadou¹; Prof. Athanasios Pouloupoulos¹;

¹Aristotle University of Thessaloniki

Objectives: Cancer stem cells (CSCs), are responsible for tumor growth and cancer cell self-renewal and self-proliferation. They may be identified and isolated through specific and distinct biomarkers, which are expressed disproportionately compared to normal stem cells. Emmpin-CD147, an extracellular matrix metalloproteinase inducer and the Aldehyde dehydrogenase ALDH 12, a cytosolic enzyme is of particular importance CSC markers in oral squamous cell carcinoma (OSCCs).

Aim: The aim of our study is the detection of the immunohistochemical pattern of expression of CSCs protein-biomarker CD147 and ALDH in OSCC.

Materials and Methods: Tissue samples were acquired from 21 oral squamous cell carcinomas, 30 potentially malignant lesions (Leukoplakia) and 5 from the control group of lesions consisting of histologically healthy epithelium (for example: fibromas). The samples were obtained from the archives of the Department of Oral Medicine/Oral Pathology, Dental School, Aristotle University of Thessaloniki, Greece during the period 2009-2019. The results describe the quantitative and qualitative immunohistochemical expression of the CSC' biomarker CD147 and ALDH on protein level through SPSS Pearson Chi-square.

Results: The cytoplasmic staining of ALDH and the membranous staining of CD147 were observed in the majority of the samples, as well as of the controls, mostly in the basal layer of the epithelium. ALDH was expressed significantly more in the oral cancer group compared to the oral leukoplakia group (p-value=0.0001) and the control group (p-value=0.0001) and in the group of severe and moderately dysplastic oral leukoplakias compared to the group of mildly dysplastic and non-dysplastic leukoplakias (p-value=0.001). CD147 was expressed significantly more in the group of severe and moderately dysplastic oral leukoplakias compared to the group of mildly dysplastic and non-dysplastic leukoplakias (p-value=0.008).

Conclusions: The immunohistochemical expression of ALDH and CD147 in oral dysplastic and cancerous lesions related to their stage respectively support their role in carcinogenesis and their possible usage as prognostic factors.

ID: 4983

EZH2 Expression in Submucosal Infiltrate Predicts Cancer Development in Oral Leukoplakia

Oral leukoplakia and other potentially malignant disorders

Mrs. Divya Ganesh

Gothenburg University

Aim: The aim of this study was to investigate the expression pattern of enhancer of zeste homolog 2 (EZH2) in oral leukoplakia not developing to cancer (OL) and OL that has transformed into cancer (OL-ca).

Background: Oral squamous cell carcinoma (OSCC) is often preceded by oral potentially malignant disorders (OPMDs). OL is the most common OPMD where the overall malignant transformation rate is estimated to around 11%. EZH2 is involved in the regulation of genes associated with cell proliferation, differentiation, and apoptosis and has been attributed to a role in cancer development.

Material and Methods: A retrospective analysis was performed on tissue samples from 10 OL and 9 OL-ca patients, with a median, follow-up period of 79 months (range: 7 and 176 months). The number of EZH2+ cells in the subepithelial inflammatory cell infiltrate was assessed by immunohistofluorescence. Quantitative analyses of the number of positive cells in the connective tissue were performed on digitalized images with the aid of computer software.

Results: The median number of EZH2+ cells was significantly higher in OL-ca than in OL, i.e., 507 cells/mm² (range: 145-1106 cells/mm²) and 172 cells/mm² (range: 60-271 cells/mm²), respectively (P=0.005).

Conclusion: Expression of EZH2 in the immune cell infiltrates of the connective tissue may be a predictor of the cancer transformation of OL. Characterization of EZH2-expressing cells is presently undertaken.

ID: 5019

Proliferative verrucous leukoplakia: a case report

Oral leukoplakia and other potentially malignant disorders

Dr. Paula Maria Leite¹; Dr. Filipa Veiga¹; Dr. Catarina Machado Ferreira¹; Dr. Cristina Rodrigues Barros¹; Dr. Luisa Figueiredo¹; Dr. Patricia Caixeirinho¹;

¹Centro Hospitalar Universitário Lisboa Central

Oral potentially malignant disorders (OPMD) are a heterogeneous group of mucosal lesions associated with an increased risk of malignant transformation (MT). Proliferative verrucous leukoplakia (PVL) is a rare type of multifocal oral leukoplakia characterised by progressive clinical and histopathologic features, a high recurrence rate and the highest rate of MT among OPMDs. The verrucous texture is what distinguishes it from a homogeneous leukoplakia and what makes it clinically

indistinguishable from a verrucous carcinoma. The etiology of PVL remains unclear, showing no strong association with known environmental agents.

We present a case of a 93-year-old female, non-smoker, who complained of a lesion on the right buccal mucosa, with 4 months of evolution. Clinically, there was a white verrucous lesion, with 4cm on its biggest axis, on the right buccal mucosa. There was also a smaller lesion on the lower anterior alveolar ridge. An incisional biopsy of the biggest lesion diagnosed PVL, with moderate to severe epithelial dysplasia but no invasive component. The lesion was positive for Human papillomavirus type 16. The patient was scheduled for surgical excision with free surgical margins of the lesions.

Despite being a rare type of OPMD, PVL's high recurrence rate and extremely high MT rate make it crucial to have an early diagnosis. An aggressive treatment consisting of surgical excision with free surgical margins, when possible, and a strict follow-up schedule are the most accepted management, to increase the chances of a favourable outcome.

ID: 5020

Oral leukoplakia and erythroleukoplakia: a case report

Oral leukoplakia and other potentially malignant disorders

[Dr. Filipa Veiga](#)¹; Dr. Paula Maria Leite¹; Dr. José Ferrão¹; Dr. Cristina Rodrigues Barros¹; Dr. Catarina Machado Ferreira¹; Dr. Luís Fonseca¹; Prof. Alberto Santos²;

¹[Centro Hospitalar Universitário Lisboa Central](#); ²Hospital Beatriz Angelo;

Oral leukoplakia is the most frequently seen potentially malignant disorder of the oral cavity. It is a predominantly white lesion of the oral mucosa that carries an annual risk of malignant transformation, with a 1,35% to 2,9% rate. The strongest predictor for malignant transformation is the epithelial dysplastic changes.

A 44-year-old woman presented with a white lesion on the right border of the tongue, asymptomatic, with a 3-month evolution. She had smoking habits with no history of alcohol abuse.

Oral examination showed a non-removable white plaque with 7 cm and no cervical lymphadenopathy. An incisional biopsy was performed, and a diagnosis of leukoplakia with mild grade epithelial dysplasia was made. The patient was encouraged for smoking cessation.

At the follow up, the patient then presented an erythroleukoplasic indurate lesion. In order to guide the surgical margins, a contact endoscopy was performed. The exam suggested a greater anterior excision margin than an experienced practitioner would have suspected to be needed. The lesion was then removed, and the histopathological exam revealed mild epithelial dysplasia with foci of moderate dysplasia and free surgical margins.

Leukoplakia lesions should be treated irrespective of the presence of any dysplastic changes. In the presence of epithelial dysplasia, surgical treatment is recommended. Local recurrences may occur and none of the treatment modalities seem to reduce the risk of malignant transformation.

All individuals with a history of oral leukoplakia should be followed-up regularly.

ID: 5033

Profile of patients with oral leukoplakia visiting Oral Pathology unit

Oral leukoplakia and other potentially malignant disorders

Prof. Miglena Balcheva

Medical University of Varna

Objectives: Oral leukoplakia is defined as a predominantly white lesion of the oral mucosa that cannot be characterized as any other definable lesion. It affects about 2.6% of population, as males and people over the age of 50 prevail. Different genetic mechanisms determine its development, and tobacco smoking is the main predisposing factor. Leukoplakia can be encountered at all sites of the oral mucosa, but the floor of the mouth and the lateral borders of the tongue are high-risk sites for malignant transformation.

Our purpose is to present the profile of patients with oral leukoplakia who visit Oral Pathology unit.

Methods: The study covers patients from both sexes and all age group. Patients are taken medical history and are thoroughly examined. Diagnosis is confirmed histologically, and additional tests are performed to estimate possible predisposing factors. Then treatment is prescribed and patients are monitored.

Results: We have diagnosed 33 patients with oral leukoplakia. They are with average age of 52.45 ± 13.17 years. Females prevail significantly. Lesions are most commonly localized on buccal mucosa (39.4%), tongue and gingiva.

About 76.5% of patients smoke and just 3 of them quit the habit – lesions disappear in 2 of these cases. There is only one case with malignant transformation (3.03%).

Conclusions: Our results partially correspond to the data in other studies – etiology, location and age distribution are similar, but not the gender distribution.

Relevance: We need to assess and eliminate predisposing factors in all oral leukoplakia cases and monitor patients regularly.

ID: 5043

Study of the incidence of carcinomas in a group of 21 patients with proliferative verrucous leukoplakia

Oral leukoplakia and other potentially malignant disorders

Miss Miriam Sarmiento Carrera¹; Prof. Andres Blanco Carrión²; Prof. Samuel Rodriguez Zorrilla²; Prof. Jose Manuel Suárez Peñaranda²; Prof. Abel García García²; Prof. Pilar Gándara Vila²;

¹University of Santiago de Compostela; ²Universidad de Santiago de Compostela;

Objectives: to review the clinical and histological characteristics of a group of patients with proliferative verrucous leukoplakia (PVL), to classify the presence of displasia and to analyze the incidence of carcinomas.

Material and methods: we conducted a descriptive study of 21 patients clinically and histologically diagnosed with PVL who were seen in the last two years at the Oral Medicine Unit in Santiago's university. The data were collected from the patient's clinical history and entered into a coded database for statistical study.

Results: the entity was more frequent in non-smoking women in the 7th decade of life. The most affected location was the buccal mucosa. In the histopathological analysis, absence of dysplasia predominated (70.3%). The mean number of biopsies performed on each patient were 6; of the 21 patients, 2 underwent 16 biopsies, while the other 19 underwent only 1 biopsy. Of the simple analyze, 9 (42%) patients developed some type of carcinoma during follow-up, one of them presenting 4 carcinomas. Of all carcinomas described, 2 were carcinomas in situ, 4 were verrucous and 5 were oral squamous cell carcinomas.

Conclusions: the entity is more frequent in women, non smokers and of advanced age. Dysplasia was present in 29.7% of patients and 42.9% of patients underwent malignant transformation. There is no clinical risk associated with the presence of dysplasia.

ID: 5062

Expression of CD44 in potentially premalignant oral epithelial lesion - leukoplakia

Oral leukoplakia and other potentially malignant disorders

Mrs. Madara Dzudzilo¹; Prof. Ingrida Cema¹; Prof. Regina Kleina²;

¹Riga Stradiņš University, Department of Oral medicine; ²Riga Stradiņš University, Department of Pathology;

Background and Objectives: Globally, 4% of all cancer-related deaths are attributed to mouth, pharynx and larynx, and they are the 8th most common cause of death from cancer. Potentially premalignant oral epithelial lesions are leukoplakia and erythroplakia. CD44, a transmembrane glycoprotein expressed on many cell types, is believed to play important role in such processes as - cell proliferation, adhesion, migration, and lymphocyte activation. But expression of CD44 in potentially premalignant oral epithelial lesions is very controversial. The purpose of study was to determine expression of CD44 in oral leukoplakia and in normal mucosa.

Materials and methods: In the current study were included 50 patients with oral leukoplakia. Twenty biopsies from healthy were considered as a control group. Specimens were stained by haematoxylin eosin and immunohistochemical detection of CD44 pan was done by EnVision method. Number of macrophages were counted in 3 different points of vision at 400x magnification. Statistical analyses and calculations were performed using the GraphPad Prism software version 8.4.0 for Mac.

Results: In our research were included 29 males and 21 females and the average age of the patients was 57.2 years. Clinically have been identified following forms of leukoplakia: 18 homogeneous and 32 non-homogeneous (11 verrucous, 4 nodular, 17 erythroleukoplakias). In oral leukoplakia statistically significant overexpression of membranous CD44 was demonstrated compared to healthy mucosa ($p < 0.0001$).

Conclusions: CD44 antigen is involved on cell-cell interaction and cell adhesion. CD44 marker can be used as a prognostic marker for identifying malignant transformation

ID: 5063

Oral Lichen Planus and Proliferative Verrucous Leukoplakia: do they come from the same clinicopathological process?

Oral leukoplakia and other potentially malignant disorders

Dr. Noelia Otero Gayoso¹; Dr. Pilar Gándara Vila¹; Dr. Catalina Barba Montero¹; Dr. Jose Manuel Somoza Martin¹; Dr. Abel García García¹; Dr. Andrés Blanco Carrión¹;

¹University of Santiago de Compostela

Objective: to retrospectively control the evolution of patients with diagnosis of Proliferative Verrucous Leukoplakia (PVL) previously diagnosed with Oral Lichen Planus (OLP) or Oral Lichenoid Lesion (OLL).

Material and methods: A descriptive study was designed with patients from the Master of Oral Medicine, Oral Surgery and Implantology who fulfilled the clinical and histopathological diagnostic criteria of OLP/OLL and LVP within the last 5 years.

Results: A total of 10 patients were included in the study. The female/male ratio was 9:1, 40% of the patients were smokers, and the mean age of presentation was 64 years. The most frequent locations were the gingiva/alveolar ridge for LVP lesions and jugal mucosa for OLP/OLL. 60% of the patients (n = 6) did not meet all the criteria for the diagnosis of OLP, being classified as OLL. Two patients presented OLP (n1 = 1) / OLL (n2 = 1) and LVP lesions at the same location. Of the 27 anatomopathological studies reviewed, 16 (59%) showed compatible findings with LVP and 11 (41%), with OLP/OLL. Moreover, 22% of these studies had some degree of dysplasia, all corresponding with LVP lesions. None of the patients developed malignant changes during 5 years of follow-up.

Conclusions: This pilot study highlights the importance of carrying out an exhaustive control of patients with proliferative OLP/OLL in order to achieve an early diagnosis of LVP, given the malignancy rate of these lesions.

ID: 4837

Metaproteomic and metagenomic profiling of the oral microbiome in oral lichen planus

Oral lichenoid lesions

Dr. Maria Bankvall¹; Mr. Miguel Carda-Diéguez²; Mr. Alex Mira²; Mr. Anders Karlsson³; Dr. Bengt Hasséus⁴; Mr. Roger Karlsson⁵; Dr. Jairo Robledo-Sierra⁶;

¹Karolinska Institute, Huddinge, Sweden; ²Center for Advanced Research in Public Health, FISABIO, Valencia, Spain; ³Nanoxis Consulting AB, Gothenburg, Sweden; ⁴Department of Oral Medicine & Pathology, The Sahlgrenska Academy, University of Gothenburg, Sweden; ⁵Clinical microbiology, Sahlgrenska University Hospital, Gothenburg, Sweden; ⁶CES University, Medellin, Colombia;

Background: A growing body of evidence demonstrates that certain bacterial species could be involved in the onset or exacerbation of oral lichen planus (OLP).

Patients and methods: Buccal swabs samples were collected from lesional and non-lesional sites of six patients with reticular OLP and from healthy oral mucosa of six age- and gender-matched control subjects. Mass spectrometry-based proteomics and 16S rRNA MiSeq sequencing were utilised to identify the metaproteomic and metagenomic profiles of the oral microbiome in both groups.

Results: The most abundant species in the three subgroups were *Streptococcus oralis* (23–47%) and *Pseudomonas aeruginosa* (10–23%), which together accounted for up to 70% of the total population. A Canonical Correspondence Analysis showed clustering of samples from the same group. Three species (*Veillonella parvula*, *Actinomyces* sp, and *Lactococcus lactis*) were significantly ($P < 0.005$) over-represented in the control group and one (*Granulicatella elegans*) in patients with OLP. Besides, *V. parvula* was significantly reduced in patients with OLP. Also, we found a tendency ($P = 0.093$) for an over-representation in the proportion of *Pseudomonas aeruginosa* and *Gemella haemolysans* in the control and OLP group, respectively. Several *G. haemolysans*-belonging peptidases and other proteins with inflammatory and virulence potential were found present in OLP lesions only.

Conclusion: Our data suggest that several bacterial species are associated with OLP. Future studies including larger cohorts should be conducted to determine their role in the aetiology of OLP and evaluate whether those microorganisms, particularly higher and lower proportions of *G. haemolysans* and *V. parvula*, respectively, are valid disease biomarkers.

ID: 4882

A provide healthy attached gingiva around the implant using the modified Kazanjian technique- A Case Report

Oral lichenoid lesions

Prof. Meltem Koray

Istanbul University

Prof. Meltem Koray, DDS, PhD, PhD, Istanbul University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Fatih, Istanbul Turkey

Introduction: Good functional implant supported prosthesis needs adequate vestibular depth and attached gingiva. For provide adequate vestibular depth and attached gingiva there is variety of surgical approaches, such as flap debridement, resective and regenerative procedures and lasers for implant surface decontamination, have been proposed. However, an effective treatment method has not been provided.

Aim: In this case report, we aimed to provide healthy attached gingiva around the implant by using the modified Kazanjian technique.

Case: A 43-year-old female patient applied to our clinic with the complaint of mobile and painful peri-implant tissue. On clinical examination and imaging, health bone-implant relationship but enflamatuary vestibular mucosa were observed around lower left fourth implant. After local anesthesia the periosteal flap was incised in the region of the alveolar crest and carefully shifted. The mucosa was sutured at the bottom, the base of the periosteum. The sutures were performed with polyglactin so there was no need for removal. After healing, the patient 's complain was eliminated. One month postoperatively was obtained healthy attached gingiva around the implant by the technique.

Discussion: Currently, despite the great advances in implantology and ridge augmentation techniques, good functional implant supported prosthesis needs adequate vestibular depth and attached gingiva.

Conclusion: In conclusion, the modified Kazanjian technique is a simple procedure that can be performed under local anesthesia and provide healthy attached gingiva around the implant.

ID: 4906

A deep learning algorithm for classification of oral lichenoid lesions from photographic images: A retrospective study

Oral lichenoid lesions

Dr. Gaye Keser¹; Dr. Ibrahim Sevki Bayrakdar²; Prof. Filiz Namdar Pekiner¹; Dr. Özer Çelik³; Prof. Kaan Orhan⁴;

¹Department of Oral Diagnosis and Radiology, Marmara University, Faculty of Dentistry; ²Department of Oral Diagnosis and Radiology, Eskisehir Osmangazi University, Faculty of Dentistry; ³Department of of Mathematics and Computer, Eskisehir Osmangazi University; ⁴Department of Oral Diagnosis and Radiology, Ankara University, Faculty of Dentistry;

Introduction: A computing system that replicates a natural system is known as Artificial Intelligence (AI). Deep learning methods have recently been applied for the processing of medical images, and they have shown promise in a variety of applications

Aim: This study aimed to develop a deep learning approach for identifying oral lichenoid lesions using photographic images.

Methods: Anonymous retrospective photographic images of buccal mucosa with 65 healthy and 72 oral lichenoid lesions were identified using CranioCatch program (CranioCatch, Eskişehir, Turkey). All images were re-checked and verified by Oral and Maxillofacial Radiology experts. This data set was divided into training (n =51; n=58), verification (n =7; n=7) and test (n =7; n=7) sets for healthy mucosa and mucosa with oral lichenoid lesion, respectively. In the study, an artificial intelligence model was developed using Tensorflow Inception V3 architecture, which is a deep learning approach.

Results: AI deep learning model provided the classification of all test images for both healthy and diseased mucosa with a 100% success rate.

Conclusion: In the health-care business, AI offers a wide range of uses and applications. Increased effort, increased complexity of job, and probable doctor fatigue may jeopardize diagnostic abilities and results. Artificial intelligence (AI) components in imaging equipment would lessen this effort and increase efficiency. They can also detect oral lesions and have access to more data than their human counterparts. Our preliminary findings show that deep learning has the potential to handle this significant challenge.

Keywords: oral lichenoid lesions, deep learning, artificial intelligence

ID: 4927

Immunohistopathological Profiling of Oral Mucosal Chronic Graft-versus-Host Disease

Oral lichenoid lesions

Mr. Victor Tollemar

Karolinska Institutet

Introduction: Graft-versus-Host Disease (GVHD), is a heterogeneous complication following hematopoietic cell transplantation (HCT). Chronic (c)GVHD is the main cause of late non-relapse mortality and commonly involves the oral cavity. Oral pathophysiology's include mucosal manifestations, salivary gland dysfunction and restricted mouth opening. However, assessment of immune profiles in mucosal cGVHD have been restricted to small cohorts with lack of patient diversity presentation.

Objectives: Large scale profiling of oral mucosal cGVHD was conducted on 94 HCT-patients with multiple biopsies (n=212), to study the correlation between clinical presentation, histopathological and timespan with immunological changes.

Methods: Oral mucosal cGVHD histopathological severity classified biopsies were immunohistochemically probed for T- and B-cells, Langerhans antigen presenting cells (LCs) and macrophages. Localization of markers was quantified by image analysis software.

Results: Inflammatory makers did not always correlate to the diverse clinical presentation and factors, such as histopathological severity, local and systemic GVHD and time of disease progression to influence the immune profiles. However, a significant T-cell infiltration (CD4, CD8 <0.001) and

macrophage immune cell (CD68 <math><0.001</math>)) localization was observed post-HCT compared to healthy tissues, and the lack of B-cells (CD19, CD20) was confirmed. LCs (CD1a) were decreased post-HCT compared to healthy, although a significant association with active cGVHD was seen against prior-HCT (<math><0.05</math>).

Conclusion: Deep screening of the oral mucosal immune cell profile highlights our understanding of cGVHD biology. This largescale analysis provides a foundation for future investigations of immune subtypes and highlights the diagnostic complexity of oral mucosal cGVHD.

ID: 5016

Clinical characteristics of 253 patients with lichen planus with oral and cutaneous lesions – single center retrospective analysis

Oral lichenoid lesions

Dr. Vladimira Radochová¹; Dr. Radovan Slezák¹;

¹Department of Dentistry, Charles University, Faculty of Medicine Hradec Kralove

Introduction: Lichen planus (LP) is chronic inflammatory disorder affecting especially skin, mucosal membranes or both sites. The aim of the study was to determine the clinical characteristics of the patients with LP in oral cavity and concomitant cutaneous lesions and compare their outcomes with those without cutaneous lesions.

Patients and methods: 253 records of patients with confirmed diagnosis of OLP were retrospectively analyzed. The following clinical data were obtained from the medical charts: gender, age, clinical presentations of OLP, distributions of the lesions, presence of the symptoms, extra oral manifestations of lichen planus, presence of systemic diseases and treatment provided. The group of patients with cutaneous manifestations was compared to those without, for possible clinical differences.

Results: Cutaneous lesions were present in 18.2% (46/253) of patients. Significantly more patients with cutaneous lesions had other extra oral manifestations (26.1% versus 1.0%, $p<0.00001$). Lips were significantly more affected in patients with cutaneous presentation (41.3% versus 16.9%, $p=0.00006$). Ulcerative OLP was more frequent in patients with cutaneous lesions (23.9% versus 10.6%, $p=0.0266$). Patients with cutaneous manifestations needed significantly more systemic treatment with systemic steroids (10.9% versus 3.4%, $p=0.0466$).

Conclusion: Patients with cutaneous lesions are more symptomatic and tend to require more treatment than OLP patients with oral involvement only.

The Correlation Between Objective Clinical Symptoms and Different MRI Sequences In Temporomandibular Joint Disorders

Orofacial pain/temporomandibular disorders (TMD)

Miss Miriam Sarmiento Carrera¹; Prof. Andres Blanco Carrión²; Prof. Samuel Rodriguez Zorrilla²; Prof. Jose Manuel Suárez Peñaranda²; Prof. Abel García García²; Prof. Pilar Gándara Vila²;

¹University of Santiago de Compostela; ²Universidad de Santiago de Compostela;

Objectives: TMD is a general term for disorders of the temporomandibular joint (TMJ), which affects one third of adults. Symptoms include pain in the TMJ and masticatory muscles, joint sounds and locking, and alteration of mandibular movement.

One should be familiar with the different sequences of the MRI and the correlation with the clinical findings especially if a TMJ surgery is planned.

The high cost of an MRI warrants careful patient selection.

A correlation was examined between objective clinical symptoms of patients diagnosed with Osteoarthritis (OA) /Internal derangement (ID) of TMJ that were candidates for TMJ arthroscopy and their MRI findings in different sequences.

Methods: 76 MRIs of TMJs diagnosed with OA or ID were examined.

The same MRI scan protocol was performed on all patients, including the sequences: T1, PDW, STIR, T2/GRE with maximal mouth opening and T1 with gadolinium and fat suppression. The MRI scans were compared to some objective clinical symptoms.

Results: There was significant correlation between some MRI sequences and several objective clinical symptoms such as TMJ crepitus, clicks, mandibular deviation, loading test etc.

Conclusion: In most of the cases the MRI added important information to clinical diagnosis especially concerning disc position and status. Our study emphasizes the use of MRI as an important diagnostic tool in TMD, especially when surgical intervention is planned.

Comparison of stabilization and placebo splint effect on psychological aspects and oxidative stress in chronic temporomandibular disorders

Orofacial pain/temporomandibular disorders (TMD)

Dr. Ema Vrbanovic¹; Dr. Iva Z. Alajbeg²; Dr. Ivana Lopic¹; Dr. Ivan Alajbeg¹; Dr. Lea Vuletic³;
¹School of Dental Medicine, University of Zagreb; ²University Hospital Center Zagreb (KBCZ); ³University
Clinical Center Zagreb;

Objectives: Studies imply higher psychoemotional distress in patients affected by temporomandibular disorders (TMD) when compared to controls. It has been suggested that oxidative stress (OS) plays role in experience of TMD; also, increased OS may be associated with pathogenesis of psychological disorders.

This study aimed to evaluate effect of stabilization splint (SS), therapeutic modality for TMD, on psychological traits of TMD patients and compare it with placebo splint (PS). Another aim was to assess selected OS biomarkers during treatment and associate them with psychological traits.

Material and Methods: Thirty-four chronic TMD patients were randomized into SS and PS treatment groups and followed for 6 months (evaluation points: 1st 3rd and 6th month). Outcomes included psychological aspects assessed with Graded Anxiety Disorder 7-item (GAD-7) and The Patient Health Questionnaire-9 (PHQ-9). Influence of treatment type was analyzed with regards to the levels of OS biomarkers in saliva.

Appropriate statistical analysis was conducted.

Result: Participants treated with SS demonstrated greater reduction of PHQ-9 (3rd month: $p=0.011$, $\eta^2=0.193$; 6th month: $p=0.007$, $\eta^2=0.207$). When compared to PS, participants in SS showed significant reduction of oxidant/antioxidant ratio ($p=0.018$, $\eta^2=0.167$) at 3-month.

Depressive symptoms' reduction was positively correlated with decrease in total antioxidant capacity ($p=0.007$) in SS group. No associations were found between a decrease of psychological outcomes and total antioxidant capacity decrease in PS group.

Conclusion: Our data suggest that SS may effectively improve depressive symptoms in TMD patients. Improvement of psychological aspects related to pain could be reflected in oxidative status.

Support: Croatian Science Foundation (IP-2019-04-6211), Operational Programme "Efficient Human Resources 2014-2020", European Social Fund.

ID: 4886

Facial Pain - the importance of multi-disciplinary working

Orofacial pain/temporomandibular disorders (TMD)

Dr. Priya Thakrar¹; Dr. Carolina Venda Nova²; Dr. Martina Shephard²;

¹Eastman Dental Hospital, UCLH.; ²Eastman Dental Hospital, UCLH;

Introduction: Temporomandibular disorder (TMD) is the most common facial pain diagnosis seen by oral physicians. Non-painful symptoms such as dizziness are often reported. Targeted history taking and examination skills are vital to ensure underlying pathology or co-diagnoses are not missed. We present a case series of 3 patients referred for suspected TMD who had co-diagnoses requiring multi-disciplinary management.

Case Series:

Case 1: A 44-year-old with a 6-year history of clicking jaw, limited mouth opening and bilateral pre-auricular pain. She reported weekly episodes of a 'dislocated jaw', which involved dizziness and imbalance along with photophobia. Cranial nerve exam was unremarkable and tenderness of the muscles of mastication was noted. A referral to exclude vestibular pathology resulted in a dual diagnosis of TMD and vestibular migraine.

Case 2: A 52-year-old presented with a 2-year history of intermittent left facial and forehead pain with complete remission between episodes. The pain was described as "sharp" and was associated with a 24 hour period of nasal congestion prior to the pain onset. Working diagnosis of facial migraine was confirmed by Neurology.

Case 3: A 46-year-old with continuous left sided facial pain with acute exacerbations of pain lasting 4 days. The patient reported tearing of the left eye along with osmophobia, photophobia and pain on chewing. Liaison with Neurology resulted in a diagnosis of TMD with migraine and suspected hemicrania continua.

Conclusion: Our case series highlights the importance of taking a thorough pain history and multi-disciplinary working in the presence of symptoms not attributable to TMD.

ID: 5007

Temporomandibular Disorder in a Patient with Nemaline Myopathy

Orofacial pain/temporomandibular disorders (TMD)

Dr. Andres Davila¹; Dr. Roopali Kulkarni¹; Dr. Eric Stoopler¹;

¹Department of Oral Medicine, University of Pennsylvania School of Dental Medicine

Background: Nemaline myopathies (NM) are characterized by respiratory and axial muscle weakness in the presence of rod-like formations in the involved skeletal muscle cells. Diagnosis and management of temporomandibular disorder (TMD) in patients with NM has not been previously reported in the dental literature.

Case Summary: A 28-year-old female complained of bilateral temporomandibular joint (TMJ) clicking with intermittent pain of two years' duration. Symptoms were exacerbated by jaw function and alleviated by NSAIDs and soft diet. Medical history included childhood-onset NM and migraines. Review of systems revealed left ear tinnitus. TMJ examination revealed maximal inter-incisal opening of 45 mm with deviation of the mandible to the right. TMJ palpation revealed bilateral reciprocal clicking with pain in the preauricular area and external auditory meatus. Palpation of the muscles of mastication revealed tenderness in the masseters and temporalis insertion bilaterally. Intraoral examination revealed a severe anterior open bite in maximum intercuspation and bilateral mandibular crowding in the canine-premolar area. Panoramic film revealed high-arched palate. Findings were consistent with bilateral TMJ anterior disc displacement with reduction, myofascial pain of the muscles of mastication and malocclusion. The patient was referred to professional physical therapy for the TMJ and muscles of mastication, which included heat and ice application, manual therapy, ultrasound and transcutaneous electrical nerve stimulation. She declined further evaluation of malocclusion and has not had a follow-up evaluation to date.

Conclusion: This case illustrates TMD in a patient with NM and emphasizes the importance of comprehensive diagnostic work-up and interdisciplinary management of TMD.

ID: 5029

Patient Reported Outcome Measures (PROMs) used in temporomandibular disorders (TMD). A review of the literature

Orofacial pain/temporomandibular disorders (TMD)

[Miss Dina Taimeh](#)¹; Prof. Stefano Fedele¹; Dr. Richeal NiRiordain¹; Dr. Rachel Leeson¹;

¹[University College London](#)

Objectives: To identify the range of PROMs used in TMD studies, to summarise the available evidence of psychometric properties and to provide some guidance for the selection of such measures.

Materials and methods: A comprehensive search was conducted to retrieve the published articles in the last 10 years containing a patient reported measure of the effects of TMD. 3 databases were searched: Medline, Embase, and Web of Science.

Results: 517 articles containing at least 1 PROM were included in the review. 58 additional studies were also located describing the psychometric properties of some tools in a TMD population. A total of 106 PROMs were identified and fell into the following categories: PROMs describing the severity of symptoms, PROM describing the psychological status, and PROMs describing the quality of life and general health. The most commonly used PROM was the Visual Analogue Scale. However, a wide range of verbal descriptors were employed. The Oral Health Impact Profile-14 (OHIP-14) and Beck Depression Inventory were the most commonly used PROMs describing the effect on quality of life and psychological status, respectively. Additionally, the OHIP (various versions) and The Research Diagnostic Criteria Axis II questionnaires were the instruments most repeatedly tested in a TMD population and underwent cross-cultural adaptation into several languages.

Discussion: a wide range PROMs is used to describe the impact of TMD on patients. Such variability may limit the ability of the researchers and clinicians to evaluate the efficacy of different treatments and make meaningful comparisons.

ID: 5058

Orofacial pain leading to diagnosis of pituitary lesion: a case report

Orofacial pain/temporomandibular disorders (TMD)

Miss Christina Tran¹; Dr. Amanda Willis¹;

¹School of Dentistry, Belfast

Introduction: Ossifying fibroma (OF) is a rare and true neoplasm of oral cavity characterized by its rapidly progression and large growth of fibro-osseous tissue with a mixture of bony trabeculae, calcified tissue, and different types of cells. OF occurs mostly in maxillofacial bones and is categorized into two types, central or peripheral. Central ossifying fibroma (COF) is typically asymptomatic with a progressive and continuous growth, that can lead to facial asymmetry due to its massive proportions that might decrease patient quality of life.

Aims: The aim of this case report is to acknowledge the characteristics of central ossifying fibroma.

Case report: A 76-year-old male was referred to oral medicine appointment due to the appearance of a large tumefaction in the oral cavity with facial asymmetry. In the clinical examination was verified a large expansible lesion on the left side of the maxilla with 5 cm of diameter, with hard consistency to palpation and with ulceration areas. In radiographic images there was a mixed radio-opaque-radiolucent lesion in the left anterior maxilla with extension to maxillary antrum and gingiva. An incisional biopsy was performed, and a diagnosis of an ossifying fibroma of the maxilla was made. The patient was referred to maxillofacial department to excision of the lesion.

Conclusion: The identification of the characteristics of central ossifying fibroma is important, as we described in this uncommon OF, not only for diagnosis excluding other differential diagnosis and also to promote adequate treatment, increasing the patient 's quality of life.

ID: 4041

Recurrent form of oral candidiasis in liver transplant recipient

Other oral mucosal lesions

Dr. Marketa Janovska¹; Dr. Stepan Podzimek¹;

¹Institute of Dental Medicine, GUH, First Faculty of Medicine, Charles University, Prague

Background: Patients receiving organ transplantation are prone to many orofacial complications. In addition, inflammatory disorders of the oral cavity may have an influence on the general health of transplant recipients. Chronic periodontitis and oral candidiasis may increase the risk of systemic complications. Systemic antimycotic treatment may interfere with immunosuppressive treatment and may have a significantly decreased effect.

Case summary: A 75-year-old Caucasian female was presented to the Department of Oral Medicine for evaluation of lower lip swelling. She underwent liver transplantation for primary biliary cirrhosis 4 years prior to our initial examination. She complained of a burning sensation in the lower lip together with xerostomia. Intraorally, the first examination revealed erythema of the lower lip with erythematous buccal mucosa surfaces and chronic periodontitis. Significant amounts of biofilm were detected all over the compromised prosthetic metaloceramic bridges in the upper and lower jaws with crown overhangs. Cultivation from the oral cavity swab showed submassive *Candida* spp. colonization. Patient disagreed with new prosthetic rehabilitation, so we eliminated sharp edges of the crowns, re-educated patient about dental hygiene, and prescribed her nystatin suspension for two weeks.

Patient on tacrolimus and mycophenolat mofetil therapy since transplant achieved significant clinical and mycological recovery after two weeks of topical treatment.

Conclusions: In this case, we report oral candidiasis in the liver transplant recipient with non-adequate prosthetic rehabilitation. Clinicians should be familiar with systemic and local risk factors of recurrent oral candidiasis in organ transplant recipients. One of the contributing factors to oral candidiasis may be malhygiene and non-treated chronic periodontitis where biofilm accumulation may figurate as a supporting factor for *Candida* spp. colonization.

Adequate dental hygiene together with local treatment of the oral candidiasis may eliminate the need of systemic antimycotic treatment that could interfere with immunosuppressants.

Acknowledgement: This study was supported by projects nr. NV19-08-00070 and 17-30753A (Ministry of Health, Czech Republic) and by project PROGRES Q29/1LF (First Faculty of Medicine, Charles University, Czech Republic).

ID: 4866

Analysis of Risk Factors for Prosthesis-Related Oral Mucosal Lesions: A Retrospective Study

Other oral mucosal lesions

Mr. Nuran Bayramov¹; Dr. Birsay Gumru¹; Prof. Sebnem Ercalik Yalcinkaya¹;

¹Marmara University, Faculty of Dentistry, Oral and Maxillofacial Radiology, Istanbul, Turkey

Aim: To retrospectively evaluate the possible associated risk factors for the development of prosthesis-related oral mucosal lesions (OMLs).

Materials and Methods: The records of patients with prosthesis-related OMLs available in the patient archive were retrospectively reviewed. Information regarding the patient-related (age, gender, systemic diseases, smoking, alcohol consumption, overnight prosthesis wearing) and the prosthesis-related (type, age, fit, and hygiene) factors were obtained and recorded. The data were analysed using univariate and multivariate tests to assess the presence of prosthesis-related OMLs as a function of the selected variables. Odds ratios (OR) were calculated at 95% confidence intervals (CI; $\alpha = 0.05$).

Results: When the data of 234 patients (153 women, 81 men, mean age: 61.38 ± 11.9) were evaluated, it was determined that prosthesis-related OMLs were more common in women (65.4%). Denture stomatitis (49.8%), denture hyperplasia (12.6%), and angular cheilitis (10.3%) were the three most frequent lesions. Alcohol consumption [OR: 0.387 (95% CI: 0.188-0.796) $p = 0.010$], usage of lower/upper complete prosthesis [OR: 6.438 (95% CI: 3.012-13.761) $p < 0.001$], ill-fitting prosthesis [OR: 8.775 (95% CI: 5.131-15.006) $p < 0.001$], and overnight prosthesis wearing [OR: 3.352 (95% CI: 1.325-8.479) $p = 0.011$] affected the incidence of prosthesis-related OMLs significantly.

Conclusion: The type, fit, overnight wearing of prosthesis, and alcohol consumption are important aetiological factors that contribute to prosthesis-related OMLs. Oral healthcare programs for prosthesis wearers should specifically provide education on prosthesis usage instructions.

Keywords: Prosthesis-related lesions; oral mucosa; prosthesis; risk factors

ID: 4874

Sclerotherapy of oral venous malformations with polidocanol

Other oral mucosal lesions

[Dr. Dr. Ana Teresa Coelho¹](#); [Dr. Filipa Contente¹](#); [Dr. Nuno Zeferino Santos¹](#); [Dr. Adelina Aguiar¹](#); [Dr. Francisco Salvado¹](#);

[¹Centro Hospitalar Universitário Lisboa Norte](#)

Vascular malformations are one of the most common lesions of the oral cavity. These benign anomalies constitute localized defects in vascular morphogenesis and are usually asymptomatic. Vascular malformations can have variable sizes and sometimes show progressive growth, becoming inaeesthetic and facilitating local traumatic injuries causing pain, ulceration, secondary infections and recurrent hemorrhage.

Surgery, sclerotherapy, laser therapy, cryotherapy or electrocoagulation are among the most frequent treatments. Sclerotherapy of vascular malformations involves the substitution of the vascular component by a fibrotic tissue in response to an inflammatory process. It is a relatively safe and reliable treatment modality, and its efficacy is related to the type and dose of sclerosing agent, as well as type and extent of the lesion. Polidocanol, also known as lauromacrogol, is the most commonly sclerosing agent used in Portugal. It is an effective sclerosing agent consisting of 95% hydroxypolyethoxydodecane and 5% ethyl alcohol, with low risk of complications reported and painless injection due to its anesthetic effect.

In this paper we present two cases of venous malformations of the oral cavity treated with sclerotherapy using polidocanol sclerosing agent. It is also desired to contribute to a better understanding of this technique that still has no well-established protocol in the scientific literature. In our protocol, single session application of polidocanol was a simple and quick method, performed as an outpatient procedure, with good tolerability, few adverse effects and effective clinical resolution.

ID: 4888

Management of Median Rhomboid Glossitis: A Case Report

Other oral mucosal lesions

[Prof. Meltem Koray¹](#); [Dr. Ege Koray²](#);

[¹Istanbul University](#); [²Medeniyet University](#);

Introduction: Median rhomboid glossitis (MRG) is an uncommon benign abnormality of the tongue, and it is typically located around the dorsum of the tongue. Its clinical appearance is oval shape, appearing as a reddish, rhomboid area, depapillated, flat maculate or raised by a few mm.

Aim: In this case report, we aimed to manage MRG of the dorsum of the tongue.

Case: A 54-year-old female patient was admitted to our clinic with a burning and reddish color on her tongue. On clinical examination, oval shape, appearing as a reddish, depapillated and their center ulcerated area were observed in the dorsum of the tongue. After detailed anamnesis, there was no systemic disease of the patient. Candida culture tested positive and indicated the presence of Candida

albicans. The lesion was thus diagnosed as MRG with presence of *C. albicans*. Treatment was with fluconazole (Zolax® 50mg capsules) for 7 days at 50 mg per day. The patient was controlled a week after the treatment; samples obtained at this visit tested negative for Candida, and the lesion showed reduced redness and less burning sense of her tongue than previously. The lesion and burning sense disappeared from her tongue after one month's control.

Discussion: Diagnosis of MRG is basically clinical and on culture for Candida, although sometimes histopathology is required for differential diagnosis. In the present case, all lesion characteristics were consistent with MRG. Treatment is based on the elimination of known aetiological factors, or antifungal treatment in cases of confirmed candidiasis.

Conclusion: In conclusion, the diagnosis MRG is largely based on clinical and microbiological examination and their management is antifungal therapy.

ID: 4896

A case of Traumatic Ulcerative Granuloma with Stromal Eosinophilia

Other oral mucosal lesions

Dr. Rachel Botrugno¹; Dr. Melanie Simms¹;

¹University Dental Hospital, Cardiff

Background: Traumatic ulcerative granuloma with stromal eosinophilia (TUGSE) is a rare but benign, usually self-limiting condition of the oral mucosa. The typical appearance of TUGSE is an isolated ulcer with elevated and indurated borders, with the tongue being the most common site involved. Based on the typical appearance and site of this condition it can often mimic malignancy clinically. The pathogenesis remains controversial, but trauma is thought to be a potential associating factor. Histologically, there is dense polymorphic inflammatory infiltrate involving eosinophils and other subgroups of lymphocytes.

Presenting problem: This case follows a 57-year-old female who was referred by her general medical practitioner via the urgent suspected cancer pathway in October 2019. The reason for referral was related to a painful persistent ulcer on the right lateral border of the tongue.

Clinical management: The initial investigation of the mucosal abnormality involved an incisional biopsy. This allowed malignancy to be excluded, resulting in a diagnosis of non-specific ulceration. An excisional biopsy was completed to remove the remaining area of ulceration and surrounding hyperplasia, giving a histological diagnosis of TUGSE.

Attempts to manage this condition so far have involved local measures including the provision of a soft lower arch splint to remove potential trauma, as well as benzydamine hydrochloride mouthwash and clobetasol cream for symptomatic relief. Despite this, the tongue continued to be a source of pain for the patient with hyperplastic areas developing. Further tests, consisting of haematological investigations and review of the pathology specimen with congo red staining were used to rule out differential diagnoses, including amyloidosis. No additional diagnosis could be identified. More

recently the patient has been prescribed amitriptyline for pain linked to this condition. The patient remains under the care of oral medicine.

Discussion: This case strays from the usual presentation of TUGSE in that there has not been spontaneous resolution of the ulcer, it has not been associated with obvious trauma, and there was recurrence following the excisional biopsy. The pain associated with the condition unfortunately has not responded to usual measures. This case highlights the diagnostic work up involved in eliminating differential diagnoses and concluding a diagnosis of TUGSE. It also illustrates that TUGSE can be unresponsive to traditional measures used in other conditions involving ulcers within the oral mucosa.

ID: 4897

Lobular Capillary Hemangioma – Clinical case

Other oral mucosal lesions

Dr. José Ferrão¹; Dr. António Barbosa²; Dr. Filipa Veiga¹; Dr. Cristina Barros¹; Dr. Ana Fernandes¹; Dr. Luísa Figueiredo¹;

¹Centro Hospitalar Universitário de Lisboa Central; ²Serviço de Estomatologia do Centro Hospitalar Vila Nova de Gaia/Espinho;

Introduction: The lobular capillary hemangioma, also known as pyogenic granuloma, is a benign and common lesion of the oral cavity. Typically, is pink or red, lobulated, pedicled, sometimes ulcerated and, often, presents a rapid increase in size.

It is caused by pyogenic microorganisms, trauma or local irritation.

Clinical case: A 10-year-old boy, came to the emergency room, due to a swelling on the lower lip which had been evolving for 2 weeks. He reported feeding difficulties and bleeding.

His face was asymmetric, due to an exophytic right retro commissural mass of approximately 2x1cm. The lesion was elastic, painless, violaceous and lobulated with dental impression marks.

The lesion was excised under general anesthesia. The histology confirmed the diagnostic of lobular capillary hemangioma.

Discussion: Speaking of differential diagnosis, apart from lobular capillary hemangioma, we should consider traumatic fibroma, peripheral giant cell lesion, vascular malformation and neoplasia.

The lobular capillary hemangioma represents a local reactive process with an exuberant proliferation of connective tissue and blood vessels. It is more frequent in children and young adults. The most common location is the gum. However, when associated with trauma or chronic irritation, it can appear on the tongue, buccal mucosa and lips. This particular patient used to bite the lower lip.

Excision is the treatment of choice with the final diagnosis being established by histology.

The recurrence rate is between 3-15% due to incomplete excision or maintenance of the chronic trauma.

ID: 4932

The prevalence of oral mucosal lesions among Israeli elderly population of different socioeconomic status

Other oral mucosal lesions

Dr. Ayelet Zlotogorski Hurvitz¹; Dr. Osnat Grinstein-Koren¹; Dr. Keren Amira¹; Dr. Hanan Kashkush¹; Dr. Wafaa Abdalaa¹; Dr. Miri Altman¹; Dr. Yohan Bellaiche¹; Prof. Marilena Vered¹;

¹School of Dental Medicine, Tel Aviv University

Introduction: Oral mucosal lesions in the elderly are known to be more prevalent than in youngers, affecting their functionality and quality of life, and occasionally can even be life-threatening. OBJECTIVES: To examine the relationship between the socioeconomic background and dental status of elderly people and the prevalence of oral mucosal pathologies.

Methods: A total of 145 community-dwelling participants (≥ 65 year) of different socioeconomic status were included. Demographic and medical data was collected, and following oral examination, mucosal abnormalities and DMF-T Index were recorded.

Results: Almost 90% of the subjects had at least one abnormal finding on the oral mucosae. A white lesion that cannot be wiped off was the most common pathological finding. The most involved sites were the buccal mucosa, tongue and lips. Fifty-seven percent of the participants had at least one clinical diagnosis potentially embracing a risk for malignant transformation or a latent systemic disease. The total number of oral lesions was significantly lower among subjects of high socioeconomic status ($p=0.041$). The prevalence of partial/full prosthesis in the low socioeconomic class was significantly higher than in the medium and high classes ($p<0.001$) and there was an association between wearing prosthesis and the prevalence of oral candidiasis ($p<0.001$). No association was found between oral lesions and DMF-T index or general health status.

Conclusion: The high rate of pathological findings involving the oral mucosae among the study participants, endorsed the need for a national program for oral care, particularly for low socioeconomic status elderly people.

ID: 4977

Orofacial granulomatosis with or without concomitant **crohn's disease** – a follow-up study

Other oral mucosal lesions

Dr. Gita Gale

Department of Oral Medicine Pathology, Institute of Odontology

Objective: A long-term follow-up of patients diagnosed with orofacial granulomatosis (OFG) with or without Crohn's disease (CD) of their self-perceived complaints and clinical symptoms and to evaluate the management of patients with OFG.

Patients and methods: An eight-year follow-up study was conducted on 29 patients diagnosed with OFG (n = 13) or with OFG and concomitant CD (n = 16). All 29 patients (median age: 22 years, female/male ratio of 1:2.6) from a previous study (DOI: 10.1111/odi.12236) done by our group participated eight years later in interviews. Self-reported complaints concerning oral pain, aesthetic and social discomfort caused by OFG manifestations on a visual analogue scale from 0 – 10 were registered. Participants were offered an appointment for a clinical examination or an instructed video examination by a specialist in oral medicine.

Results: 62% of the patients reported oral symptoms and complaints relating to OFG. Four patients from the previous study had since then been diagnosed with Crohn's disease. The overall VAS ratings in both groups were significantly lower (P <0.001) in this study compared to the original study. No difference in overall VAS was found between the two groups. 23% of patients with OFG without CD reported use of corticosteroids and 75% of OFG patients with CD were on CD medication. 6.9% of the cohort reported a positive family history for CD.

Conclusion: A majority of patients were still experiencing oral symptoms related to OFG but rated their overall discomfort as significantly lower than in the baseline study eight years ago.

ID: 5004

Oral mucosal lesions among patients with psoriasis

Other oral mucosal lesions

Dr. Amal Dafar¹; Dr. Jairo Robledo-Sierra¹; Miss Sandra Dobrescu¹; Miss Alice Rundqvist¹; Dr. Justin Dobrescu²; Dr. Bengt Hasséus¹;

¹Institute of Odontology, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden;

²Savedalen Dermatology Clinic, Gothenburg, Sweden;

Background: The prevalence of oral mucosal lesions in patients with psoriasis is poorly understood, although geographic tongue (GT) has been associated with psoriasis. With this pilot study, we aimed to evaluate the prevalence of oral lesions among patients with psoriasis.

Material and Methods: We examined fifty consecutive patients (females, n=30; mean age, 57.12 ±8.07 years) with psoriasis who have been regularly treated and followed at a dermatology specialist clinic. Dental undergraduate students examined the patients and took clinical photos of the oral mucosal lesions. Oral medicine specialists established the oral diagnoses based on the clinical images.

Results: The most common oral lesion was fissured tongue (FT; n=40; 80%). GT was reported only in two patients (4%). Other mucosal lesions included frictional keratosis (n=8; 16%), fibroepithelial hyperplasia (n=6; 12%), smokeless tobacco-associated lesion (n=6; 12%), hemangioma (n=4; 8%), amalgam tattoo (n=3; 6%), leukoplakia (n=2; 4%), oral lichenoid lesion (n=1; 2%), and candidiasis (n=1; 2%). The most common type of psoriasis was plaque psoriasis (n=42; 84%). Adalimumab was the most commonly used medication (n=19; 38%), followed by risankizumab (n=12; 24%), methotrexate (n=5; 10%), prednisolone (n=5; 10%), guselkumab (n=3; 6%), and apremilast (n=2; 4%).

Conclusion: Oral mucosal lesions were common among patients with psoriasis. The high frequency of FT is noteworthy. The previously reported association between psoriasis and GT could not be sustained with this study. However, since a correlation between FT and GT exists, our findings warrant further investigations on the connection between FT and psoriasis.

ID: 5023

Amyloidosis located on the palate: one of a few

Other oral mucosal lesions

Dr. Ana Melissa Marques¹; Dr. André Saura¹; Dr. Maria João Dias¹; Dr. Frederico Gonçalves¹; Dr. Maria Fernanda Costa¹; Prof. José Pedro Figueiredo¹;

¹Stomatology Department of Coimbra Hospital and University Centre

Introduction: Amyloidosis is a rare pathology characterized by an extracellular deposition of a proteinaceous fibrillar material (amyloid substance).

It is divided into three types: primary or localized, restricted to a single tissue site; secondary, distributed to many organs in the body; and hereditary, when associated with familial amyloid polyneuropathy.

Diagnostic emphasis should be placed on Congo red staining, which through polarized light, will demonstrate apple-green birefringence.

Clinical case: A 63-year-old female was referred to the Stomatology Department for a patch on the hard palate, with 3 years of evolution. The lesion had already been biopsied, which revealed the presence of amyloid by Congo red staining.

Clinically, the lesion was located on the left side of the palate, with dura-elastic consistency, red/purple color, painless on palpation, measuring approximately 3x2 cm.

Multidisciplinary collaboration was required, for laboratory study and biopsy of subcutaneous abdominal fat, excluding associated systemic diseases and other possible sites of involvement. Established the diagnosis of localized amyloidosis, intralesional infiltration of corticoid was performed, with long lasting successful lesion resolution.

Discussion and Conclusions: Localized amyloidosis affecting the head and neck region is an uncommon finding.

When it affects the oral cavity, it mainly involves the tongue, presenting itself as a firm or elastic macroglossia.

This very rare case located on the palate — so unusual in everyday stomatology practice — underlines the need, in a hospital environment, to maintain a permanent degree of suspicion regarding singular cases and the advantages of promoting intense interdisciplinary cooperation with different medical and surgical specialties.

Oral mucosal histiocytosis. Case report

Other oral mucosal lesions

Prof. Serban Tovar¹; Dr. Alexandra Tovar²; Dr. Carmen Nicolae¹; Dr. Mariana Costache¹; Dr. Ioanina Parlatescu¹;

¹Carol Davila University of Medicine and Pharmacy, Bucharest, Romania; ²Hematology Departmentm Coltea Clinical Hospital, Bucharest, Romania;

Background: Langerhans cell histiocytosis (LCH) is a rare disorder produced by the clonal proliferation of atypical Langerhans cells in various tissues. It appears more frequently in children and has a large spectrum of clinical manifestations causing single or multiple or multisystemic destructive lesions. The most common are the bone lesions followed by skin, lymph nodes, and the lung. Gingival and hard palate are the sites most frequently involved in the oral cavity. The oral manifestations of LCH are a challenge for diagnosis. The aim of this report is to present a case of oral LCH with mucosal hard palate involvement.

Case report: An 81-year-old woman was admitted for diffuse pain of the hard palate which started 4 months ago, one month after applying total dentures. Past medical history detected hepatitis C and hysterectomy at 50 years of age. The intraoral examination revealed a proliferative hyperplastic tumor located on the posterior hard palate and alveolar processes. The lesion clinically resembled papillary hyperplasia or angiomatosis. Angular cheilitis was present bilaterally. The panoramic radiography showed no bone involvement. The biopsy specimen of the lesion was conclusive for LCH. The markers were diffusely positive for S100, CD1a, langerin positive in Langerhans cells. The patient was referred to a Hematology Department for general investigations. Concomitant cutaneous lesions were present: papular-erythematous rash on the anterior thorax and bilateral lower limbs, ulcerative lesions in the bilateral inguinal fold, without cutaneous-mucosal hemorrhagic syndrome and peripheral lymphadenopathy, and no lung involvement.

She was treated with 3 courses of Etoposide 100 mg for 2 days + Dexamethasone 16 mg - 2 days, ciprofloxacin 7 days, and allopurinol 100 mg - 3 cp / daily. The evolution was stationary for 3 years.

Conclusions: Mucosal involvement of LHC is rare entities especially when the onset is oral. In this case, the lesions were confined to the mucosal and cutaneous lesions. Thus LHC should be differentiated by pigmentary lesions.

ID: 5028

A swelling on the palate: Should I always worry?

Other oral mucosal lesions

[Mrs. Noha Abdelaziz](#)¹; Miss Annika Kroeger¹; Miss Ana Poveda-Gallego¹; Mr. Nicholas Clifford¹; Mr. Jon Higham¹; Mrs. Andrea Richards¹;

¹[Birmingham Dental Hospital, Birmingham, UK](#)

Background: Necrotizing sialometaplasia (NS) is a rare benign reactive necrotizing inflammatory process that involves typically the minor salivary glands in the palatal area. As clinically these type of lesions may mimic malignancy, histopathology studies are essential for its diagnosis and management.

Case Report: We report a case of a 67-year-old man who presented with a two weeks history of a painful swelling on the right hand side of his palate. On examination there was an exophytic, pigmented, rubbery 1 cm lesion which was surrounded by a keratotic border. Due to the suspicious appearance of the lesion, an OPG and CBCT scans were performed, and the patient underwent an urgent incisional biopsy. Routine blood tests were also requested. The histological diagnosis was inconclusive although the biopsy showed hematoma and necrosis. The lesion healed completely after 6 weeks. The final clinical diagnosis which was based on the clinical outcomes and multidisciplinary discussion was of an acute NS.

Discussion: NS is a benign condition that may mimic a malignancy and typically affects the palate. Clinicians and pathologists should therefore be aware of this diagnosis in cases of unusual swelling or ulceration in the palate. Symptomatic relief and close monitoring for complete resolution are the key management tools.

This case also highlights the importance of a good communication between the clinician and the oral pathologist, so when clinical appearance and histology results appears to be inconsistent, they can be discussed and treated accordingly.

ID: 5038

Pigmented oral compound nevus of the retromolar pad – case report

Other oral mucosal lesions

[Dr. Beatriz Batalha](#)¹; Dr. Joana Cabrita²; Dr. Saudade André³;

¹[Faculdade Medicina Dentária](#); ²AV202 Centro de Reabilitação Oral; ³Instituto Português de Oncologia;

Introduction: Oral melanocytic nevi are benign proliferations of nevus cells in the epithelial layer, the submucosal layer, or both. Histopathologically, they are differentiated into 3 main types: junctional nevus, a proliferation of nevus cells along the submucosal-mucosal junction, compound nevus, where the nevus cells further migrate to the underlying mesenchymal tissue, and finally, the intramucosal nevus, with all the nevus cells located within the subepithelial connective tissue. The oral compound nevus is the second rarest intra-oral nevus, with an occurrence of about 5,9% – 16,5%. It is usually located on the hard palate or buccal mucosa, but rarely on the retromolar pad.

Case details: We present a leucodermic 28-year-old male, with a smoking habit and with no known systemic conditions, who first came to our clinic in 2019. He presented an asymptomatic pigmented solitary polypoid lesion on the right retromolar pad. According to the patient it had been first noticed 18 months previously. An excisional biopsy was performed, and the histopathological diagnosis was compound melanocytic nevus.

Conclusion: Solitary pigmented oral lesions should be clinically identified and evaluated, and excisional biopsy performed whenever possible. Histopathological confirmation is mandatory to exclude dysplastic changes, as the differential diagnosis includes malignant oral melanoma.

Relevance: Pigmented oral compound nevus is the second rarest of the oral melanocytic nevi, and its rare presentation on the retromolar pad makes this case worth documenting and sharing.

ID: 5042

Study of the presence of desquamative gingivitis in a population group attending the Department of Oral Medicine of the University of Santiago de Compostela

Other oral mucosal lesions

[Miss Valeria Sanmartin¹](#); Prof. Andres Blanco Carrión¹; Prof. Irene Prado Pena¹; Prof. Catalina Barba Montero¹; Prof. Abel García García¹; Prof. Pilar Gándara Vilar¹;

[¹Universidad de Santiago de Compostela](#)

Objective: To determine the associated disease and the clinical characteristics of desquamative gingivitis in a group of patients.

Material And Method: Data are collected from patients attending the Oral Medicine department since September 2019 and presenting with desquamative gingivitis.

Data are taken from a total of 57 patients (associated disease, sex, location on the gingiva, symptomatology, form of onset...).

Results: The total number of patients collected was 57, 88% of this group were women and 12% were men.

The most common disease associated with the onset of desquamative gingivitis seen in our group is lichen planus (86%). Ninety-one percent of patients had more lesions in the oral cavity. Sixty-eight percent had lesions in both arches and 60% in the anterior and posterior region. The 49% of the group had no discomfort associated with desquamative gingivitis and the most common form of appearance was erythematous (54%).

Conclusions: A higher prevalence of desquamative gingivitis was observed in women. The most common disease associated with desquamative gingivitis is oral lichen planus. The most common form of appearance is erythematous and is seen in both arches and various regions of the gingiva.

Comparative study of the knowledge towards oral candidiasis among the general population and dental medicine students. Multicentric study

Other oral mucosal lesions

Dr. Ioanina Parlatescu¹; Dr. Carmen Nicolae¹; Miss Irina Bantoiu¹; Dr. Elena Coculescu¹; Dr. Cristina Popa²;

¹Carol Davila University of Medicine and Pharmacy, Bucharest, Romania; ²Grigore T Popa University of Medicine and Pharmacy, Iasi, Romania;

The aim of this study was to evaluate the knowledge and attitude of Romanian dental students and residents of dentistry and the general population towards oral candidiasis(OC).

Methods: The present study was conducted in the online environment of mainly dental students in two main cities of Romania, Bucharest and Iasi. A survey using Google forms questionnaire was developed and tested; it recorded the data about personal details(age, gender, education level) and their knowledge on oral candidiasis. The main part included questions about the etiology, risk factors, clinical aspects and complications of OC. The data were entered into Excel and analyzed.

Results: Data were collected from 404 participants(344 from Bucharest and 64 from Iasi). Regarding the demographic data, most of the respondents were in the age group 18-26 years (74.5%, 301 participants). 78.9%(319) were women, 87% from an urban environment. One-third of them - 33.18%(134) were Dental Medicine students(81-from Bucharest, 53 from Iasi). 344(85.4%) respondents recognized OC as a fungal infection. 47%(191) of the participants indicated that older patients are more predisposed to develop OC. Among the factors favoring candidiasis, reduced immunity and poor nutrition(85.64%, 346) were the most frequently recognized by the participants, followed by poor oral hygiene(76%- 307 respondents). Most of the participants 98%(395) recognized the clinical features of OC (atrophic erythematous mucosa, white pseudomembranous deposits, burning or itching sensation, etc).

Conclusions: The study showed that oral candidiasis may not be overlooked by dental students and the young general population. Most of the participants recognized the favoring factors and the clinical features of OC.

ID: 5070

Amyloidosis of the tongue secondary to a diagnosis of multiple myeloma: a case report

Other oral mucosal lesions

Dr. Simrat Dhanjal

Somerset Foundation Trust

Background: Amyloidosis is a rare disease characterised by the accumulation of an insoluble protein amyloid in tissues and organs in response to various cell dyscrasias or inflammatory conditions. Multiple myeloma is a systemic malignant disease of the blood and is characterised by the uncontrolled proliferation of monoclonal plasma cells in the bone marrow, leading to production of non functional intact immunoglobulins or immunoglobulin chains.

Methods: A 62 year old female was referred to the maxillofacial department with multiple tongue ulcerations over a period of four months. The patient was previously diagnosed with multiple myeloma and was receiving chemotherapy treatment for this disease.

Results: The ulcerations were biopsied under local anaesthetic and histopathological diagnosis confirmed features consistent with a diagnosis of amyloid.

Conclusion: Oral lesions consistent with amyloidosis are unusual. It is imperative that oral and maxillofacial and dental surgeons are aware of the clinical presentation of amyloidosis.

ID: 5075

Plasma cell mucositis in a lymphoma patient. A coincidental phenomenon or a potential etiologic correlation?

Other oral mucosal lesions

Dr. Efstathios Pettas¹; Dr. Maria Georgaki¹; Dr. Eleana Stoufi¹; Dr. Evangelia Piperi¹; Prof. Nikolaos G. Nikitakis¹;

¹National and Kapodistrian University of Athens

Background: Plasma cell mucositis (PCM) represents a rare idiopathic plasma cell proliferative disorder affecting the upper aerodigestive tract. Herein, we present a case of oral PCM developing in a patient diagnosed with lymphoma and discuss the potential etiologic relationship of these conditions.

Case summary: An 82 year-old female presented for evaluation of symptomatic oral lesions of fluctuating intensity for almost a year. Her medical history was remarkable for peripheral cutaneous T-cell lymphoma (CTCL), while neither allergies nor contemporary changes in medications or daily routine, including oral hygiene, were reported. Clinical examination revealed erythematous swelling of the anterior lower gingiva, as well as diffuse erythema in the lower labial, buccal, and retromolar pad mucosa. With a differential diagnosis mainly including autoimmune vs. allergic conditions, an incisional

biopsy was performed. Microscopically, a dense submucosal plasmacytic infiltrate was observed. The plasma cells expressed CD138 in the absence of κ or λ light chain restriction. Direct immunofluorescence was negative. A final diagnosis of PCM was rendered and topical corticosteroids were prescribed, inducing remission of the lesions with periodic flare-ups.

Discussion: Although diverse etiologic factors have been implicated, including potential comorbidity with autoimmune or immunologically-mediated pathoses, PCM pathogenesis remains elusive. The progression of CTCL is associated with enhanced T-helper-2 cytokine expression, normally implicated in the proliferation and differentiation of B-cells into plasma cells. This crosstalk between immune cells could possibly explain the metachronous development of a benign plasma cell disorder in a patient with a history of lymphoma.

ID: 5079

Multifocal epithelial hyperplasia (Heck's disease): Report of a case showing HPV-13 positivity

Other oral mucosal lesions

Mr. Konstantinos Tzanavaris¹; Dr. Efstathios Pettas¹; Dr. Vasileios Ionas Theofilou²; Dr. Maria Georgaki¹; Dr. Evangelia Piperi¹; Dr. Eleana Stoufi¹; Prof. Alexander Kreuter³; Dr. Electra Nicolaidou⁴; Prof. Nikolaos G. Nikitakis¹;

¹Department of Oral Medicine and Pathology Hospital Dentistry, School of Dentistry, NKUA, Greece; ²Department of Oncology and Diagnostic Sciences, School of Dentistry, UMB, USA; ³HELIOS St. Elisabeth Klinik Oberhausen, University Witten-Herdecke, Oberhausen, Germany.; ⁴"A. Sygros" Hospital for Skin and Venereal Diseases, Athens, Greece;

Background: Multifocal epithelial hyperplasia (Heck's disease) is a rare oral mucosa condition caused by specific subtypes of human papillomavirus (HPV). It typically presents with multiple lesions of papillomatous or papillonodular appearance, bearing resemblance to several other conditions with similar appearance. Herein, we present a rare case of Heck's disease with emphasis on its clinical and histopathological features, differential diagnosis and molecular detection of HPV-13.

Case summary: A 59-year-old male of Middle Eastern origin presented for evaluation of multiple confluent nodules with normal/pinkish color and papillomatous surface, bilaterally affecting the tongue, lower lip and buccal mucosa. According to the patient, the lesions had been present for many years; no symptoms, changes in size or similar lesions elsewhere were reported. The patient was a heavy smoker with poor oral hygiene; the medical and family history were not contributory. With a provisional diagnosis of Heck's disease, incisional biopsies were performed and the histopathological examination revealed a mildly papillomatous parakeratinized surface and acanthosis with elongated and thickened ("club-shaped") rete ridges. Koilocytes were seen in the upper spinous layers, while occasional cells presented an altered nucleus resembling a mitotic figure ("mitosoid cells"). Using polymerase chain reaction (PCR), HPV-13 DNA was detected, further confirming the diagnosis of Heck's disease.

Discussion: **Heck's disease** is a rare HPV-related benign oral condition, showing indicative but not pathognomonic clinical features. Definitive diagnosis is made after histopathologic examination and further corroborated by molecular detection of HPV subtypes 13 or 32.

ID: 5080

Acquired intraoral compound melanocytic nevus in a young child. Report of a rare case

Other oral mucosal lesions

Miss Styliani Tziveleka¹; Mr. Efstathios Pettas¹; Miss Vasiliki Savva¹; Dr. Maria Georgaki¹; Dr. Eleanna Stoufi¹; Dr. Patroklos Katafygiotis¹; Dr. Evangelia Piperi¹; Prof. Nikolaos Nikitakis¹;

¹School of Dentistry – NKUA

Background: Intraoral melanocytic nevi (MN) represent a distinctive subset of benign melanocytic proliferations that may rarely affect the oral mucosa. MN display three main histopathologic variants, i.e. junctional, intramucosal and compound, that may reflect different developmental stages. Herein, we present a case of acquired intraoral compound MN in a young child.

Case summary: A 5-year old female of unremarkable medical history was referred for evaluation of a pigmented lesion on her palate. The lesion was asymptomatic and, according to her mother, it was present for approximately 2 months. Clinical examination revealed a well-circumscribed brownish macule on the palatal gingiva, adjacent to the left first primary upper molar. With a provisional diagnosis of oral melanotic macule or MN and considering the recent onset of the lesion, an excisional biopsy was recommended. The patient returned 3 years later reporting increase in size, which was confirmed by clinical examination; in addition, slight asymmetry and color variation was noticed. The lesion was excised and microscopic examination revealed nevus cells randomly distributed along the basal layer and organized into nests along the junctional area and within the papillary layer of lamina propria. Mitoses were absent. Immunohistochemical evaluation showed positivity of nevus cells to SOX-10 and Melan-A and a final diagnosis of compound MN was rendered.

Discussion: Although intraoral MN are commonly diagnosed in middle-aged adults, their potential development in childhood should not be overlooked. The presence of the lesion since birth as well as the deeper infiltration of the connective tissue by nevus cells could differentiate a congenital from an acquired MN.

ID: 4809

Oral Medicine New Patient Telephone Clinic Efficacy and Environmental Sustainability, in the COVID-19 Era

Other topics

[Dr. Adam Bhanji](#)¹; Mr. Andrew Fulton¹; Dr. Jodie Montgomery Cranny¹;

¹[Leeds Dental Institute](#)

Background: Significant changes to how patients are assessed and treated have occurred in response to the COVID-19 pandemic. This includes a move to utilising telephone clinics for initial consultations of new patients.

Ensuring sustainability in the NHS requires novel solutions to limit our environmental impact, while maintaining high standards of clinical care.

Aim: To determine the efficacy and environmental impact of telephone clinics in initial consultations of new patients in the Oral Medicine Department at the Leeds Dental Institute.

Standards: 90% of patients initially assessed via the telephone to receive some initial management without requiring face to face appointment beforehand.

Method: Two cycles four months apart with 50 new patients each, receiving initial telephone consultations.

Appointment outcomes assessed and environmental impact determined from average UK CO₂ data.

Results: 16 patients required further face to face appointments prior to commencing management / treatment, of which six were referred with facial pain.

A potential 2313kg CO₂ was saved through use of telephone clinics.

Discussion: Data to be used to support continued use of telephone appointments in the post-COVID era. Mandating photographs are included in referrals may improve telephone clinic outcomes.

Conclusion: Telephone clinics can be an effective means of minimising clinical disruption due to pandemics and reducing the environmental impact of journeys to appointments. Facial pain patients often require face to face appointments to rule out organic causes prior to treatment initiation.

ID: 4823

Satisfaction Related Factors in Distance Learning for Dental Education

Other topics

Prof. Gonca Mumcu

Marmara University

Aim: The aim of the study was to evaluate the satisfaction related factors in implementing Distance Learning for dental education.

Materials and Methods: This cross-sectional study included 608 dental students (F/M: 405/203). Data were collected by an online questionnaire. Satisfaction with distance learning, course contents and contribution of courses to clinical practice were evaluated by using 10-point visual analogue scale (1: not satisfied-10: very satisfied). Distance learning related items were coded by 5-point Likert scale (1: strongly disagree vs 5: strongly agree). After preliminary analysis, multiple mediation analysis was performed. This demonstrated that there are complex associations in the satisfaction of distance learning.

Results: Clinical students (CSs) more satisfied with “Distance learning process” (6.4 ± 2.2) and its Course content (7.03 ± 1.83) compared to those of Preclinical students (PSs) (5.14 ± 3.35 ; 5.82 ± 2.24) ($p < 0.001$). Furthermore, elevated scores were observed in items regarding “Associating the theoretical knowledge with clinical practice”, “Easily solving technological problems” and “Comfortable learning environment” in CSs ($p < 0.05$). However, PSs were poorly affected by “Technological glitches experienced in live lectures” and turned to “Other topics during live lectures” ($p < 0.001$).

In multiple mediation analysis, increase in “Satisfaction score of Distance learning process” was directly mediated by the CSs ($p = 0.0250$) and indirectly mediated by scores of “Technological glitches in live lectures” in PSs ($p = 0.0000$), “Associating Theoretical knowledge to clinical practice” ($p = 0.0000$), “Satisfaction score of course content” ($p = 0.0000$) and “Comfortable learning environment in CSs” ($p = 0.0000$).

Conclusions: Well-structured course content and good learning platform as well as the learning environment were the main elements in the satisfaction of Distance learning.

Giant Cell Arteritis Mimicking a Sebaceous Cyst

Other topics

Ms. Angela Boscarino¹; Prof. Simon Rogers¹;

¹Aintree University Hospital

Introduction: This is a diagnosis of giant cell arteritis in a 79-year-old patient with a medical history of polymyalgia rheumatica. The patient presented with a 6-week history of an asymptomatic 3.5cmx1cm lesion inferior to the left nasolabial fold. Due to the ambiguity in appearance, an ultrasound scan was undertaken which revealed a suspected sebaceous cyst, and so an excisional biopsy of the lesion was conducted. Soon after the biopsy, the patient developed jaw claudication, severe pain overlying the temporal region, and blindness in the left eye. The histopathology confirmed that the sample contained arteritis, suggestive of giant cell arteritis.

Giant cell arteritis is a systemic inflammatory vasculitis that can lead to arterial occlusion and tissue ischaemia. It is commonly found in up to 40% of patients diagnosed with polymyalgia rheumatica. The 2020 NICE guidance advises that common signs and symptoms include a new onset of headache usually in the temporal location, visual disturbances, scalp tenderness and intermittent jaw claudication. Intra oral mucosal necrosis can also occur. Lesions on the face are not commonly found in literature.

Diagnosis of giant cell arteritis is based on clinical examination, raised inflammatory markers, and biopsy of the involved artery. It is considered a medical emergency due to the risk of irreversible vision loss; therefore, steroid treatment should be commenced immediately.

Conclusion: This is a rare presentation of a male patient with giant cell arteritis that initially manifested as a suspected sebaceous cyst inferior to the left nasolabial fold. Due to false reassurance from the ultrasound scan, the diagnosis was delayed which resulted in irreversible blindness. Although the patient presented with unusual symptoms for giant cell arteritis, it is important to be aware and vigilant that patients who suffer with polymyalgia rheumatica may develop giant cell arteritis. Therefore, a differential diagnosis of this should be considered for any usual signs or symptoms.

References: NICE Guidelines – Giant Cell Arteritis, 2020. <https://cks.nice.org.uk/topics/giant-cell-arteritis/>

ID: 4856

Oral manifestations related to COVID-19: A preliminary study

Other topics

Prof. Zeynep Seda Pekcetin-Bayav¹; Dr. Ege Koray²; Prof. Meltem Koray³;

¹Biruni University dentistry faculty oral and maxillofacial surgery; ²Medeniyet University faculty of medicine; ³Istanbul University faculty of dentistry department of oral and maxillofacial surgery;

Although major manifestations occurring in the oral cavity have been reported as effacement of tongue papillae, oral candidiasis, dry mouth, aphthous lesions, recurrent herpesvirus infections and ulcers, until now any specific oral lesion for COVID-19 is still not determined. Aim of the study is to determine oral manifestations related to COVID-19. Ninety-seven routine dental patients (50F- 47M) were included in the cross-sectional study. All patients were given a detailed intraoral examination and taken anamnesis related to history and vaccination of COVID-19. Also stimulated salivary was collected to determine the relationship COVID-19 and xerostomia from all patients. Forty-four patients (21F-23M) had a positive COVID-19 history and major aphthous lesion was seen in one of them who had already aphthous lesion history and not vaccinated. None of the remaining 43 patients had oral findings and only one had been vaccinated (Sinovac ®) of them. 53 patients (29F-24M) had negative COVID-19 history and there were seen oral findings (ulceration, leukoplakia, major aphthous lesion, herpes labialis) in 4 patients of them. None of these patients with oral lesions were vaccinated. 19 patients with a negative COVID-19 history had been vaccinated (Sinovac ®). There was no significant difference in oral manifestations between patients with a positive or negative COVID-19. Salivary flow rate was normal in both groups (> 1 ml /1 min). The etiology of oral lesions in patients with COVID-19 infection remains unknown. In conclusion, no relationship was found between COVID-19 and oral manifestations and salivary flow rate.

Key Words: COVID-19, oral manifestations, salivary flow rate

ID: 4861

Erythema multiforme symptoms in patient with the SARS-CoV-2 infection

Other topics

Dr. Agata Dudzik¹; Dr. Ewa Michalak¹; Dr. Dagmara Darczuk¹;

¹Jagiellonian University Medical College

Keywords: coronavirus infections; oral-systemic disease(s); oral manifestation

COVID-19 patients have different symptoms, including myalgia, cough, fatigue, dyspnea and skin manifestations. Also cutaneous and oral manifestations are being reported.

We present a case of a patient with oral erythema multiforme symptoms who was positively tested for COVID-19.

A 25-year-old man with no history of systemic diseases was admitted to the Department of Periodontology and Oral Medicine, Medical College, Jagiellonian University, Krakow, Poland. He had

symptoms resembling erythema multiforme: multiple erosions on the oral mucosa, gingivitis, hemorrhagic crusts on the lips. Prodromal features such as fever of 38,5 occurred 7 days prior to the oral symptoms. The diagnose of erythema multiforme was based on the clinical features and history. Antihistaminic and antiviral drugs were prescribed and a mouthrinse with chlorhexidine was advised.

The patient was admitted 3 days later for a control visit. During that time he developed lesions on the fingers. There was no improvement in the oral cavity observed. Patient was referred for a dermatological consultation and examined with a PCR test for SARS-CoV-2 infection. The result was positive. Dermatologist prescribed glucocorticoids.

The following control visit 7 days later showed complete resolution of the oral symptoms.

Although the typical symptoms of SARS-CoV-2 infection include fever, shortness of breath and a dry cough, cutaneous manifestations have also been reported, including some oral lesions. It is important to consider that an exhaustive intraoral examination should be performed in COVID-19 patients.

ID: 4871

Orofacial Granulomatosis (OFG) affecting the nose successfully treated with intra-lesional corticosteroid

Other topics

[Dr. Vignesh Murthy](#)¹; Dr. Esther Hullah¹; Prof. Michael Escudier²;

¹Oral Medicine, Guy's St Thomas' NHS Foundation Trust; ²Faculty of Dentistry, Oral & Craniofacial Sciences, King's College London;

Objectives: We present a case of OFG presenting with nasal involvement successfully treated with intra-lesional triamcinolone.

Case: A 15-year-old Caucasian male originally presented to ENT and was referred to paediatric dermatology regarding recurrent facial swelling affecting the nose, midface and occasionally upper lip. The medical history revealed high functioning autism and recent onset anxiety arising from his facial appearance. A cutaneous biopsy was consistent with OFG and multiple topical and systemic interventions were trialled without success. The patient was subsequently referred to Oral Medicine and his nasal swelling was noted to have worsened. After discussion of the possible interventions and with informed consent a total of 4 mg (0.1ml) triamcinolone acetonide was injected equally into the left and right lateral aspect of the nose subcutaneously. There were no complications and at review there was a generalised reduction in the nasal swelling and a patient reported improvement in his self-confidence and overall quality of life. Further improvement, both clinically and psychologically, was achieved following a second administration.

Discussion: Intra-lesional triamcinolone offers a safe and effective management option for OFG related nasal tissue swelling. It is unclear, at present, if this approach provides long-term stability in such patients.

ID: 4944

An unusual case of trigeminal sensory neuropathy

Other topics

[Dr. Rachel Theresa Lavelle](#)¹; Dr. Fabienne Aurora¹; Dr. Daire Shanahan¹; Dr. Helen Rogers¹;

[¹University Hospitals Bristol and Weston](#)

Objectives: This poster describes an interesting and unusual case of a patient with trigeminal sensory neuropathy subsequently diagnosed as a suprasellar prolactinoma.

Case: A sixty-two year old lady presented to the Oral Medicine unit in Bristol with an eight month history of trigeminal nerve paraesthesia. This was described as affecting the left nostril, left upper lip and left tip of tongue with associated left sided hearing loss and reduced sense of smell. She also described intermittent pain at the vertex of the scalp. On examination, there were no other craniofacial or global symptoms. MRI head revealed a 40 x 30 x 40.5 mm lesion in the right suprasellar region. Initially, meningioma was postulated to be the likely diagnosis. After pituitary function analysis including prolactin levels, organised by the skull base MDT, this lesion was defined as a pituitary prolactinoma. Medical management has since been embarked upon with cabergoline and levetiracetam. Repeat MRI head after therapy showed reduction in the lesion size and reduced prolactin levels.

Conclusions: There are few case reports describing prolactinoma causing trigeminal sensory neuropathy. Some cases have described trigeminal headache or neuralgia symptoms which have preceded discovery of a prolactinoma. This case highlights the importance of thorough assessment of cranial nerve function. It reinforces the notion that unexpected and somewhat atypical signs and symptoms can be the first indicators of an intracranial pathology and it is our role as Oral Medicine clinicians to explore possible causes for this.

ID: 4997

Xenofree regeneration of human oral mucosa from iPS cells derived from normal oral fibroblasts

Other topics

[Dr. Ridhima Das](#)¹; Prof. Daniela Elena Costea¹; Prof. Mihaela Roxana Cimpan¹; Prof. Anne Christine Johannessen¹; Dr. Salwa Suliman¹; Prof. Kamal Mustafa¹; Prof. Helge Ræder¹; Dr. Hassan Ali¹; Dr. Harsh Nitin Dongre¹; Dr. Himalaya Parajuli¹;

[¹University of Bergen](#)

Background: There is a need for developing new sources of biological material for regenerative therapy of oral mucosal defects. Induced pluripotent stem cells (iPSCs) obtained from adult fibroblasts are an attractive source of oral keratinocytes for tissue engineering of oral mucosa.

Aim: The goal of this study was to develop a xenofree protocol for differentiation of iPSCs reprogrammed from normal oral/skin fibroblasts into oral keratinocytes for use in production of clinical-grade oral mucosal sheets for regenerative therapy.

Materials and Methods: Three different protocols were tested for their efficiency to differentiate the reprogrammed iPSC into keratinocytes. The iPSCs-derived keratinocytes were characterized and compared to normal oral keratinocytes using epithelial lineage markers by flow cytometry, qPCR and immunofluorescence. Their potential to develop oral mucosa sheets was also investigated in 3D organotypic models.

Results: Preliminary results showed that both oral and skin adult fibroblast-derived iPSC can be differentiated into oral keratinocytes in xenofree conditions as well, and that these cells are morphologically comparable to normal oral keratinocytes and express epithelial cell markers.

Conclusion: iPSCs reprogrammed from normal oral/skin fibroblasts can be differentiated into oral keratinocytes using xenofree protocols for further use in production of clinical-grade oral mucosal sheets for regenerative therapy.

ID: 4998

Oral manifestations during pregnancy. Presentation of a case report and brief literature.

Other topics

[Dr. Efi Stergiadou](#)

[Aristotele university of Thessaloniki](#)

Introduction: Pregnancy tumor is interesting oral manifestation. Various regions are affected , like gingivae, buccal, labial mucosa and tongue. It is related with hormonal factors, affected by local stimuli, like repeated irritation and poor oral hygiene. It occurs during pregnancy, due to vascular effects of hormone alterations.

Case Details: A 31 year old patient presented with a painful tumor-like lesion on the tongue surface . She was in 9th month of her third pregnancy. Clinically presented with a defined tumor, 2cm in diameter, lobulated, reddish, covered by white membranes. Under local anesthesia the lesion was excised. Histological examination revealed excessive ulceration with formation of pyogenic and inflammatory granulomatous tissue. The lesion was characterized by high vascularity, as well as by inflammatory infiltration in underlying connective tissue.

Discussion: Pregnancy tumor has same histological characteristics with pyogenic granuloma. Alteration of female hormones, in combination with local irritation, as well as the bacterial accumulation, represent the causative factors. It usually occurs during the second trimester. Surgical excision is the treatment of choice. Histological examination establishes the diagnosis. Excision is

performed preferably after childbirth. In this case, the excision was performed before childbirth, due to its large dimension, which caused functional problems with mastication. Usually, occurs in 10% of pregnant women and often along with gingivitis.

Conclusions: Pregnancy tumor is a common oral manifestation during pregnancy. So, oral hygiene is essential. Surgical excision and biopsy is the treatment of choice. Pregnancy oral lesions may be characterized by bleeding, due to rich vascularity.

ID: 5000

Tooth eruption cysts: clinical case

Other topics

[Dr. Ana Melissa Marques¹](#); [Dr. Simão Nogueira¹](#); [Dr. Maria João Morais¹](#); [Dr. Maria Fernanda Costa¹](#); [Prof. José Pedro Figueiredo¹](#);

[¹Stomatology Department of Coimbra Hospital and University Centre](#)

Introduction: Tooth eruption cyst is an odontogenic cyst that occurs following the attempted tooth eruption against resistance. With a benign etiology, it is a soft tissue cyst that accompanies both primary and permanent dentition. It corresponds to an entity of low prevalence, affecting mainly the permanent dentition of males, at the level of the first and second decades of life. It presents as a soft and smooth swelling with liquid content. Sometimes, due to masticatory and occlusal trauma, it may have a bluish appearance, corresponding to an eruption hematoma.

Clinical case: The authors describe the case of a 1-year-old boy with a swelling condition on the edge of the first and second quadrants of the superior jaw. Child without complaints and with no apparent history of fluid drainage. The superior jaw presented two swellings: one in the first quadrant and one in the second quadrant, both about 2x2 cm, well-delimited, smooth, soft, with a slightly bluish coloration. Two cysts associated with the eruption of two upper deciduous first molars were diagnosed and no complementary exams were requested. The child stayed clinically monitored and both cysts spontaneously vanished within a week.

Conclusions: Regarding the etiology, there is still no consensus, with several authors pointing to different causes, such as trauma, early caries or lack of space for the eruption. In most cases, the tooth eruption cyst involutes spontaneously, requiring pain management. If there are any complaints of pain, bleeding or infection, surgical cyst drainage and tooth crown exposure may be indicated.

ID: 5012

Simultaneous Occurrence of Central Giant Cell Granuloma and Radicular Cyst in Mandible: A Case Report

Other topics

[Dr. Zeynep Seda Pekcetin-Bayav](#)

Biruni University

Introduction: Central giant cell granuloma (CGCG) is a benign, non-odontogenic osseous lesion of the jaws. While CGCG can rarely be coexist with other benign lesions of the jaws such as central odontogenic fibroma, central ossifying fibroma, fibrous dysplasia, aneurysmal bone cyst, ameloblastoma, odontogenic keratocyst there is no case of CGCG lesion presenting with radicular cyst (RC). This study aims to report a case of a simultaneous occurrence of CGCG and RC in mandible.

Case presentation: The patient was 47-year-old woman who was referred to the Department of Oral and Maxillofacial Surgery at the Biruni University Faculty of Dentistry by her dentist for a bone tumor detected on a routine imaging examination. In the clinical examination, expansion was observed in the left premolar region of the mandible. In CBCT, a radiolucent lesion expanding towards the vestibule was detected in the apical of the 1st and 2nd premolars and canine teeth. The excisional biopsy was performed under local anesthesia. The upper part of the lesion was enucleated and the lower part was curetted. Histopathological examination revealed two different lesions as RC and CGCG. The patient was followed up at 1, 3 and 6 months. No recurrence was observed.

Conclusions: Rc and CGCG are distinct lesions with separate origins and there is no literature indicating their coexistence. In order to better elucidate the histogenesis of these lesions, more cases with histopathological and radiological features similar to the lesion in the case should be reported in the literature.

ID: 5015

Buccal microbiome; a pilot study on the Sudanese population and the effects of smokeless tobacco use; Toombak, on micro-organisms of the buccal cavity

Other topics

Mrs. Amel Sami¹; Prof. Imad Elimairi²; Mrs. Catherine Stanton³; Prof. Paul Ross⁴; Prof. Tony Ryan⁵;

¹APC microbiome institute University College Cork and National Ribat University Khartoum Sudan;

²National Ribat UNiversity Khartoum Sudan; ³Teagasc food and research centre; ⁴APC microbiome institute Cork; ⁵department of paediatrics and child health cork maternity hospital Cork;

Introduction: Smokeless tobacco Toombak is widely used particularly amongst males in the Sudan, Africa. Microbiome locational effects on the oral mucosa in relation to Toombak use has not been previously elucidated. Toombak is currently the most evident cause of pre – malignant conditions and oral cancer in Sudan, where the buccal mucosa is one of the most aggressive cancers to initiate and carries a high risk of mortality. This pilot study serves to for the first time characterise the buccal mucosal microbiome of the Sudanese population aged between 20-55 years of age while analysing the micro- organism habitation, associated with Toombak smokeless tobacco users in comparison to controls.

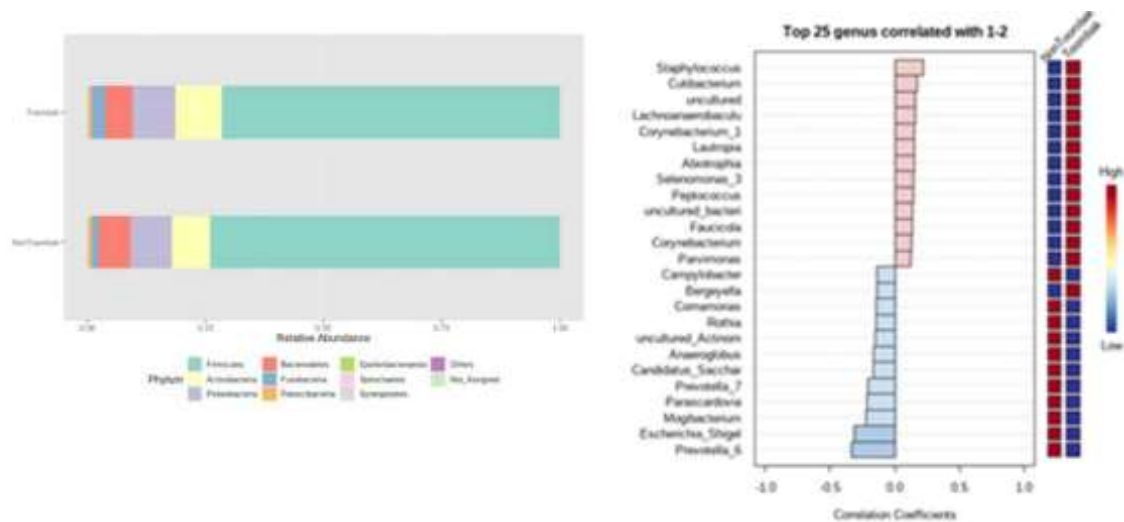
Material and Methods: Participants were chosen from the oral and maxillofacial department, National Ribat University Khartoum Sudan, attending for dental clinic. Those with active or severe periodontal disease, active or rampant caries and periapical infection; were excluded from the study.

71 participants were included of which 26 non-users and 45 Toombak users were achieved. Swab analysis was carried out by rolling for 30 seconds in the right buccal mucosa in the absence of food, drink or exterior substances and were immediately frozen for DNA extraction and Illumina Miseq sequencing pipeline as per Qiagen and Illumina protocol guidelines respectively.

Results: 274 features (Operational Taxonomic Units or OTUS) were compared in the buccal mucosa of users of the Sudanese smokeless tobacco; Toombak and controls (non-users). While phyla were generally similar in abundance; both Actinobacteria and Fusobacteria were increased in buccal mucosa of Toombak users[AS(1)]. Using Deseq2, Moraxellaceae (FDR=0.037), Leptotrichiaceae (FDR=0.019) and Staphylococcaceae (FDR=0.037) were the most significantly increased families in the buccal mucosa amongst Toombak users while Enterobacteriaceae (0.037) were increased amongst non-users. Indeed the genera; Leptotrichia (FDR=0.029) were the most abundant amongst the buccal mucosa of Toombak users as well as Staphylococcus (FDR=0.047) and Cutibacterium (FDR=0.047). In the non-user group; Escherichia Shigella (FDR=0.033) and Prevotella_6 (FDR=0.047) were increased. Utilising pattern search; other genera in the buccal mucosa highly correlating with Toombak users included; Corynebacterium_1, Lautropia, Abiotrophia, Selenomonas_3 and Peptococcus as well as uncultured bacterium[AS(2)]. Incorporating BLASTn NCBI analysis the most increased identifiable species amongst buccal mucosa of non-users was Shigella Sonnei (FDR =0.0075, 99.14% per ident), while Leptotrichia wadei (FDR = 0.01, 98.42% per ident), Actinomyces massiliensis (FDR =0.024, 99.35% per ident) and Staphylococcus caprae (FDR = 0.05, 100% per ident) were the most increased species amongst buccal mucosa of Toombak users. Core microbiome consisted of 126 OTUs shared between the buccal mucosa of users and non-users, however, 12 unique OTUs existed in the buccal mucosa of non-users while there were 11 OTUs unique to Toombak users. Staphylococcus was the majorly unique genera amongst buccal mucosa of Toombak users while Scardovia was found amongst non-users. Linear discriminant analysis further highlighted, Staphylococcus, Corynebacterium_1 and Cutibacterium as the most discriminant genera of the buccal microbiome amongst Toombak users while Scardovia and Prevotella_6 were discriminant of non-users buccal mucosa. Further OTU[AS(3)] - species - LEfse interconnection highlighted 6 discriminant OTUS on the buccal mucosa of the Toombak group of which Gemella morbinorum (98.28% Per ident), Prevotella nigrescens (99.35% Per ident), and Lachnoaerobaculum gingivalis (99.32% Per ident) could be identified with BLASTn while species distinguishing buccal mucosa of non-users included Rothia mucilaginosa (98.88% Per ident), Veillonella atypica (98.28% Per ident), Streptococcus sobrinus (99.35% Per ident.), Prevotella salivae (99.35% Per ident), Prevotella pallens (99.35% Per ident) and Bifidobacterium dentium (99.33% Per ident).

Conclusion: While there are similarities in the core microbiome of the buccal mucosa between controls and Toombak users, Toombak users carry several key features modifying their buccal microbiome to a varied state that may be associated with disease associated ramifications that include inflammatory local and systemic and premalignant as well as oral cancer development. Increased Fusobacteria have been associated with oral cancer development states as well as gastrointestinal (colorectal cancer), while increased Staphylococcus and Cutibacterium, may be associated with skin microflora and may be introduced during Toombak placement. Corynebacterium_1 in another study by our centre was the most abundant genera in Toombak samples and so likely directly related to Toombak placement, the effects of which still need further analysis. Increases in Lautropia may be associated with locational immune deregulation (isolated from HIV children only until now), while presence of Abiotrophia harbours increased risk of infective endocarditis. However; although controls or non-users had a different discriminant OTU outline, most associated with Prevotella species and Streptococcus genera; some genera and species may still pose

associations with oral premalignancy that include; *Rothia mucagilans* and dental caries development (*Bifidobacterium dentium*). This abstract focuses on the buccal mucosal microbiome changes that may be associated with chronic smokeless tobacco use; Toombak in a never before studied population ; The Sudan in relation to how the microbiome environment may exist and serve to specifically impact in the development of disease associations. Clearly, there are significant changes that occur by utilising Toombak and these must be further understood to outline how TOombak use may be leading to significant diseases such as oral premalignancy, cancer and inflammation.



ID: 5040

The influence of COVID-19 pandemic confinement on patients with oral pathology in Galicia

Other topics

[Miss Eva Chao Deán¹](#); Prof. Pilar Gándara Vila¹; Prof. Dolores Reboiras López¹; Prof. Alfonso Sande Sardina¹; Prof. Abel García García¹; Prof. Andrés Blanco Carrión¹;

¹[Máster de Medicina Oral, Cirugía oral e Implantología \(Universidad de Santiago de Compostela\)](#)

Objectives: to investigate the influence of home confinement in quarantine due to the COVID-19 pandemic in patients with oral pathology.

Method: an anonymous survey was made to patients with oral pathology attending the Oral Medicine Service of the University of Santiago de Compostela. This survey takes into account demographic, psychological and oral disease-related factors of the patients during the period of confinement in Spain.

The inclusion criteria were to present an oral pathology at the time of confinement and to have completed the pertinent survey.

Results: We observed a statistically significant relationship between patients who spent the confinement in a smaller dwelling and the levels of anxiety and depression. We also see a significantly higher level of depression in patients who had no activity of any kind during confinement. Patients with more anxiety and depression felt a greater concern for their oral health during confinement, also perceived more discomfort and increased the number of oral lesions significantly.

Conclusions: Patients with oral pathology were more concerned about their oral health during confinement and suffered from higher levels of depression and anxiety, which meant a worsening of their oral lesions.

ID: 5052

Oral diseases and taste sensitivity in patients infected with SARS-CoV-2 and patients with COVID-19 disease

Other topics

Danica Vidovic Juras¹; Vlaho Brailo¹; Bozana Loncar Brzak²; Ana Andabak Rogulj²; Ivana Skrinjar¹; Zeljko Verzak¹; Ivica Luksic³; Zoran Karlovic⁴; Burja Monika⁵;

¹University Hospital Centre Zagreb and School of Dental Medicine, University of Zagreb, Croatia; ²School of Dental Medicine, University of Zagreb, Croatia; ³University Hospital Centre Dubrava, Zagreb, Croatia; ⁴University Hospital Centre Dubrava and School of Dental Medicine, University of Zagreb, Croatia; ⁵student School of Dental Medicine, University of Zagreb, Croatia;

In the relevant literature, various changes of oral mucosa and taste disorders have been described so far in patients with COVID-19 disease, and there is no data on how specific this is and whether it can be an indicator of the disease.

The aim of this study was to test two hypotheses: People infected with the SARS-CoV-2, with or without signs of COVID-19 disease, do not have specific recognizable oral manifestations of the disease. Taste sensitivity disorder may be an early sign of infection or disease.

The study involved 145 subjects divided into 3 groups: H (hospitalised patients with SARS-CoV-2 infection), P - post-COVID-19 group (after COVID-19 disease) and controls (without past or current SARS-CoV-2 infection).

Oral examinations were performed by specialists in oral medicine/oral pathology, as the most relevant experts in identifying and describing possible oral lesions. Also, data on possible taste disorders were collected from all participants.

Results: In 8/50 H-group patients asymptomatic oral candidiasis (different types) was found and in 5/8 it was accompanied with severe hyposalivation. 2/50 H-group patients reported taste disorder (dysgeusia and hypogeusia) which developed parallelly with dry mouth. P-group participants haven't noticed oral diseases during infection, nor they were found in the post-COVID period. 25/49 P-group subjects reported taste sensitivity disorder and/or loss during COVID infection and in 20/49 it was a presenting sign of the disease. In 5/46 controls oral lesions (2 fibromas, oral candidiasis, morsicatio, oral mucosal peeling, fistula) were found. None of the controls reported a taste sensitivity disorder.

In conclusion, nor individuals infected with SARS-CoV-19 neither patients with COVID-19 disease have specific or non-specific oral manifestations that could be useful in clinical practice, i.e. that can help identify and possibly predict the course of the disease. Taste sensitivity disorder and/or loss is a possible presenting sign of SARS-CoV-2 infection.

ID: 5060

Giant central ossifying fibroma of the maxilla: an uncommon case report

Other topics

Dr. Ana Vasconcelos¹; Prof. Luís Monteiro²; Prof. Filomena Salazar¹; Prof. José Júlio Pacheco²;

¹IUCS -CESPU; ²IUCS-CESPU;

Introduction: Ossifying fibroma (OF) is a rare and true neoplasm of oral cavity characterized by its rapidly progression and large growth of fibro-osseous tissue with a mixture of bony trabeculae, calcified tissue, and different types of cells. OF occurs mostly in maxillofacial bones and is categorized into two types, central or peripheral. Central ossifying fibroma (COF) is typically asymptomatic with a progressive and continuous growth, that can lead to facial asymmetry due to its massive proportions that might decrease patient quality of life.

Aims: The aim of this case report is to acknowledge the characteristics of central ossifying fibroma.

Case report: A 76-year-old male was referred to oral medicine appointment due to the appearance of a large tumefaction in the oral cavity with facial asymmetry. In the clinical examination was verified a large expansible lesion on the left side of the maxilla with 5 cm of diameter, with hard consistency to palpation and with ulceration areas. In radiographic images there was a mixed radio-opaque-radiolucent lesion in the left anterior maxilla with extension to maxillary antrum and gingiva. An incisional biopsy was performed, and a diagnosis of an ossifying fibroma of the maxilla was made. The patient was referred to maxillofacial department to excision of the lesion.

Conclusion: The identification of the characteristics of central ossifying fibroma is important, as we described in this uncommon OF, not only for diagnosis excluding other differential diagnosis and also to promote adequate treatment, increasing the patient´s quality of life.

ID: 5078

Juvenile Trabecular Ossifying Fibroma in the maxilla of a young child: A Case Report

Other topics

Mr. Nikolaos Apostolidis¹; Dr. Maria Georgaki¹; Dr. Nadia Theologie-Lygidakis¹; Dr. Ioannis Iatrou¹; Dr. Nikolaos Nikitakis¹;

¹School of Dentistry, National and Kapodistrian University of Athens

Introduction: Benign fibro-osseous lesions within the maxillofacial region represent a heterogeneous group of benign entities with overlapping histologic features. Juvenile ossifying fibroma (JOF) is considered an aggressive rapidly growing subtype of ossifying fibroma, affecting children and adolescents, and can be further classified into two variants, namely juvenile trabecular ossifying fibroma (JTOF) and juvenile psammomatoid ossifying fibroma (JPOF). We present a clinical case of

JTOF along with a review of the clinical, imaging and histopathologic characteristics and management of these tumors.

Case Description: A 3.5 years old female child presented with an asymptomatic left maxillary swelling of recent onset causing mild facial asymmetry. Computed tomography (CT) of the facial bones demonstrated a large well-demarcated unilocular hypodense lesion in the maxilla, surrounded by a thick hyperdense rim with a ground-glass pattern. It showed outward expansion in all directions, occupying the left sinus. A biopsy was performed under general anesthesia revealing a benign fibro-osseous lesion. Correlation of the clinical, imaging and microscopic findings rendered a final diagnosis of JTOF. Complete surgical resection was performed and the patient was placed on close follow-up.

Conclusion: Maxillofacial swellings in children may require a broad differential diagnosis that includes JOF. Correlation of the histopathologic findings with the clinical and radiographic features is essential to differentiate JOF from other fibro-osseous lesions. Patients require long-term follow-up due to high rate of recurrence.

ID: 5081

Benign fibrous histiocytoma of the tongue: Case report and review of the literature

Other topics

Mrs. Anastasia Andreou¹; Mr. Efstathios Pettas¹; Miss Styliani Tziveleka¹; Miss Nicoleta Papageorgiou²; Miss Rodopi Emfietzoglou²; Miss Varvara Arvanitidi²; Dr. Maria Georgaki¹; Dr. Emmanouil Vardas¹; Prof. Nikolaos G. Nikitakis¹;

¹Department of Oral Medicine Pathology and Hospital Dentistry, School of Dentistry, NKUA; ²School of Dentistry, NKUA;

Introduction: Benign fibrous histiocytoma (BFH) is a benign soft tissue tumor composed of fibrohistiocytic origin. It can be classified as superficial, called “dermatofibroma”, and deep BFH. BFH oral counterpart has been scarcely described in the literature. Most frequently, it affects middle-aged patients presenting as a solitary painless mass of variable size.

Objectives: To present the clinical, histopathologic and immunohistochemical features of a rare case of BFH of the tongue and review the pertinent literature.

Material and Methods: A 52-years old woman presented for evaluation of a whitish, submucosal nodular mass in the anterior dorsal surface of the tongue. With a working diagnosis of a benign reactive or neoplastic soft tissue tumor, excisional biopsy was performed. Histopathologic evaluation revealed

spindle cells with vesicular nuclei, arranged in a storiform pattern, and scattered plump ovoid cells. Xanthoma cells, Touton giant cells and inflammatory cells were also noted. There were no mitoses, necrosis or cytologic atypia. On immunohistochemistry, tumor cells were diffusely positive for CD68 and negative for S100, CD34 and SMA. No signs of recurrence were noticed during 2 years of follow-up.

Conclusion: BFH should be differentiated from other soft tissue tumors of spindle cell morphology. Location in the dorsal surface of tongue elicits a differential diagnosis that mainly includes reactive lesions, e.g. pyogenic granuloma, and other benign soft tissue tumors, e.g. granular cell tumor. Careful microscopic examination with ancillary immunohistochemical evaluation is required for correct diagnosis. BFH is treated by complete local excision and has excellent prognosis.

ID: 5082

Isolated unilateral hypoglossal nerve palsy: an uncommon condition

Other topics

[Dr. Beatriz Dominguez¹](#); Dr. José Carneiro²; Dr. Maria João Morais²; Dr. Olga Vascan²; Dr. Ivan Cabo²; Dr. Maria Inês Borges²; Dr. José Pedro Figueiredo²; Dr. João Carlos Ribeiro²;

[¹Centro Hospitalar e Universitário de Coimbra](#); [²Centro Hospitalar de Coimbra](#);

Hypoglossal nerve (CN XII) palsy poses as an infrequently-encountered condition.

The CN XII is a pure motor nerve that innervates intrinsic as well as extrinsic muscles of the tongue. Damage to this nerve produces characteristic clinical manifestations, of which deviation and unilateral muscle atrophy of the tongue are the most important.

Its course predisposes CN XII to a wide spectrum of etiologies, that can be divided into main categories: postoperative (pe. post-carotid endarterectomy), idiopathic, primary neoplastic (pe. schwannoma, paraganglioma, diffuse large B cell lymphoma, meningioma), metastatic malignancy (pe. prostate cancer metastasis), inflammatory, radiation and traumatic. Hypoglossal nerve palsy is not an uncommon finding in neurologic conditions, however, when isolated, can represent a diagnostic challenge.

Case Report:

A 51 year's old female presented with complaints of dysarthria and difficulty in moving her tongue for the last month. Examination revealed left tongue deviation at protrusion without other signs of other cranial nerve palsy. There was no history of neck trauma or surgery. Brain magnetic resonance imaging (MRI) was performed revealing an extracranial tumor localized by cervical portion of the left carotid artery, consistent with left CN XII schwannoma. The patient is currently undergoing radiotherapy.

Discussion:

Awareness of abnormal tongue morphology or mobility is essential, and recognition of symptoms should alert suspicion and prompt investigation.

ID: 5369

Effect of a single dose of low-level laser therapy on oral mucosa pain

Aphthous stomatitis

Dr. MARIA JOSE GARCIA POLA VALLEJO¹; Dr. Claudia Llorente Alvarez²; Dr. Samuel Rodríguez- López¹; Dr. Sandra Rubín-Milla¹; Dr. Santiago Llorente Pendás²;

¹University of Regensburg; ²Carnegie Mellon University; ³University of Pittsburgh;

Introduction: Low-level laser therapy (LLLT) is currently widely used in medical field due to its beneficial therapeutic effects, such as analgesia.

Objective: The aim of the present study was to evaluate the effectiveness of LLLT in patients with oral mucosa with pain from different pathologies.

Material and Methods: In this cross-sectional study 40 adult patients, with oral pain were enrolled in the study. The diode laser used has a wavelength of 810nm (Fox A.R.C.), and was applied with a power of 2 watts, in continuous mode during 30 seconds per point with pain, three times. The laser probe was held perpendicularly at a distance of about 2 mm from the mucosa. A visual analogue scale (VAS) was used to assess pain before and after irradiation. The data were included in an SPSS program to perform the statistical analysis.

Results: The pathologies treated were the following, erosive oral lichen planus (n=10); aphthous ulcers (n=10); traumatic ulcer (n=10); and burning mouth syndrome (n=10). There were no adverse effects during the study. There were statistically significant differences ($p < 0.05$) between the initial pain and after the laser application in the aphthous ulcers and traumatic ulcer, but not in the burning mouth syndrome and erosive oral lichen planus.

Conclusions: This study suggests that diode laser therapy is a safe and an effective adjunctive treatment modality for relieving pain mainly in erosive mucosa.

ID: 4890

Salivary canalicular adenoma- a diagnostic dilemma

Saliva/salivary gland disorders

Mr. Sandeep Acharya¹; Mr. Tom Healey¹;

¹Countess of Chester Hospital

Introduction: Canalicular adenoma is a rare, benign salivary gland tumour, which tends to occur in the upper lip. We describe a sixty-nine year old male patient who presented with a slow-growing lump in his right buccal mucosa. Initial investigations were inconclusive, however an incisional biopsy confirmed a diagnosis of canalicular adenoma.

Case presentation: A sixty-nine year-old male patient was referred to the local Oral and Maxillofacial Surgery unit on the two-week wait pathway, for assessment and management of a lump in his right buccal mucosa. The patient described a three-month history of a slow-growing swelling in his right cheek. There was no history of trauma, nor of any dental symptoms. The patient was fit and well. On examination, facial asymmetry was evident. There was a visible extra-oral swelling in the right nasolabial fold region. A firm, lobular mass was palpable in the right buccal mucosa. Ultrasound, fine needle aspiration and magnetic resonance imaging were undertaken to further investigate this lesion, however they were inconclusive. An incisional biopsy confirmed a diagnosis of canalicular adenoma.

Conclusion: Canalicular adenoma is a rare benign tumour of the salivary glands. This tumour typically occurs in the upper lip, but can occur in the palate and buccal mucosa. Differential diagnoses include other salivary gland neoplasms, such as pleomorphic adenoma, ductal adenoma and adenoid cystic carcinoma. This case highlights an unusual presentation of a rare salivary gland tumour, and the importance of obtaining a tissue sample to confirm diagnosis.

ID: 4937

Periodontal status in primary Sjögren's syndrome

Saliva/salivary gland disorders

Julia Serrano¹; Nagore Ambrosio¹; Mónica Fernández-Castro²; Mariano Sanz³; Gonzalo Hernández¹; Lucía Ramírez¹; Rosa María López-Pintor¹;

¹Complutense University; ²Rheumatology Service, Hospital Puerta de Hierro; ³University Complutense;

Objective: The aim of this observational study was to evaluate the periodontal status and oral microbiota of a group of patients with primary Sjögren's Syndrome (pSS). The influence of salivary flow on these variables was also determined.

Methods: A cross-sectional study was conducted. Patients were diagnosed with pSS according to the European American Consensus Group criteria. The periodontal variables collected were probing pocket depth (PD), clinical attachment level (CAL), gingival index (GI), bleeding on probing (BOP), recession (REC) and plaque index (PI). Gingival crevicular fluid (GCF) samples were collected for anaerobic culturing. Periodontal bacteria, *C. albicans* and *S. mutans* frequency and mean counts were evaluated. Unstimulated whole saliva (UWS) was collected.

Results: We included 55 female patients, mean age 55.89 (12.8). 60% of patients suffered from UWS hyposalivation. The periodontal clinical examination showed the following mean results PI 71.1 (23.1), PD 2.7 (0.4), BOP 39.2 (24.4), REC 0.4 (0.5), CAL 3.1 (0.7). The most frequent pathogens detected were *C. albicans* (87.3%), *S. mutans* (69.1%), *F. nucleatum* (76.4%), *P. intermedia* (76.4%) and *P. gingivalis* (52.7%). Patients with unstimulated salivary flow hyposalivation had a significant lower BOP.

We observed a significant positive correlation between UWS salivary flow and PD, BOP and *S.mutans*. And a significant negative correlation between UWS salivary flow and *C. albicans*. No significant correlations between salivary flow and periodontal bacteria were found.

Conclusion: Patients with pSS do not have a poor periodontal status. Furthermore, the decreased salivary flow does not seem to influence the growth of periodontal microbiota.

ID: 4949

Influence of salivary disorders on quality of life in relation to oral health in hypertensive patients

Saliva/salivary gland disorders

Ms. Lucía Ramírez¹; Mr. José González-Serrano¹; Ms. Isabel Sánchez¹; Prof. Marta Muñoz-Corcuera¹; Dr. Julia Serrano¹; Prof. Gonzalo Hernández¹; Prof. Rosa María López-Pintor¹; ¹Department of Dental Clinical Specialties. ORALMED Research Group. Complutense University. Madrid.

Objective: The aim of this study is to assess the potential role of salivary disorders in the quality of life in relation to oral health in a population of patients suffering hypertension (HP).

Materials and Methods: A cross-sectional study was conducted. HP were diagnosed in accordance with current WHO criteria. Participants completed validated questionnaires such as Xerostomia Inventory (XI) and Oral Health Impact Profile (OHIP-14). Unstimulated salivary flow was collected. The patient was considered to have a reduced UWS flow rate or hyposalivation if the salivary flow was <0.1 mL/min. Data were evaluated using Spearman's correlation analysis and Mann-Whitney U test.

Results: Two hundred twenty-one HP were evaluated in two health centers, 90 were men (40.7%) and 131 women (59.3%) with a mean age of 74.33±9.38 years old. 51.13% suffered from xerostomia and 37.55% from hyposalivation. XI mean scores were 20.92 (8.69) and OHIP-14 mean scores were 17.55 (7.34). Patients suffering hyposalivation had significant higher XI (p=0.01) and OHIP-14 scores (p=0.0001). A significant negative correlation was observed between UWS flow rate and XI results (r=-0.29; p=0.0001) and OHIP-14 scores (r=-0.28; p=0.0001).

Conclusion: This study shows that salivary disorders are common HP. The XI and OHIP questionnaires appear to be good indicators of oral dryness and xerostomia-related quality of life in these patients.

ID: 4966

Salivary disorders in the patient with Diabetes Mellitus

Saliva/salivary gland disorders

Mrs. Isabel Sanchez Garrido Sanchez Garrido

Isabel Sanchez Garrido

Introduction: Diabetes mellitus (DM) has been related to the appearance of salivary disorders, but neither the percentage of patients who suffer from these disorders or the associated factors are clear. The objective of this assignment is to determine the prevalence of salivary disorders and oral injuries in a group of patients with DM and to study the factors associated with these alterations.

Material and methods: 168 patients with DM belonging to two health centers in the Community of Madrid were included in the study. Epidemiological variables and variables related to the control of diabetes were taken, as well as an examination of the oral mucosa was performed. The patients with xerostomia were recorded and unstimulated whole saliva (UWS) was collected.

Results: Of the 168 patients included, 78 were men (46.4%) and 90 women (51.4%). Sixty-nine patients (41.1%) presented hyposalivation UWS, and it was more frequent in women than in men (66.7% vs 33.3%; $p= 0.004$). There was an association between hyposalivation and the intake of: calcium, antihypertensive beta-blockers and angiotensin receptor blockers, preparation for the treatment of bone diseases, hypnotics, selective serotonin reuptake inhibitor antidepressants and glucocorticoids. Patients with hyposalivation suffered more non-abdominal wall hernia and less vitamin D deficiency.

Conclusion: It is necessary to highlight the large number of systemic pathologies that it presented and the large number of drugs they take. More analytical studies are necessary to establish relationships between the different local and systemic factors and salivary alterations.

ID: 4989

Myoepithelioma of minor salivary gland – a case report

Saliva/salivary gland disorders

Dr. António Pedro Barbosa¹; Dr. Álvaro Ferreira Rodrigues¹;

¹Centro Hospitalar Vila Nova de Gaia/Espinho

Introduction: The myoepithelioma is a rare form of salivary glands tumors. The conservative surgery is the treatment of choice.

Case Report: 49 years old male with a submucosa mass of the inferior lip with over 20 years of evolution without progressive growth, bleeding or pain. The patient had no risk factors except history of smoking (34 pack-years).

At physical examination the patient presented a consistent submucosa mass of the inferior lip at the right, mobile, painless and without visual signs of abnormal mucosa over the mass.

An excisional biopsy was performed and the piece had a reniform shape and rubberish consistency with 30 x16 mm dimension.

The histology exam revealed a myoepithelioma of minor salivary gland.

Discussion: Tumors with an exclusive constitution of myoepithelial cells are rare and represent <1% of all salivary gland tumors. The majority is located at parotid gland.

Because of cytogenic and histologic similarities these tumors are frequently miss diagnosed as pleomorphic adenoma.

The recurrence rate is 15-18%, with malignant transformation in recurrent and long-term tumors. After surgical excision the patient must be subsequently reevaluated.

Conclusion: Myoepithelioma of minor salivary glands are rare and the number of reported cases is limited.

The differential diagnosis with pleomorphic adenoma is important, by histologic and cytogenic similarities. It is important to use the proper immunohistochemistry tests in order to aim to a correct diagnose, treatment and follow-up.

ID: 5009

Analysis of salivary constituents in healthy and **Sjögren's** syndrome patients

Saliva/salivary gland disorders

Prof. Miloš Hadži-Mihailovic¹; Mrs. Snezana Golubovic²; Mrs. Zanka Bojic-Trbojevic²; Dr. Dragan Stanimirovic¹;

¹Faculty of Dentistry, University of Belgrade; ²Institute for the Application of Nuclear Energy - INEP, University of Belgrade;

Sjögren's syndrome (SS) is a complex autoimmune disease, characterized by a progressive hypofunction and inflammation of salivary and lachrymal glands. Diagnosis of SS is problematic, because it often relies on nonspecific signs and symptoms with no specific biomarker(s). Since saliva directly reflects salivary gland inflammation and damage, this body fluid appeared as useful tool for new biomarker research. In the last few years, salivary proteomic studies were conducted providing considerable contribution in the search of SS biomarkers. As a body fluid, saliva contain a number of glycosylated proteins, including heavily glycosylated carcinoembryonic antigen (CEA), described as inflammatory protein. This study aimed to investigate salivary proteome and CEA as a potential salivary biomarker in Sjogren's syndrome patients.

Quantitative salivary research was conducted on saliva samples collected from healthy women and SS female patients. The protein concentration was determined by using BCA protein assay kit (ThermoScientific), while proteome was analysed using electrophoretic techniques. The levels of CEA were measured using immunoradiometric assay IRMA CEA (INEP).

The results showed altered salivary proteome of SS patients compared to healthy subjects, especially in the area of smaller molecular masses. Beyond the proteome, CEA analysis showed that SS is associated with significantly increased CEA level in SS patients. The obtained results indicate that salivary CEA could be a potentially useful diagnostic and follow-up SS biomarker. Even more, due to many indicated roles of CEA family members, CEA presence could be functionally relevant in the pathogenesis of disease.

ID: 5017

Association between xerostomia, oral and general health, and obesity in adults. A cross-sectional pilot

Saliva/salivary gland disorders

Miss Alba Pérez González¹; Dr. Juan A Suárez Quintanilla¹; Dr. Eva M Otero Rey¹; Dr. Andrés Blanco Carrión¹; Dr. Francisco J Gómez García²; Dr. Pilar Gándara Vila¹; Dr. Benjamín Martín Biedma¹; Dr. Mario Pérez-Sayáns García¹;

¹Universidade de Santiago de Compostela; ²Research Virgen de la Arrixaca Clinical University Hospital, IMIB-Arrixaca, University of Murcia. Sc;

The objective of this study was to analyse the association between oral and general health variables and obesity indicators with the sensation of dry mouth or xerostomia as evaluated on the Xerostomia Inventory(XI).

A total of 354 randomly selected subjects participated in this cross-sectional pilot study and completed an anonymous questionnaire. Anthropometric, clinical, and xerostomic variables were evaluated. Kruskal-Wallis, ANOVA and Bonferroni test were used for multiple comparisons. ROC curves and multinomial logistic regression were used to determine the (OR) risk of xerostomia.

A total of 30.7 % of respondents reported xerostomia based on XI. The dry mouth question, the XI taken as a "gold standard", showed a diagnostic sensitivity of 70.37 %, and a specificity of 83.27 % (AUC=0.768, $p<0.001$). Logistical regression showed the highest xerostomia OR was associated to patients with bad self-perceived health, 6.31 (CI 95% 2.89-13.80, $p<0.001$). In the model adjusted for tooth mobility, bone or respiratory diseases, and the consumption of anxiolytics and antidepressants, the OR was 3.46 (CI 95% 1.47-8.18, $p=0.005$).

A high prevalence of xerostomia was found in this cross-sectional pilot study, which was significantly more frequent in women, and increased with age. Xerostomia was associated to several systemic diseases, psychological conditions, and oral functional disorders such as tooth mobility. These preliminary results can serve as the basis for developing guidelines for the application of innovative measures designed to improve the quality of life of individuals with xerostomia.

ID: 5051

Relationship between quantitative determination of hyposialia, dry mouth sensation and influence on quality of life

Saliva/salivary gland disorders

Dr. Yasmine Abouzahr¹; Dr. Berta Rivas¹; Dr. Andrés Blanco Carrión¹; Dr. Abel García¹; Dr. Tamara García¹; Dr. Dolores Reboiras¹;

¹Máster de Medicina Oral, Cirugía oral e Implantología (Universidad de Santiago de Compostela)

Objective: The aim of the present work was to evaluate the concordance between the subjective sensation of dry mouth, the quantitative determination of hyposialia and the influence on the quality of life.

Material and methods: The sample comprised 50 patients over 18 years old, who agreed to take part in the study and attended the unit of Oral Medicine, Oral Surgery and Implantology of the University of Santiago de Compostela in the last 5 years, presented dry mouth sensation and had the saliva flow rate determined.

All patients underwent quantitative determination of the global unstimulated saliva flow rate (TSG I), the Xerostomia Inventory, the OHIP-14 oral health impact profile survey. Epidemiological variables (sex and age) and the possible relationship with toxic habits (tobacco) were studied.

Results: The majority of participants were male (76%), mean age 66,4 years. 76% consumed xerostomic drugs.

The higher the XI score, bigger was the impact on quality of life ($p < 0.001$).

As TSG values increased, the XI score decreased ($p = 0.020$).

Conclusions: There was a direct and statistically significant correlation between the degree of dry mouth sensation and reduced quality of life.

An inverse and significant relationship between the quantitative determination of hyposialgia and dry mouth sensation was observed.

There was a significant relationship between xerostomia and drugs consumption, however there was no significant relationship between the quantitative determination of hyposialia and consumption of medication.

ID: 5054

A case report of minor salivary glands cystadenoma of the lower lip

Saliva/salivary gland disorders

Dr. Rui Seixas¹; Dr. Natacha Ribeiro¹; Dr. Manuel Tolentino¹; Dr. Dinora Martins¹; Dr. Irina Alves²; Dr. Matilde Gonçalves²; Dr. Carlos Matos¹;

¹Serviço Estomatologia - Hospital São Bernardo, Centro Hospitalar de Setúbal, E.P.E.; ²Serviço de Anatomia Patológica - Hospital São Bernardo, Centro Hospitalar de Setúbal, E.P.E.;

Cystadenoma is an unusual benign salivary gland tumor representing a small fraction of all benign minor salivary gland tumors.

In this case, we report a 19-year-old female patient with a painless tumor with a 7-month evolution in the labial mucosa. She had no other underlying medical condition; no history of oral trauma and the usual medication regimen was hormonal contraception. Intraoral examination revealed a solitary swelling with 2 cm-diameter, well-circumscribed, in the left side of the inferior labial mucosa, in close contact with teeth 3.1-3.2. Surgical excision under local anesthesia was the treatment of choice. The sample was sent to histopathology analysis which revealed a cystadenoma of minor salivary glands. Histologically, the specimen had typical morphological features of cystadenoma. At 6 months follow-up, there was no recurrence of the lesion.

Although the cystadenoma of salivary glands are benign neoplasms, recognition of these lesions is important for medical doctors. Differential diagnosis may include conditions like mucocele or cystadenocarcinoma that despite having similar clinical appearances, must have a different therapeutic management.

ID: 5061

Yes, **teenagers too may have Sjogren's Syndrome**

Saliva/salivary gland disorders

Dr. Maria João Morais¹; Dr. Maria Inês Borges¹; Dr. Olga Vascan¹; Dr. Beatriz Dominguez¹; Dr. Ana Melissa Marques¹; Dr. Sofia Corria¹; Dr. Maria Dores Almeida¹; Prof. José Pedro Figueiredo¹;

¹Centro Hospitalar e Universitário de Coimbra

Sjogren Syndrome (SS) is a chronic systemic autoimmune disease, that affects the exocrine glands which can induce dry mouth and eyes.

It affects essentially women and it's more frequent in adults.

SS might be classified as Primary or Secondary, considering the absence or presence of another autoimmune disease. The Primary SS form is very uncommon in the pediatric population.

The recurrent parotid swelling is the most common feature of pediatric Sjogren syndrome, and it is considered the first manifestation in childhood. In adults the main oral characteristic is the xerostomia.

There are some diagnostic criteria for Sjogren Syndrome in children and adolescents, it can be divided in clinical symptoms, immunological abnormalities (presence of at least 1 of: anti-SSA, anti-SSB, high titer ANF, RF) and other laboratory alterations like leukopenia, high erythrocyte sedimentation rate (ESR), polyclonal hyperimmunoglobulinemia, histological proof of lymphocytic infiltration of salivary glands or other organs and objective documentation of ocular dryness.

A Sixteen-year-old girl presented with bilateral submaxillary/cervical swelling with 6 months of evolution. Cervical ultrasound revealed chronic non obstructive bilateral sialadenitis of parotid and submandibular glands. Lab results showed a high ESR, low leucocyte count and hypergammaglobulinemia (IgG and IgG1). An elevated rheumatoid factor and positive anti-SSA60 and SSB antibodies were also found. Minor salivary glands biopsy established Sjogren Syndrome.

In conclusion, the presence of recurrent sialadenitis should be considered as a warning sign for an early diagnose of Sjogren Syndrome in children, despite of the rareness of this disease.

ID: 5066

Palatal cystadenoma – a rare case report

Saliva/salivary gland disorders

[Dr. Maria Inês Oliveira Borges](#)¹; Dr. João Pestana²; Dr. Maria João Morais¹; Dr. Ana Melissa Marques¹; Dr. Fátima Ramalhosa¹; Dr. Simão Nogueira¹; Dr. Maria de Fátima Carvalho¹; Prof. José Pedro Figueiredo³;

¹Centro Hospitalar e Universitário de Coimbra; ²USF Topázio; ³Centro Hospitalar e Universitário de Coimbra, Faculdade de Medicina da Universidade de Coimbra;

Salivary gland tumours account for 3% of all head and neck tumours. Most occur in the parotid gland and only less than 25% affect minor salivary glands.

Cystadenoma is a rare benign tumour and is responsible for 4% of all salivary gland tumours. It affects equally major and minor salivary glands. The lip and oral mucosa are the most common locations within the minor salivary glands. Clinically it has slow growth and is painless. **Histologically it's a well-defined lesion, non-capsulated and frequently multicystic.** Differential diagnosis include mucocele, adenoma, mucoepidermoid and adenocarcinoma. When present in the palate, radicular or residual cysts may also be considered. The treatment consists in the surgical excision and when complete it has low recurrence rate.

Case Report: 78 year old female patient, referred to appointment for a nodular lesion of the palate with several months of evolution. The patient presented a swelling of the palate with an

elastic consistency and 1cm of diameter. Intra oral X-rays were performed. Incisional biopsy was performed with findings consistent with palatal cystadenoma. The lesion was excised under local anaesthesia. The post-operative course was uneventful and no recurrence had developed 1 year after this intervention.

ID: 4923

Prevalence and potential predictors of self-reported halitosis in inflammatory bowel disease patients

Taste disorders/Halitosis

Dr. Ema Saltovic¹; Prof. Brankica Mijandrusic Sincic¹; Prof. Miranda Muhvic Urek²;

¹Clinical Hospital Center Rijeka; ²Faculty of Dental medicine, University of Rijeka;

Introduction: Previous studies reported that halitosis is a common extraintestinal symptom of inflammatory bowel disease (IBD). Local factors such as periodontal disease, decreased salivary flow, coated tongue, fungal infection, etc., have been suggested as predictors for halitosis.

The aims of this study were to determine the prevalence and the potential predictors of the self-reported halitosis in Crohn's disease (CD) and ulcerative colitis (UC) patients.

Materials and methods: Seventy-six IBD patients participated in the study (CD=38/UC=38; F/M=47/29). All patients completed a written questionnaire regarding their oral symptoms and halitosis. A salivary flow rate test (spitting method, 5 minutes) was performed, and a tongue swab for *Candida* spp. detection was taken.

Results: The mean age of patients was 49.22±15.89 years, and the mean duration of the disease was 13.29±12.28 years. Self-reported halitosis was noted in 32.9% of patients (F/M=18/7). Patients reported halitosis most commonly after waking up while a few connected halitosis with gastrointestinal symptoms. Chi-square tests were used to determine the difference between self-reported halitosis and potential predictors (gender, type of disease, type of therapy, age and disease duration, hyposalivation, periodontitis, candidiasis, coated tongue), and no statistically significant difference was found. Logistic regression analysis was performed for the predictors' analysis and the results were not statistically significant.

Conclusion: The prevalence of self-reported halitosis in IBD patients was not high as expected when compared with other reports. There was no statistically significant effect of tested predictors on self-reported halitosis of the IBD patients in this study.

ID: 5039

Dysgeusia in covid patients 19

Taste disorders/Halitosis

Mrs. María Martín García

Máster de Medicina Oral, Cirugía oral e Implantología (Universidad de Santiago de Compostela)

Introduction: In 2020, the WHO decreed pandemic status due to the emergence of the SARS-CoV-2 virus. Since then, professionals around the world have dedicated their efforts to understand how this virus attacks. However, few studies have reflected how this disease affects the oral cavity. Symptoms of this disease include anosmia and dysgeusia.

Objectives: To establish the key factors that cause dysgeusia in patients infected with Covid-19. The prevalence of dysgeusia in covid-19 patients will be evaluated and an analysis of the variables of sex and demographic area in dysgeusia due to covid-19 will be carried out.

Materials and methods: a bibliographic search was performed in the Pubmed database using as keywords: "dysgeusia" and "covid-19".

Results: The presence of ACE2 receptors in the tongue and salivary glands suggests that the epithelial cells of these glands may be a route of infection for Covid-19 and cause dysgeusia. The prevalence of dysgeusia is around 41% and its occurrence together with anosmia is 55%. This indicates the close relationship between taste and olfactory functions: an impairment of the olfactory system, as a result of direct damage to non-neuronal cells in the olfactory epithelium through replication and accumulation of the SARS-CoV-2 virus, may also result in taste disturbances. Women showed higher prevalence than men, with the most prevalent ages being young women. Among demographic areas, Western countries showed more prevalence of dysgeusia than Eastern countries.

Conclusions: Dysgeusia is a symptom directly related to covid-19 infection. Further field studies are needed to assess the prevalence and etiology of dysgeusia in Covid-19 patients.