UNIPRO
ral Pathology
and Rehabilitation Research Unit

CESPU
INSTITUTO UNIVERSITÁRIO
CIÊNCIAS DA SAÚDE

1st INTERNATIONAL CONGRESS OF
UNIPRO RESEARCH UNIT
(IUCS-CESPU)

including

Conference on Advances in Research on Oral Cancer

convened by

UNIPRO and the WHO Collaborating Centre for Oral Cancer

7th and 8th April 2022, Porto, Portugal
Alfândega do Porto Congress Center

Organization:

UNIPRO ral Pathology and Rehabilitation Research Unit

CESPU INSTITUTO UNIVERSITÁRIO CIÊNCIAS DA SAÚDE

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UNIPRO – Oral Pathology and Rehabilitation Research Unit, University Institute of Health Sciences (IUCS), CESPU, 4585-116 Gandra, Portugal.

7-8th April, 2022

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Organizing Commitee

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Hassan Bousbaa	IUCS-CESPU
José Manuel Mendes	IUCS-CESPU
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José Manuel Mendes	IUCS-CESPU
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Maria Cristina Manzanares	Barcelona University
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Mónica Cardoso	IUCS-CESPU
Odília Queirós	IUCS-CESPU
Paulo Rompante	IUCS-CESPU
Saman Warnakulasuriya	Kings College London, UK
Teresa Pinho	IUCS-CESPU
Vera Almeida	IUCS-CESPU

PROGRAMME

7th April 2022

Alfândega do Porto – Sala do Arquivo

1st International Congress of

UNIPRO RESEARCH UNIT

8h00	**Conference Registration**
8h50	**Opening of the Congress**
9h00	*Session 1* "**Orthodontics and Orofacial disorders**" *(Session manager – Teresa Pinho)*
9h10	**Tooth agenesis: clinical and in vitro analysis for rehabilitation materials.** ***Lígia Rocha[1]; Maria João Calheiros Lobo[1]; Teresa Pinho[1,2]*** *[1]UNIPRO (IUCS – CESPU, Portugal); [2]UnIGENe, IBMC/i3S (UP), Portugal*
10h15	**Tooth agenesis, Temporomandibular disorders and Migraine: a genetic association.** ***Miguel Alves-Ferreira**, IBMC/i3S (UP) and ICBAS (UP), Portugal*
11h00	**Coffee-break**
11h30	**Temporomandibular disorders and Chewing function: a multifactorial approach.** ***Vanessa Marcelino[1]; Maria Paço[1]; Teresa Pinho[1,2]*** *[1]UNIPRO (IUCS – CESPU, Portugal); [2]UnIGENe, IBMC/i3S (UP), Portugal*
12h15	**Orthodontic tooth movement with aligners: bioeffects and implications of photobiomodulation and vibratory stimulation.** ***Aline Gonçalves[1]; Selma Pascoal[1]; Teresa Pinho[1,2]*** *[1]UNIPRO (IUCS – CESPU, Portugal); [2]UnIGENe, IBMC/i3S (UP), Portugal*
13h00	**Lunch**
14h00	*Session 2* **"Oral rehabilitation"** *(Session manager – José Manuel Mendes and António Sérgio Silva)*
14h00	**Osteoimmunology, biomaterials and alveolar bone regeneration.** ***Cristina Manzanares Cespedes**, Barcelona U., Spain and UNIPRO (IUCS - CESPU), Portugal*
14h45	**Clinical studies in Implant dentistry – relevant aspects to consider.** ***Fernando Guerra**, Universidade de Coimbra, Portugal*
15h30	**Aspects of CAD-CAM systems influencing digital workflow outcomes.** ***Arthur R. G. Cortes**, Faculty of Dental Surgery, University of Malta, MALTA*
16h00	**Coffee-Break**
16h30	*Session 3* **"Communicate Research in Oral Pathology and Rehabilitation"** *(Session manager – Hassan Bousbaa)*
16h35	**Leukocyte - Platelet Rich Fibrin effect in human peripheral blood and its antimicrobial action.** ***António Ferraz**, UNIPRO (IUCS - CESPU), Portugal*
16h50	**Comparison between flowable and conventional resin-matrix composites regarding chemical composition and polymerization.** ***Rita Pereira**, UNIPRO (IUCS - CESPU), Portugal*
17h05	**Resin cement around commercial glass fiber-reinforced composites posts.** ***Valter Fernandes**, UNIPRO (IUCS - CESPU), Portugal*
17h20	**"Oral Communications"** *(Moderators: Hassan Bousbaa and Filomena Salazar)*
17h20	**Knowledge, attitude and behaviors of undergraduate and graduate students in dentistry at IUCS-CESPU regarding the SARS-COV-2 virus and biosafety measures to be adopted in clinical procedures in the context of the covid-19 pandemic.** ***Cristina Coelho**, UNIPRO (IUCS - CESPU), Portugal.*
17h35	**Clinicopathological characterisation of proliferative multifocal/verrucous leukoplakia: a series of 24 cases with new proposal of diagnostic criteria** ***Irene Lafuente-Ibáñez de Mendoza**, Oral Medicine and Oral Pathology. Department of Stomatology II. University of the Basque Country/EHU.*
17h50	**Is poor oral hygiene associated with increased risk of oral cancer? A systematic review and meta-analysis** ***Lorena Mariano**, UNIPRO (IUCS - CESPU), Portugal*
18h05	**Closing of the Congress Works**

8th April 2022

Alfândega do Porto – Sala D. Luís

Conference on Advances in Research on Oral Cancer

convened by UNIPRO and the WHO Collaborating Centre on Oral Cancer

8h50	**Opening of the Congress**
8h50	*(Moderators: António Manno Azul, Luis Monteiro)*
9h00	**The incidence and trends of oral and oropharyngeal cancer in Europe.** ***Adalberto Miranda-Filho**, Fellow at the International Agency for Research on Cancer (IARC), Lyon, France*
09h40	**Major risk factors and controversies in the causation of oral cancer.** ***Saman Warnakulasuriya**, King's College London, UK*
10h20	**Alcohol - mechanisms of carcinogenesis.** ***Graham Ogden**, Emeritus Professor University of Dundee, Scotland, Former Dean of the Dental Faculty, Royal College of Physicians & Surgeons of Glasgow*
10h45	**Congress Opening Session** ***António Almeida Dias,** President of CESPU, Crl* ***José Alberto Duarte**, Rector of IUCS* ***Joaquim Moreira**, DDS MSc Coordenator* ***Luís Monteiro**, Director of UNIPRO* ***Saman Warnakulasuriya**, Director of the WHO Collaborative Centre on Oral Cancer*
11h00	**Coffee-Break**
11h30	*(Moderators: Saman Warnakulasuriya, Luis Monteiro)*
11h30	**Delays in diagnosis of oral cancer in primary care - a systematic review.** ***Pablo Ignacio Varela Centelles**, University of Santiago de Compostela, Spain*
12h10	**Recent public health interventions in Portugal to control oral cancer: Screening & Early detection.** ***António Mano Azul**, Chief Dental Officer, Portugal*
13h00	**Lunch**
14h00	*(Moderators: António Mano Azul, Saman Warnakulasuriya and Barbas do Amaral)*
14h00	**Use of technology towards early diagnosis of oral cancer.** ***Luis Monteiro**, UNIPRO, IUCS, Porto, Portugal*
14h20	**Prognostic markers of oral cancer: A pathologist's view.** ***José M. Aguirre**, Universidad del País Vasco EHU. University of the Basque Country, Bilbao, Spain*
14h55	**Biological diversity of oral leukoplakia, a potentially malignant disorder.** ***Pierre Saintigny**, Centre Léon Bérard, Lyon, France*
15h35	**The spindle assembly checkpoint in oral cancer.** ***Hassan Bousbaa**, UNIPRO, IUCS, Porto, Portugal*
16h00	**Coffee-Break**
16h30	**Hallmarks of cancer: Reflections on oral carcinogenesis and prognosis.** ***Miguel Ángel González Moles**, University of Granada, Spain*
17h10	**Round Table Discussion: Future prospects** ***Chairs: António Mano Azul**, Portugal Chief Dental Officer, Portugal*
17h50	**Closing of the Conference on Advances in Research on Oral Cancer (UNIPRO/WHO), including announcement of best poster and oral communication awards.**

SPEAKERS

Adalberto Miranda-Filho

Brief CV

Dr Adalberto Miranda Filho is as an applied epidemiologist with a track record in evaluating the impact of cancer and its causes across populations internationally. As background, he holds an MPH and a PhD in Epidemiology in the Oswaldo Cruz Foundation (FIOCRUZ-RJ). Over the last years, he has been working at IARC, as a Scientist (Epidemiologist) within the IARC Monographs Programme (IARC/IMO), responsible for identifying environmental factors that are carcinogenic hazards to humans. Prior to the above post, he held an IARC Postdoctoral Fellowship within the Cancer Surveillance Branch (IARC/CSU).

António Mano Azul

Brief CV

- Antonio Mano Azul, MD, DDS, MsC, Specialist in Stomatology
- Professor and co- Head of Department of Oral Surgery, Oral Medicine and Maxillofacial Surgery. Instituto Universitario Egas Moniz, Monte da Caparica, Portugal (Egas Moniz - Cooperativa de Ensino Superior)
- Coordinator of the National Program for Promotion of Oral Health and PIPCO (Intervention Program for Oral Cancer), General Directorate of Health (DGS), Ministery of Health. Portugal Chief Dental Officer
- Founder member and Past-President of the European Association of Oral Medicine. President of the Portuguese Academy of Oral Medicine.

Aline Gonçalves

Brief CV

- Licenciada em Medicina Dentária pelo IUCS, em 2002.
- Mestre em Ortodontia pelo IUCS, em 2009.
- Assistente Convidada de Clínica Odontopediátrica II e III no Mestrado Integrado em Medicina Dentária do IUCS, desde 2003.
- Docente da Pós-Graduação em Ortodontia Intercetiva Odontopediátrica no IUCS, desde 2011.
- Docente da Pós-Graduação em Clínica Integrada Odontopediátrica no IUCS, de 2010 a 2017.
- Docente do Curso de Mestrado em Ortodontia no IUCS, desde 2014.
- Máster Damon em 2016.
- Especialista em Odontopediatria pela Ordem dos Médicos Dentistas, desde 2017.
- Aluna do Programa Doutoral em Ciências Biomédicas, IUCS, desde 2018.
- Membro da Sociedade Portuguesa e Espanhola de Odontopediatria, Sociedade Portuguesa de Pediatria, Sociedade Portuguesa de Ortodontia.
- Prática exclusiva em Odontopediatria e Ortodontia.

António Ferraz

Brief CV

- Orcid: 0000-0003-0289-8064
- Degree in Dentistry (1999-CESPU).
- Postgraduate Diploma in Implantology and Reconstructive Surgery (Pierre Fauchard Foundation)
- Postgraduate Diploma in Implantology (IUCS – CESPU).
- Phd Student in Biomedical Sciences (IUCS – CESPU).
- Integrated Investigator at Oral Pathology and Rehabilitation Research Unit (UNIPRO) of University Institute of Health Sciences (IUCS)
- Guest Assistant of Conservative Dentistry – Dep. of Dental Sciences (IUCS-CESPU).
- Scientific and Pedagogical Coordinator, Professor of the Postgraduate Program in Endodontics (IUCS-CESPU).

Arthur R. G. Cortes

Brief CV

Prof. Arthur Rodriguez Gonzalez Cortes, DDS, MSc, PhD is an Associate Professor of Oral Radiology and Digital Dentistry at the Department of Dental Surgery, Faculty of Dental Surgery, University of Malta, where he conducts research focused mostly on Digital Dentistry. He got his DDS, MSc and PhD degrees from University of São Paulo (Brazil), and completed a one-year postdoctoral fellowship in Radiology at Harvard University, (Boston, USA). He has published more than 50 international scientific articles in journals indexed on the pubmed website, most of them from funded projects. In addition, Prof. Cortes is an oral implantologist and radiologist with 15 years of experience. As an ITI director, Prof. Cortes has been lecturing on Digital Dentistry as an invited speaker in different countries such as Brazil, Spain, Denmark, Korea, Peru and Malta, including a visiting professor appointment at University of Okayama (Japan).

Cristina Manzanares Cespedes

Brief CV

- Born the 28th November 1960 in Barcelona, Spain. M.D. (Faculty of Medicine, Autonomous University of Barcelona, Spain, 1985), PhD (Faculty of Medicine, Catholic University of Louvain, Belgium, 1988).
- Associated Professor of Human Anatomy and Embryology (Faculty of Dentistry, University of Barcelona, 1989-1992). Profesora Titular de Universidad (Ordinary Professor) since 1992 (Faculty of Dentistry, presently School of Dentistry, Faculty of Medicine and Health Sciences, University of Barcelona, Spain). Invited professor in the Instituto Universitàrio de Ciències da Saùde, (CESPU, Gandra, Portugal) and the University of Brescia (Italy).
- Secretary General ADEE (Association for Dental Education in Europe (2016-2020); EU Liaison Officer ADEE Executive Commitee. Secretary General IFDEA (International Federation of Dental Educators and Associations).
- Associated Editor of "European Journal of Dental Education" and "European Journal of Anatomy".
- Research Topics
- Craniofacial development: formation of skull bones, odontogenesis, bone malformations, skull, face and stomatognathic system. Morphological studies (macroscopic, microscopic and ultramicroscopic anatomy, elemental analysis, confocal microscopy) of calcified tissues (teeth and bones). Osseointegration and biomaterials: calcified tissues and their role in the osseointegration of biomaterials and bone regeneration. Dental, medical, anatomical education.
- ORCID: https://orcid.org/0000-0002-4585-4953
- https://www.researchgate.net/profile/Maria-Cristina_Manzanares_Cespedes

Fernando Guerra

Brief CV

- Full Professor from the Faculty of Medicine of the University of Coimbra
- Director of the Center of Innovation and Research in Oral Sciences
- Director of the Institute of Implant Dentistry and Prosthodontics

Graham Ogden

Brief CV

Professor Graham R Ogden (BDS U Sheffield), become head of Oral and Maxillofacial Clinical Sciences, Univ of Dundee UK in 2001. He was on the GDC specialist list for Oral Surgery and Oral Medicine. He was President of the Association of British Academic Oral & Maxillofacial Surgeons (ABAOMS) from 2012-2015. His awards for his research into oral cancer (early diagnosis/field change/alcohol) include the T.C. White Prize Lectureship, RCPSG (1990); British Society for Oral Medicine Prize (1990); Senior Colgate Prize, British Society for Dental Research (1992); Ian Stevenson Award for Public Engagement with Research 2012 and IADR Distinguished Scientist Award for Oral Medicine & Pathology Research (2019). He was Dean of the Dental Faculty and Vice President (Dental) of the Royal College of Physicians & Surgeons of Glasgow from 2016 to 2019.

Hassan Bousbaa

Brief CV

Hassan Bousbaa is an Associate Professor of Cellular and Molecular Biology at the University Institute of Health Sciences (IUCS-CESPU). PhD in Life and Health Sciences (University of Paris-Est Créteil, France). His post-doc research focused on molecular genetics of mitosis, at the University of Porto, to unveil the mechanisms of cell division, and understand how errors in chromosome segregation arise and lead to genomic instability in cancer. He was part of the pioneering researchers that identified and characterized the genes involved in the mitotic checkpoint signaling, with great impact in the field. His current interests at UNIPRO include exploiting the clinical relevance of this information to identify novel cancer diagnostic and prognostic markers, as well as to develop novel therapeutic strategies to kill cancer cells or to increase their sensitivity to antimitotic agents. Hassan published >60 peer review publications (Scopus h-index: 21).

José M. Aguirre

Brief CV

ACADEMIC FORMATION

- Degree and PhD in Medicine and Surgery. Universidad del País Vasco / EHU. Extraordinary Doctorate Award
- Medical Specialist in Pathology (MIR)
- Medical Specialist in Stomatology

PROFESSIONAL EXPERIENCE

- Associate Professor of Stomatology Universidad del País Vasco / EHU 1980-85
- Titular Professor of Stomatology. Universidad del País Vasco / EHU 1985-2009
- Catedrático Professor of Stomatology. Universidad del País Vasco / EHU 2009-current
- Director of the Master of Oral Pathology. UPV / EHU
- Former Head of the Dental Clinic Service and of the Oral Medicine and Oral and Maxillofacial Pathology Units of the Dental Clinic Service UPV / EHU
- Former Chair of the Department of Stomatology II UPV/EHU
- Former Coordinator of the Diplomate in Oral Medicine of the Iberoamerican Academy of Oral Medicine and Bucal Pathology

RESEARCH EXPERIENCE

- Recognition of 5 Sexenios (6-years) of Research (1st of 12 years). Ministry of Education and Universities. Government of Spain.
- Author of more than 250 scientific publications
- Author of 27 books and chapters in books.
- Director of 33 Doctoral Theses.
- Responsible for the area of Stomatology in the Multidisciplinary Training and Research Unit. (UFI11/25) Universidad del País Vasco / EHU.
- Head of the Consolidated Research Group "Oral Cancer and Precancer. Oral and Maxillofacial Pathology". Universidad del País Vasco / EHU and Basque Country Gobernment.
- Principal Investigator in more than 30 externally funded research projects (FIS -ICIII, MINECO, Fundación Gangoiti, Basque Country Gobernment, UPV).
- Member of the Ethics Committee for Research Involving Human Subjects (CEISH) UPV/EHU
- Evaluator of ANECA, MINECO, University Evaluation Agency of Valencia, University Evaluation Agency of Madrid.

OTHER DATA

- Founding member and former Vice President of the Spanish Society of Oral Medicine (SEMO).
- Former President of the Iberoamerican Academy of Oral Pathology and Medicine (AIPMB).
- Medal of Honor of the Spanish Society of Oral Medicine (SEMO).
- President of the Scientific Commission of the Spanish Society of Oral Medicine (SEMO).
- President of the Oral and Dental Health Advisory Commission of the Basque Country (CASBE). Basque Country Gobernment.
- Associate Editor of the journal Medicina Oral Patología Oral Cirugía Bucal
- Member of the Collaborating Group WHO/OMS for the OPMD 2020

Lígia Rocha

Brief CV

- Integrated Master Degree (2012) in Dentistry by Instituto Universitário Ciência Saúde do Norte (IUCS) - CESPU, Portugal.
- Diploma in Esthetic Dentistry (2013) by University of Gothenburg & Plenido Dental School.
- PhD student in Doctoral Programme in Biological Sciences Applied to Health of the IUCS-CESPU.
- Monitor in Department of Conservative Dentistry Department of Health Sciences (IUCS-CESPU), Portugal.
- Lecturer of Operative Dentistry in the Postgraduate Program in Adhesive Dentistry (IUCS-CESPU).
- Researcher in group UNIPRO- Oral Pathology and Rehabilitation Research Unit, University Institute of Health Sciences (IUCS-CESPU).
- Author and co-author of peer-reviewed scientific publications in the field of biomaterials in dental materials and oral rehabilitation.
- Clinical practice dedicated to Restorative Dentistry.

Luís Monteiro

Brief CV

- Luis Monteiro, PhD (Pathology), MSc (Oncology), DDS
- Auxiliar Professor at the Instituto Universitário de Ciências da Saúde (IUCS), CESPU.
- Director of Oral Pathology and Rehabilitation Research Unit UNIPRO, IUCS.
- Specialist in Oral Surgery from the Portuguese Dental Association (OMD).
- Diploma in Oral Medicine by the European Association of Oral Medicine (EAOM).
- Coordinator of the Postgraduate course in Oral Laser Applications at IUCS.
- Coordinator of the Postgraduate course in Oral Medicine and Pathology at IUCS.
- Board member (vice-president) of the Portuguese Academy of Oral Medicine (APMO).
- Board member of World Federation of Laser in Dentistry - European (WFLD-ED)
- Region 4 representative board member of European Association of Oral Medicine (EAOM).

Miguel Alves-Ferreira

Brief CV

Miguel Alves-Ferreira is a Junior Research at Instituto de Investigação e Inovação em Saúde (i3S) and an Invited Auxiliary Professor at ICBAS- Univ. Porto. His main research interest is in the genetic of complex and mendelian genetic diseases, focusing nowadays in Primary Headaches and Familial Amyloidotic Polyneuropathy (FAP), using a multi-omics approach. MAF completed PhD in Biomedical Sciences (2019) at ICBAS/IBMC-i3S University of Porto in collaboration with the The Scripps Research Institute (TSRI, California). Postgraduate (2017) in Graduate Research for Advance Study Program at TSRI, USA. Currently a co-PI in project Interreg V A España-Portugal (POCTEP).

Maria João Calheiros Lobo

Brief CV

- Researcher at UNIPRO - Oral Pathology and Rehabilitation Research Unit, University Institute of Health Sciences (IUCS-CESPU).
- Degree in Medicine and in Dentistry - University of Porto, Portugal
- Master's Degree in Clinical and Social Gerontology - University of Santiago de Compostela
- Mini-Residency in Biomaterials and Adhesive Dentistry - University of Minnesota, USA
- Post-Graduation in Oral Implantology, Oral Surgery, Esthetic Dentistry, Orthodontics, and Chronobiology and Sleep Medicine
- "Oral Designer" certificate - Dental Line Training Center, Guimarães.
- Invited Assistant Professor, since 1992, at the Conservative Dentistry Service, Dental Sciences Department (IUCS-CESPU)
- FCT investigator - "Proteomic study of salivary disorders induced by diabetes"- PTDC/QUI/72683/2006; "Salivary proteins as dental caries protection" - POCI/QUI/5890/2004
- Author and co-author of articles in international peer-reviewed journals in the field of salivary proteomics, and biomaterials in dental materials and oral rehabilitation (Scopus h-index 12)
- Private clinical practice mainly in Esthetic Dentistry, Implantology, and Orthodontics.

Maria Paço

Brief CV

- PhD in Physiotherapy, in the field of temporomandibular disorders, by University of Porto
- Principal Adjunct Professor at Escola Superior de Saúde do Vale do Ave (IPSN – ESSVA)
- Pedagogical and scientific coordinator of the post-graduated course in Orofacial Pain – Temporomandibular Disorders (CESPU)
- Researcher at UNIPRO - Oral Pathology and Rehabilitation Research Unit.
- Vice-president of the scientific committee of the Portuguese Society of Temporomandibular Disorders and Orofacial Pain (SPDOF).
- Member of the board of the Interest Group in Musculoskeletal Physiotherapy, of the Portuguese Association of Physiotherapists.
- Co-author of several posters and oral communications at national and international conferences.
- Author of several publications in national and international journals.

Miguel Ángel González Moles

Brief CV

- Degree in Medicine and Surgery, University of Granada, Spain
- Specialty in Stomatology, University of Granada, Spain
- Doctor of Medicine (PhD), University of Granada, Spain
- Full Professor of Oral Medicine, University of Granada, Spain
- Ex Head of Stomatology Department, University of Granada, Spain
- Teaching Oral Medicine at the University of Granada since 1988. Author of 4 teaching innovation projects financed by the University of Granada,
- Head of the research group CTS 392 (Junta de Andalucía), "Research in biopathology of oral squamous cell carcinoma". Active group since 1995: Funded for his research by a total of 10 national competitive projects (FIS) and from the Autonomous Community of Andalusia.
- Associate Editor of the journals Oral Diseases and Cancers
- Member of the WHO Collaborating Center for Oral Cancer/Precancer to carry out an update of the terminology and the evaluation of the risk of malignant transformation of oral potentially malignant disorders (Workshop Glasgow, 2020; Head of the group: Saman Warnakulasuriya).
- "Ranking of the World Scientists: World's Top 2%" among the world's most influential scientists, released by Stanford University.
- Current Research lines: Study of molecular biomarkers of cancer prognosis, risk of development of oral premalignant fields and risk of multiple tumor development in patients with oral squamous cell carcinoma. Study of the potential for malignant transformation of oral lichen planus.
- Director of 29 Doctoral Theses under the research lines mentioned.
- External evaluator of research masters (MSc) in international universities.
- Total publications: 178; H index: 44; 6,025 total citations (Google Scholar).
- 21 research awards.

Pierre Saintigny

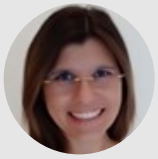
Brief CV

Pierre Saintigny, MD, PhD, is a medical oncologist and physician-scientist at regional and OECI-certified cancer center Centre Léon Bérard (CLB). He is affiliated to the Department of Medical Oncology, team leader (Integrated analysis of the dynamics of cancer) and co-Director of the Department Tumor Escape Resistance and Immunity at Cancer Research Center of Lyon (UMR INSERM 1052 CNRS 5286 - Centre Léon Bérard). Both his training as a postdoctoral and clinical fellow and his first faculty position as an Assistant Professor in the Department of Thoracic/Head and Neck Medical Oncology at the University of Texas MD Anderson Cancer Center, Houston, TX, led him to focus most of his own research in the head and neck field. We seek to understand the genetic evolutionary trajectories underlying premalignant lesions progression, the co-evolution between premalignant lesions and the immune micro-environment and to integrate phenotypic (expression profiles), genetic and immune profiling to improve risk assessment and to develop the rational for innovative interception and preventive strategies. We are also interested to understand the diversity and heterogeneity of established oral cancer before treatment initiation, under the selective pressure of systemic therapy and at the time of progressive disease to refine the current molecular classification, and test its relevance for improved patient stratification.

Pablo Ignacio Varela Centelles

Brief CV

Lecturer in Oral Surgery at the Medical & Dental School of the University of Santiago de Compostela (Spain) and head of primary dental care units of the Galician Health Service for 25 years, he qualified as a dental surgeon at the Complutense University in Madrid. Later, he obtained a master's degree from the University of Sheffield (UK) in Periodontology. He also holds a master's degree in Public Health & Community Dentistry from the University of Santiago de Compostela, where he was granted a PhD with a dissertation on survival to oral cancer and its associated factors.
He has authored 100+ scientific papers, supervised 12 PhD thesis, and leaded 5 competitively funded research projects and several contracts with the private sector. He was awarded 5 patents. Dr. Varela-Centelles is the current leader of the Dermatology and Craniofacial Pathology research group of the Santiago de Compostela Health Research Institute.



Rita Pereira

Brief CV

Rita Cristina Pais Fidalgo Pereira, DDS, with master degree in Dentistry by Universidade Católica Portuguesa in 2009. PhD student at Doctoral Program in Biomedical Sciences at IUCS, Cespu. Post graduated in Adhesive Dentistry by IUCS, Cespu. Modular course of Bioesthethics smile rehabilitations with direct anterior and posterior restorations by Dr. Didier Dietshi. Course of rehabilitation in endodontically treated teeth by Falcão Dental Institute. Clinical course in practical orthodontics by IPAS. Advance and basic course in endodontics course by endoacademy. Interceptive orthodontics and orthopedics course by IPAS, advanced course in orthodontics in diagnose and treatment of open bites in IPAS and invisible aligner course at IPAS.

Saman Warnakulasuriya

Brief CV

Saman Warnakulasuriya is an emeritus professor of Oral Medicine and Experimental Pathology at King's College London, UK, and was the Chairman of the Oral Medicine Division at King's College Hospital and at Guy's Hospital, London from 2005 -2015. He has acted as the Director of the WHO Collaborating Centre on Oral Cancer since 2005. He has made major contributions in cancer epidemiology, oral medicine, and experimental pathology. He is a leading expert on human carcinogens, that cause mouth cancer. He was the recipient of the Distinguished Scientist Awards from the International Association of Dental Research in both Oral Medicine and Pathology (2014) and in Global Oral Health (2021). He was elected a Fellow of King's College in 2019. In 2016 he was appointed as an Officer of the British Empire by Her Majesty the Queen for his services to Medicine

Selma Pascoal

Brief CV

- Licenciatura em Medicina Dentária em 2008 (não integrada em Bolonha) – Universidade Fernando Pessoa
- Mestrado em Ortodontia - Instituto Universitário de Ciências de Saúde do Norte (2013/2016)
- Pós-graduação em Ortodontia Interceptiva Odontopediátrica 8ª edição no Instituto Universitário de Ciências de Saúde do Norte (2017/2018)
- Doutoranda no programa doutoral de Ciências Biológicas Aplicadas à Saúde - Instituto Universitário de Ciências da Saúde (2018)
- Monitora Clínica da disciplina de Odontopediatria no IUCS-CESPU, desde setembro de 2018.
- Pós-graduação em Ortodontia com Alinhadores – Sistema Invisalign- 1ª edição Instituto Universitário de Ciências da Saúde (2019)
- Revisora científica da revista ORTOCLINICA (Sociedade Portuguesa de Ortodontia)

Teresa Pinho

Brief CV

- PhD in Orthodontics and Pediatric Dentistry by University of Porto
- Associate Professor with Aggregation at the University Institute of Health Sciences (IUCS-CESPU)
- Aggregation at the Faculty of Dental Medicine of the University of Porto
- Member of the coordination at UNIPRO - Oral Pathology and Rehabilitation Research Unit
- Researcher at the Institute of Molecular and Cellular Biology- IBMC, i3S-University of Porto
- More than 120 articles published in international and national journals
- Certificate of Excellence in Orthodontic Clinical Practice by the French Board of Orthodontics
- Specialist in Orthodontics by the Portuguese Dental Association
- Specialist in Pediatric Dentistry by the Portuguese Dental Association
- President of the Portuguese Society of Orthodontics

Valter Fernandes

Brief CV

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Brief CV

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LECTURES

Lecture

L01. Tooth agenesis: clinical and in vitro analysis for rehabilitation materials.

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Maxillary lateral incisors agenesis (MLIA) is a condition that significantly compromises smile esthetics with particular concern in younger patients. Treatment of unilateral or bilateral MLIA has proven to be challenging, commonly involving different approaches: close the space moving the canine onto edentulous space with subsequent remodeling to mimic the appearance of the lateral incisor; or open the space for a subsequent replacement of the missing lateral incisor by prosthetic units. Unfortunately, both treatments are expensive, time-consuming, complex, and controversial.

Adequate alveolar ridge dimensions are a prerequisite for dental implants, with bone and soft tissue grafts often required and possible long-term tissue instability. Instead, minimal invasive approaches can be applied, using resin-bonded bridges (RBB) with appropriate adhesive joints, and be used both as interim or non-provisional approaches, especially in growing patients.

Resin-matrix composites used for esthetic remodeling and luting cementation have Bisphenol A (BPA) and derivates in its composition, toxic compounds considered estrogenic disrupters.

The work aims to determine resin-matrix composite and monolithic ceramics' different chemical and mechanical properties when used in the rehabilitation of MLIA. Additionally, we studied the influence of BPA on the chemical and mechanical performance of resin-matrix composites.

Lecture

L02. Tooth agenesis, Temporomandibular disorders and Migraine: a genetic association.

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Orofacial structures development are a complex mechanism regulated by sequential and reciprocal epithelial-mesenchymal interactions, controlled by activators and inhibitors involved in several pathways. Disturbances in these signaling cascades can lead to abnormalities from odontogenesis to the musculoskeletal system, resulting in alterations in the formation of the normal teeth number and in pain. Despite environmental disturbances, many multifactorial oral diseases (including tooth agenesis and temporomandibular disorders (TMD)) are mainly genetically controlled. To date, more than 200 genes have been identified in tooth development. Primary headache disorders (PHD), specifically migraine, are known to be strongly associated to TMD, sharing some patterns of orofacial pain. Besides that, both disorders have a major genetic component associated to the onset of the pathophysiological mechanisms, which are already studied. Mutations/variants in any of these strictly balanced signaling cascades may cause arrested odontogenesis and/or other oral defects. Thus, our studies intend to study the genetic alterations that can trigger oral diseases development and their comorbidities. The importance of these studies resides in the opportunity to explore recent advances in the genetic profile of these pathologies that may serve as a therapeutic targets and in future diagnostic and/or monitoring techniques that could aid the treatment in the early stages.

Lecture

L03. Temporomandibular disorders and Chewing function: a multifactorial approach.

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Temporomandibular disorders are an umbrella term, which covers a set of musculoskeletal and neuromuscular conditions involving the masticatory musculature, the temporomandibular joint, and/or their associated structures. It presents a challenge to health professionals due to its complexity, which is evident in aspects such as diagnostic methods, treatment options, associated comorbidities and the socioeconomic impact they represent. One of the most common comorbidities found in TMD patients is the presence of psychosocial aspects that seem to play an important role in the development and aggravation of this condition. Furthermore, due to the functional changes that may be present in TMD patients, it seems that such impairment may cause disorders during the chewing process.
Additionally, and considering that the use of esthetic aligners emerged as a response to the demand for more aesthetic and comfortable treatments, the literature has no results regarding the effects of their use on TMD signs and/or symptoms. This seems of paramount importance, once during treatment, artificial occlusal interferences are created, which may result in less efficient stable contacts, compared to conventional techniques, and may interfere with chewing efficiency and a possible appearance of TMD signs/symptoms.

Lecture

L04. Orthodontic tooth movement with aligners: bioeffects and implications of photobiomodulation and vibratory stimulation.

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The most notable orthodontic advance in the last decade has been the introduction of digitally fabricated aligners to move the teeth in small, progressive sequences. Currently, the largest provider of aligners is Invisalign®. All these optimizations, innovations, and advances share one common goal - the reduction of treatment time.

Tooth movement involves both bone remodeling and modeling, which requires a coordinated action from osteoclasts and osteoblasts in response to mechanical loading. Moreover, inflammatory mediators are released after mechanical stimulus or injury, triggering the biologic process associated with orthodontic tooth movement.

Vibration and photobiomodulation (PBM) are non-invasive methods that can be conjugated with the orthodontic treatment to increase the teeth movement rate.

It is accepted that vibration can stimulate the differentiation of osteoclasts from hematopoietic cells by increased blood flow. Similarly, PBM stimulates osteoclast, osteoblast and fibroblast proliferation and thereby affects bone remodeling and tooth movement through ATP production and cytochrome C activation.

Studies on the effects of mechanical vibrations and PBM in orthodontic movement are inconsistent, and these differences may arise from the use of different protocols, tooth movement mechanics or outcome measurements. Further multicenter randomized controlled clinical trials and prospective studies are deemed essential to gather valid evidence of vibratory and PBM stimulus effectiveness in OTM acceleration.

The work aims to justify the relevance of using dental movement accelerators in cases where more complex movements are required, in which the Invisalign system demonstrates a reduced predictability/effectiveness.

Lecture

L05. Osteoimmunology, biomaterials and alveolar bone regeneration.

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Bone is a complex tissue with a hierarchical structure that can be characterized from the nanoscale to the macroscale. Its main functions are to provide support and protection to the organs and the body movements, as well as to participate in systemic homeostasis. Bone renews by way of an equilibrated continuum called "bone remodeling", which starts with osteoclastic resorption and continues with osteoblastic apposition. Remodeling is the bone response in front of numerous factors, the changes of shape and/or stress described by Wolff (1892), who also mentioned mechanisms by which remodeling occurs via "debris of the product of inflammation", thus anticipating the role of cytokines and growth factors.

In the last years, numerous studies have explored the influence of the osteoimmunomodulation, the effect of the immune environment on the cells responsible of the bone remodeling, in order to restore the anatomical integrity of bone when

disturbed by trauma or injury. A wide range of paracrine signals allows the immunocompetent cells to generate an osteoimmune environment aimed to heal the osseous tissue by ways of pro-inflammatory and anti-inflammatory signals. Alveolar bone constitutes a particular niche, because of its origin, development and exposition to a very hostile environment. Periodontitis, a systemic chronic inflammatory disease, causes an imbalance between pro-inflammatory and anti-inflammatory cytokines, that mediates the progressive destruction of soft and hard tissues around the oral biomaterials causing bleeding and bone loss.

Various strategies have been developed to improve the osteoimmunomodulatory characteristics of bone biomaterials to stimulate bone growth during all stages of bone healing, from the initial inflammatory stage to the bone remodeling. Bone regeneration results of various strategies to increase the osteoimmunomodulation of biomaterials will be discussed.

Lecture

L06. Clinical studies inimplamt dentistry – relevant aspects to consider.

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This presentation has the purpose to address important aspects in the design and publication of clinical studies in implant dentistry, such as: organizationals issues, primary and secondary outcomes, flowcharts, size calculation, methodologies of analysis, explanation of results, etc. Randomized clinical trails are emphasized with examples of studies performed at the Center for Innovation and Research in Oral Sciences from the Faculty of Medicine the University of Coimbra.

Lecture

L07. Aspects of CAD-CAM systems influencing digital workflow outcomes.

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The continuous development of computer-aided design and computer-aided manufacturing (CAD-CAM) has led to the creation of several new techniques and methodologies in oral rehabilitation. In consequence, recent studies have aimed at addressing the accuracy of CAD-CAM methods and its impact on the quality of the resulting CAD-CAM prostheses. This lecture will offer detailed information on CAD-CAM accuracy, which can also be affected by factors associated with the image-acquisition procedures.

Lecture

L08. Leukocyte - Platelet Rich Fibrin effect in human peripheral blood and its antimicrobial action.

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Leukocyte and platelet rich fibrin (L-PRF) is one of the platelet concentrates used to support regeneration and healing process. Many studies showed possible immunological and antibacterial properties of L-PRF. We perform an in vitro study to analyze the effect of L-PRF on platelet activation, platelet-leukocytes interactions and antimicrobial activity, important components in the healing process. Molecular biomarkers related with platelet activation and platelet-leukocyte interactions were analyzed by means of flow cytometry when L-PRF exudate was added to whole blood platelets. L-PRF membrane was used to evaluate antimicrobial activity using several ATCC strains. Our experimental design allows to evaluate platelet activation and analyze molecular biomarkers of other immune cells and platelet-leukocyte interactions. From the results obtained we can conclude that L-PRF can be a valuable tool in healing process, efficient in activating platelets of whole blood and inhibiting microbial growth. In this presentation we will try to demonstrate that, the use of L-PRF exudate, in addition to L-PRF membrane, presents some advantages that must be considered in clinical trials.

Keywords: Autologous platelet concentrates; L-PRF; Whole blood platelets; Antimicrobial activity; Flow cytometry; Regenerative dentistry.

Lecture

L09. Comparison between flowable and conventional resin-matrix composites regarding chemical composition and polymerization.

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Introduction: Technological development of resin-matrix composites has provided several options of commercial materials for enhanced esthetical outcomes. Low viscosity (flowable) resin-matrix composites are mostly indicated for preventive restorations, such as: minimally invasive occlusal class I or II restorations, pit and fissure sealants and inner layer for class II posterior resin-matrix composite placement in sealing of gingival margins. However, the low filled flowable resin-matrix composites are more susceptible to wear in stress bearing areas and therefore may not be the clinicians' first choice. The development of new organic matrix and inorganic fillers might overcome current limitations of flowable resin-matrix composites.

Aim: The aim of this study was to evaluate the shape, chemical composition and size of inorganic fillers in the microstructure of recent conventional and flowable resin-matrix composites by using optical and scanning electron microscopy.

Materials and Methods: Six resin-matrix composites with different inorganic content were prepared. The flowable resin-matrix composites showed the following filler content in weight (%wt): 76, 62.5, and 60%. Two traditional nanohybrid resin-matrix composites specimens with 80 and 89wt% filler content in weight and one submicron-scale hybrid resin-matrix composite with 74 wt% fillers were also assessed. Disc-shaped specimens with 2mm thickness and a diameter of 6mm were light cured for 40s according to the standard guidelines. Specimens were cross-sectioned using graded SiC grit-papers under automatic polishing and distilled water lubrication. After 10 minutes of ultrasonic cleaning in propanol and distilled water, surfaces were inspected by optical microscopy followed by scanning electron microscopy (FEGSEM, FEI Nova 200) on secondary (SE) and backscattered electron (BSE) modes coupled to energy dispersive spectroscopy 5-15 kV within magnification up to 50,000 to accurate measurements of nanoparticles size. Fillers were identified by using EDAX-Pegasus X4M (EDS/EBSD) coupled to the FEGSEM unit. Regarding polymerization was also investigated the effect of inappropriate polymerization on oral tissues and its effects of oral and systemic toxicity.

Results: The flowable resin-matrix composites with 62.5 wt% fillers showed irregular particles with particle size ranging from 0.1 up to 3.0 µm. Another flowable resin-matrix composite with 60 wt% fillers showed amorphous silica and zinc oxide particles ranging from 0.02 up to 1.4 µm. The third flowable resin-matrix composite revealed nanoparticles with average particle size of 20-40nm and glass ceramic irregular particles with 1 µm. Nano-hybrid resin composites revealed silica nano-particles at 20-40 nm and micro-scale particles (zirconia glass fillers, barium glass, prepolymerized fillers and ytterbium fluoride) ranging from 0.1 to 3.0 µm. Submicron-hybrid resin-matrix composite showed particles range between 0.02 and 1.5 µm. Defects, such as micro-scale voids and pores, were also found revealing the handling sensitivity of the technique. Regarding polymerization, it was also

noted that mechanical properties and biocompatibility are correlated to DC, which depends on sufficient amount of light reaching all restoration, it was also verified that increase time polymerization exposure could raise in pulpal temperature and polymerization devices could cause cellular lesions. The degree of conversion of resin matrix composites affects the release of potentially toxic substances that are present within the resin composite.

Conclusion: The flowable resin-matrix composites with 76 wt% with nanosized fillers revealed a similar type, shape and high percentage of fillers when compared with high filled traditional nanohybrid composites. Regarding filler´s constitution, highly filled flowable composites were morphologically similar to the traditional resin-matrix composites. When compared with submicron-hybrid resin matrix composites, highly filled flowable resin-matrix composites revealed organized nanosized particles with irregular shapes which allow a highly loaded resin composite. Regarding polymerization, it could be conclude that doubling the exposure time may significant increase pulpal temperature, which should be considered by the clinicians when they want to achieve higher DC% for better clinical performance of the restoration. The choice of polymerization device is extremely important to achieve a reduction of composite toxicity is possible if the curing mode is adapted to the used composite.

Lecture

L10. Resin cement around commercial glass fiber-reinforced composites posts

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Anatomical differences along the root canal cause an variable and unpredictable distance between the post and the intracanal dentin surface. Such space is filled with different volume of resin-matrix cement after cementation. Thick layers of resin cements are prone to defects like macro- and microscale pores, cracks, and voids that create stress concentration zones leading do root fractures. The main objective of our study was to evaluate the microstructure and spacial distribution of fibers of glass fiber-reinforced composites (GFRC) posts to tooth root intracanal dentin by microscopic analysis. Extracted human premolars with completely formed apex were used in this study. The anatomic crowns were sectioned, and all teeth were endodontically treated. Groups of specimens were divided according to the cementation with different endodontic post systems as follow: A) ParaPost Fiber LuxTM (Coltène, Whaledent Inc, USA); B) Rebilda GTTM (VOCO, Germany); C) Angelus ExactoTM (Angelus, Brazil). After cementation, specimens were cross-sectioned at 90 degrees relative to the plane of the GFRC post to resin-matrix cement interface. Then, specimens were inspected by optical microscopy (OM) (Leica DM 2500 MTM, Leica Microsystems, Germany) and scanning electron microscopy (SEM) (JSM-6010 LV, JEOL, Japan). Microscopic analyses revealed a wide variation of resin-matrix cement thickness around the endodontic GFRC posts. Also, the shape of the root canal preparation caused a variation in the thickness of the remnant tooth tissues. Defects such as micro-scale pores, cracks, and voids were also detected by OM and SEM analyses. The root canal preparation can promote a decrease in the thickness of the remnant tooth tissues that can increase the risks of clinical failures by fracture.

Keywords: Fiber posts; Rehabilitation; Dentin Thickness; Fitting

Lecture

L11. The incidence and trends of oral and oropharyngeal cancer in Europe.

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We presented here the European statistics on oral cavity and oropharynx cancers using the comprehensive set of national estimates, as well as the high-quality recorded data provided by population-based cancer registries (PBCR) in Europe. Overall, cancer in the oral cavity and oropharynx represent the 16th and 24th most common malignant neoplasm in Europe, respectively, in 2020. Estimated age-standardized incidence rates for oral cavity cancer was 13.3 and 1.1 for oropharynx. Trends are diverse, with oral cavity and pharynx (combined) cancer incidence rates continuing to decrease for males, and incidence rates still stable in females, e.g., Italy, France, Germany, Spain, and U.K. Other countries, namely Portugal and Poland, ncidence rates have either slightly increased or are still stable for males and females, since the 2000s. Global and regional descriptions of international patterns and trends in oral and oropharyngeal cancer are informative in providing insight into the shifting epidemiologic patterns and the potential prevention of these tumours.

Lecture

L12. Major risk factors and controversies in the causation of oral cancer.

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A risk factor is defined by the World Health Organisation as "Any attribute, characteristic, or exposure of an individual which increases the likelihood of developing a disease or injury". Tobacco, betel quid and harmful use of alcohol are established risk factors for oral cancer that have been known for decades. Tobacco exposure includes smoking cigarettes, cigars, pipes, bidis, chewing tobacco, and using snuff. The risk conferred by cigarette smoking is more than 3-fold compared to never smokers. Cigar and/or pipe smoking have similar magnitude of risks to cigarette smoking. Bidis are locally manufactured tobacco products, mainly smoked in South Asia and carry a higher risk. Involuntary smoking is an established risk factor for lung cancer and a recent meta-analysis based on 5 case-control studies reported an association between involuntary smoking with oral cavity cancer. To date the evidence on e-cigarettes or waterpipe smoking and the risk of oral cancer are limited.

Both case-control and cohort studies support the independent effect of alcohol drinking on risk of oral cancer, with strong dose–response relationships measured by frequency or duration of alcohol drinking. Considering different types of alcoholic beverages there is no conclusive evidence on whether any particular alcoholic drink carries a relatively higher risk; the dominant alcohol types in specific regions are associated with the greatest risk.

Interactions between tobacco and alcohol is estimated to be on a multiplicative scale and a meta-analysis confirmed their synergistic effect for oral cavity cancer. According to a cohort study in the US population, the attributable fraction for tobacco and/or alcohol was 66.6%.

Betel quid with or without tobacco is confirmed to be carcinogenic to man and areca nut which is the primary ingredient in betel quid is classified by the IARC a class 1 carcinogen. A meta- analysis based on studies from India and Taiwan confirmed relative risks that are higher than for tobacco. The attributable risk on oral cancer from regular betel quid use among Indian and Taiwan populations is close to 50%.

In addition to these major risk factors discussed above several factors with limited evidence that are still considered controversial are reported in the literature. These include Mate drinking (a hot beverage mostly consumed in some Latin American countries), chronic mechanical irritation, microbes that result in oral dysbiosis, poor oral hygiene, chronic inflammation, consumption of red meat, immunosuppression and occupational exposures.

Lecture

L13. Alcohol - mechanisms of carcinogenesis.

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The role of alcohol as a risk factor for oral cancer (with and without tobacco) will be briefly reviewed with a more detailed look at the possible mechanisms behind the development of cancer as a result of exposure to alcohol.

Any study evaluating alcohol as a risk factor for cancer must consider the potential errors in evaluating exposure to alcohol. In the UK it was found that there was a 40% under reporting of what we say we drink compared to general alcohol sales. (Boniface & Shelton 2013).

It is generally regarded that the oxidation of alcohol to acetaldehyde (a known mutagen and carcinogen) is the most significant event in the potential pathway to cancer. That acetaldehyde can arise from the metabolism of alcohol in the liver is well known, but it is also now recognised that this can arise in the oral mucosa, salivary glands and from the bacteria in our mouth. It can even arise from inhaling tobacco smoke (or eating common foods).

An overview of the various mechanisms proposed to help explain why cancer might arise in the head and neck region is briefly reviewed (Ogden 2018) In particular the role of polymorphisms in the two key enzymes involved in the metabolism of alcohol; ADH (alcohol dehydrogenase) and ALDH (aldehyde dehydrogenase). The catalase and cytochrome P450 pathways for alcohol metabolism being regarded as less significant.

The author will then draw upon areas of his (and others) research looking at oral cell structure and function as a result of exposure to alcohol before considering further avenues worthy of research.

Lecture

L14. Delays in diagnosis of oral cancer in primary care - a systematic review.

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Oral cancer incidence does not seem to be under control and a high proportion of these patients keep being diagnosed at advanced disease stages. Several factors have been linked to this phenomenon, including diagnostic delay. The most important component of oral cancer diagnostic delay is the time needed for the patient to contact a healthcare professional once the person has noticed a bodily change. The aim of this systematic review was to analyse what happens since this first contact until referral for hospital care. To achieve this goal, we checked four databases (PubMed®, Embase®, Scopus®, and SciELo®) to obtain 727 references. Finally, 11 papers (mostly Europeans and published in this century) reporting on 1,778 patients were selected.
The median length of the primary care interval ranged from 6 to 39.5 days. These patients were mainly seen by family physicians who needed from one to six consultations to refer the case for specialised care. The odds ratio for being referred at an early stage ranged from 0.10 (95% CI: 0.01 – 0.99) to 1.36 (95%CI: 0.52 – 3.53).

Lecture

L15. Recent public health interventions in Portugal to control oral cancer: Screening & Early detection.

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Portugal started a couple of years ago a public program to improve the rate of early detection of oropharyngeal cancer and OPML and consequently improve the 5 years survival rate and the patients quality of life after treating oral cancer.
A "collateral side-effect" was to improve literacy on oropharyngeal cancer of Portuguese dentists and general medical practitioners, involving them as main players of this National Program (PIPCO).
We are now in a phase of improving the PIPCO software after testing it for 5 years now and of launching in the near future a literacy effort for the population with the help of the EU Mobile App for Cancer Prevention (Europer's Beating Cancer Plan).

Lecture

L16. Use of technology towards early diagnosis of oral cancer.

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Oral potentially malignant disorders includes several diseases that carry an increased risk for oral cancer. Oral leukoplakia (OL) is the most typical one and the others includes oral lichen planus, erythroplakia or oral submucous fibrosis. Tobacco and alcohol seems to be the most common etiologic factors in addition to Human papillomavirus infection, although with conflicting data. The correct diagnosis is based not only on the clinical characteristics but also on histologic features and many times is challenging. In the view of this, several adjuncts instruments have been reported to help a more accurate diagnosis of oral malignancy. In this lecture we will discuss the usefulness of several diagnosis adjuncts instruments or tests for detect oral cancer.

Lecture

L17. Prognostic markers of oral cancer: A pathologist's view.

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Oral cancer is an important malignancy in humans and squamous cell carcinoma (SCC) is the most frequent type, accounting for over 90%. OSCC still has a very poor prognosis with survival at 5 years of less than 50%. In this important oral disease, the histopathological study is crucial for its early diagnosis and to establish a prognosis.

A prognostic marker in cancer (CPM) is a patient or tumor characteristics that predict outcome (usually survival) independent of the treatment. CPM are useful to stratify patients into groups and to guide the most appropriate treatment in each case. CPM are mostly useful in the early stages of neoplastic disease.

An ideal CPM should be: specific, sbjective and measurable, biologically meaningful, easily accessible, and have a low cost. Certain histopathological data associated with OSCC meet these requirements.

The analysis of the oral pathologist is essential in the early diagnosis of OSCC. The assessment of epithelial dysplasia is still the gold standard in the prognostic evaluation of malignant development.

Since the last century, attempts have been made to predict the biological behavior of OSCC from histopathology, beginning with the assessment of tumor differentiation, followed by multiple malignancy grading systems, scoring tumor and host factors, obtaining disparate and controversial results.

In recent times, some aspects have shown sufficient scientific evidence to be considered prognostic markers such as: depth of invasion, pattern of invasion, tumor budding, perineural invasion, lympho-vascular invasion, bone invasion, inflammatory response, tumor-stroma ratio, status of surgical margins, and extranodal extension. Therefore, in all cases of OSCC it is mandatory: 1) To analyse all the material of the tumoral specimen and cervical dissection, 2) To look carefully at all the slides, 3) To check all possible histopathological and prognostic data, 4) To follow a Specific Histopathological Protocol.

In this lecture, I will review these prognostic data and the importance of histopathologic examination in OSCC.

Now we must say that OSCC is not a single and uniform neoplastic disease, it is a heterogeneous group of malignant neoplasms of the oral mucosa that show a similar histopathology

A good histopathological study is essential in all OSCC cases to recognise key prognostic data.

Early diagnosis and treatment remain the most important elements to be confident of a good prognosis in OSCC.

“Still, the prognosis of a patient with OSCC depends on the first health professional who diagnoses it"

Lecture

L18. Biological diversity of oral leukoplakia, a potentially malignant disorder.

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Oral leukoplakia is the most frequent oral potentially malignant disorder. Only a minority of patients will eventually develop oral cancer. We are facing multiple challenges. Patient management needs to be standardized. We lack prospectively validated and standardized biomarkers of risk to improve personalized risk-assessment. Finally, we need to develop innovative approaches to treat not only the actual "visible" oral lesion, but instead the whole field of cancerization. We will review some the approaches we are using to tackle some of those challenges, with a focus on the biological diversity. Its understanding may help improving risk-assessment and guide the development of rationally-based preventive strategies. Finally, we will present European initiatives that are meant to be inclusive to all stakeholders interested to join.

Lecture

L19. The spindle assembly checkpoint in oral cancer.

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Abnormal chromosome number, or aneuploidy, is a common feature of human solid tumors, including oral cancer. Deregulated spindle assembly checkpoint (SAC) is thought as one of the mechanisms that drive aneuploidy. In normal cells, SAC prevents anaphase onset until all chromosomes are correctly aligned at the metaphase plate, thereby ensuring genomic stability. Significantly, the activity of this checkpoint is compromised in many cancers. While mutations are rather rare, many tumors show altered expression levels of SAC components. Genomic alterations such as aneuploidy indicate a high risk of oral cancer and cancer-related mortality, and the molecular basis of these alterations is largely unknown. Here, I will address the current understanding of the SAC molecular mechanisms, and discuss how this signaling circuitry can be exploited as drug targets to develop effective cancer therapies. The potential of SAC targeting as promising strategy against oral cancer will be highlighted.

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Lecture

L20. Hallmarks of cancer: Reflections on oral carcinogenesis and prognosis.

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Cancer hallmarks are a set of distinctive identity traits of cancer cells that were first proposed by Hanahan and Weinberg in 2000 and modified and completed by the authors later in 2011. Cancer cells develop these distinctive identities that reflect aspects that allow them to become malignant clones, metastasise and ultimately end a patient's life if appropriate treatment measures are not put in place. Hanahan's papers have received enormous attention since their publication with over 30,000 citations each. In our opinion, knowledge of these hallmarks is crucial as a prerequisite for the development of research in any type of carcinoma. Throughout our research activity, we realised that in many of these hallmarks there was a lack of research and evidence-based results in oral carcinoma. As this is an important tumour, both because of its frequency and its high mortality rate, we decided to carry out a scoping review of the publications on this aspect in order to detect evidence gaps and suggest future lines of research that are, in our opinion, essential for a better understanding of the biopathology of this tumour.

Oral Communications

OC01. Knowledge, attitude and behaviors of undergraduate and graduate students in dentistry at IUCS-CESPU regarding the SARS-COV-2 virus and biosafety measures to be adopted in clinical procedures in the context of the COVID-19 pandemic

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Introduction: The COVID-19 pandemic has affected dental training schools and dental clinics all over the world and a quick adaptation was necessary. Our aim was to assess knowledge and attitudes of students from the Integrated Master's in Dentistry of Portuguese Private Health Institute IUCS-CESPU regarding the standards recommended by WHO and DGS.
Materials and methods: This study, approved by the Institutional Ethical Committee, is based on a questionnaire submitted via Google Forms and was conducted from March 4th to November 9th, 2021. The platform automatically generated descriptive statistical analysis and the collected data were transferred to SPSS (version 28.0.1.1(14)). Pearson's Chi-square test was used for inter-group statistical comparison. The level of statistical significance was set at 0.05.
Results: Overall, 115 dentistry students filled the questionnaire. Regarding the age and sex, 73.9% were in the 20-30 age group, 28.7% were male and 71.3% were female. 87% of students were from the last year of the Integrated Master's in Dentistry. Regarding general knowledge of SARS-CoV-2 and COVID-19, 96.7% correctly answered the questions. Regarding the biosafety measures in clinical procedures during pandemic, 49.6% answered correctly. Female students showed a greater concern than male students relatively to clinical procedures in the COVID-19 context (p=0.001). The same was observed regarding the fear of SARS-CoV-2 transmission to family (p=0.005). Also, Portuguese students showed a greater concern with disease transmission (p=0.019).
Conclusion: A good level of knowledge about SARS-CoV-2 and precautionary measures needed to limit its spread was related to the age and sex of the respondents.

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OC02. Clinicopathological characterisation of Proliferative multifocal/verrucous leukoplakia: a series of 24 cases with new proposal of diagnostic criteria

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Introduction: Proliferative multifocal/verrucous leukoplakia (PMVL) is an oral potentially malignant disorder (OPMD) with high rates of malignant development (MD). This study aimed to analyse a series of patients with PMVL in order to assess the risk of MD and factors associated.
Material and Methods: Ambispective cohort study of 24 patients, based on a new proposal of clinicopathological diagnostic criteria for PMVL 1. A specific protocol gathered the following data: age and gender of patients, tobacco and alcohol consumption, number, location and clinical type of oral leukoplakia (OL), initial histopathological diagnosis, follow-up period, MD and time until MD.
Results: PVML was diagnosed in 20 women (83.3%) and 4 men (16.7%), with a mean age of 75.58 years, who were clinicopathologically analysed during a mean follow-up period of 7 years. Only 12.63% of OL were non-homogenous. The gingiva (100% of patients) was the most commonly affected area, followed by the buccal mucosa (54.17%), the tongue (37.5%), the palate (29.17%), the floor of the mouth (12.5) and the lip (8.3%). In the initial diagnostic biopsy, 58.3% of lesions showed hyperkeratosis, 25% epithelial dysplasia and 16.7% were already carcinomas.
Conclusions: MD rate was 16.7% (time until MD: 1-10 years). Most of the carcinomas occurred in non-homogenous OL, and were localized in the gingiva (70%), the buccal mucosa (20%) and the tongue (10%). Nearly all of them were conventional squamous cell carcinomas (90%), and two patients developed second primaries carcinomas.

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OC03. Is poor oral hygiene associated with increased risk of oral cancer? A systematic review and meta-analysis

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Introduction: Poor oral hygiene (POH) could promote inflammatory process in oral cavity through the presence of bacterial plaque and is usually present in patients with oral cancer.
Aims: Assuming that inflammatory process may contributes to cancer development, we aimed to evaluated if POH is a potential risk factor for oral cancer.
Material and Methods: A systematic review and meta-analysis (SRMA) study following the PRISMA guidelines was developed to evaluated the studies reporting association of oral hygiene condition through brushing teeth frequency and dental check-ups and oral cancer risk. We searched electronic databases such as PubMed, Web of Science, Scopus, Cochrane Library, Open Grey, and ProQuest databases for dissertations until 5th March 2022. Statistical analyses included Meta-analyses and sensitivity analyses using random-effect models. The study protocol was registered in PROSPERO (CRD42021242709).
Results: Of a total of 1.637 publications, 23 eligible studies were included. Pooled MA indicated a significant association between teeth brushing and oral cancer risk with an OR 1.52 (95% CI 1.23-1.88) (I2 = 81%), and also showed a consistent and significant protective effect of dental check-ups (OR 0.61, 0.50-0.73, $p < 0.00001$) without heterogeneity (I2 = 0%).
Conclusion: This systematic review shows the causal association between oral cancer and poor oral hygiene status. Also reinforces the importance of preventive measures regarding promotion of oral health including frequent teeth´s brushing or regular dental checkups visits.

Keywords: epidemiology and prevention, oral cancer, tooth brushing, cancer risk.

POSTER

Poster

P01. Determination of age using measurements of maxilar central incisor and first molar on CBCT-Santiago de Compostela University Population

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Introduction: In our days becomes increasingly important to the availability of a greater number of techniques for identifying dead bodies. Sauders was the first author to publish information on dental implications for the age estimation in 1837.Over the more recent years, several studies have been carried out to relate age with pulp volume using CBCT.

Objective: Determine the age of patients over 18 years through a wide range of variables, with measurements made in sagital, axial and coronal planes, of CBCTs. Methods: We measured the height and width of the pulp of the central incisors and maxillary molars in 375 CBCTs, with 18 variables used for the incisors and 5 variables for the molars. **Results:** On multiple linear regression analysis based on sagittal linear measurements and ratios have shown a SEE of ± 12.4 years (R2=0.36), and a SEE of ± 12.4 years (R2=0.37), respectively. On coronal linear measurements and ratios has shown a SEE of ± 12.3 years (R2=0.37), and, a SEE of ± 13.7 years (R2=0.22), respectively. On axial linear measurements and ratios have shown a SEE of ± 10.9 years (R2=0.49), and a SEE of ± 10.9 years (R2=0.49), respectively.

Conclusion: Our protocol, using CBCT measurements, allows us to determine the age of subjcts with a statistically significant limit. However, taking into account the literature, it would be pertinent to use our variables to determine the pulp volume and thus get even closer to the real value of the age of the individuals.

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P02. Comparative clinicopathological analysis of lateral tongue and gingival squamous cell carcinoma: a retrospective study in patients from Galicia

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Introduction: Lateral border of the tongue and gingiva are the two most common locations of oral squamous cell carcinoma (SCC). The same histopathological morphology as SCC does not ensure the same clinicopathological behaviour and prognosis of these variants.
Materials and method: A retrospective study has been carried out on 63 cases of SCC of the lateral border of the tongue and 36 of the gingiva diagnosed and treated at the University Hospital of Santiago de Compostela between 2010 and 2015. A descriptive and comparative statistical analysis was carried out with the data collected in a specific protocol.
Results: There were significant differences in age on diagnosis, time to diagnosis, tobacco and alcohol consumption, presence of perineural invasion and surgical margin positivity. No differences were seen on TNM stage or survival.
Conclusions: SCC of the lingual margin shows clinicopathological differences with gingival SCC, suggesting that in many cases they are biologically different neoplastic entities.

Poster

P03. Nanoparticles as an antimicrobial tool in endodontic irrigation: A systematic review of *in vitro* studies

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Introduction: Nowadays, the physicochemical properties of nanosized delivery systems have attracted attention as tools for antimicrobial endodontic therapy. High surface areas of nanoparticles, ability to efficiently encapsulate antimicrobial agents, delivering higher concentrations at target site are some of their most interesting advantages in relation conventional irrigators. The increase literature reports on this topic motivate a detailed overview with a comparison of the main nanoparticles used in endodontic disinfection highlighting their antimicrobial efficacy.
Material and Methods: A literature search was performed on the PUBMED and SCOPUS using a combination among the following search items: "nanoparticles", "antimicrobial", "endodontics", "root canal disinfection", and "endodontic disinfection". Search was restricted to studies published within the last 10 years, from 2011 to 2021 and in the English language.
Results: The literature search in online databases according to the inclusion criteria provided 306 studies, of which 26 were considered relevant for this study. Inorganic nanoparticles with sustainable activity were the most studied agent for its antimicrobial behavior, more specifically silver nanoparticles, followed by polymeric organic nanoparticles. The different nanoparticles described were evaluated against Enterococcus faecalis.
Conclusion: The selected studies showed antimicrobial activity of different types of nanoparticles, especially against persistent endodontic pathogens. However, it is crucial to evaluate their biocompatibility, safety, cost, ease of use, protocols, as well as environmental effects.

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Poster

P04. Materials used for the preparation of mucosa models for in vitro tests.

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Introduction: Numerous clinical and laboratory studies have investigated the different methods of retention of complete dentures. Laboratory tests should represent the real situation as closely as possible. The aim of this study was to analyze the materials for the elaboration of an in vitro mandibular simulation model, which would mimic the environment and physical properties of the oral tissues.

Material and methods: The process began with the creation of a working stone cast model, to which the material will be added. The filling was performed with a characterization material used by makeup artists (ProGel Neutral skin™, Principality® FX, London, United Kingdom), and with a soft addition silicone (Elite soft relining™, Zhermack® SpA, Italy). The first material was used for the middle layer and the second one for the base and surface. The two stone casts were closed, and due to the space constraints introduced, it was possible to hold the simulation materials with the calculated thickness and after 2h, the simulation material set without dimensional changes.

Results: The result was an in vitro testing laboratory model, with characteristics similar to oral tissues, that artificially match the dimensions of a patient's ridge parameters and soft tissue properties, simulating a lower edentulous patient.

Conclusions: With these two materials used to simulate the mucosa, it is possible to reproduce the malleability and resistance presented in the oral tissues. It can be used for different types of in-vitro tests that require the simulation of these tissues in a resorbed mandibular ridge.

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Poster

P05. GCF and its inflammatory mediators in the current classification of periodontal diseases

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Introduction: Periodontal disease occurs through direct tissue destruction, from the bacterial release of deleterious products, and through indirect destruction from the host's exacerbated immune response. This response leads to a release of imune mediators such as cytokines and bone resorption regulators. The analysis of the cytokines in the gingival crevicular fluid (GCF) can indicate the present state of tissue inflammation, allowing to differentiate periodontal health and periodontitis in its different stages.

Objectives: Conducting a study where the presence of inflammatory mediators such as OPG, RANKL, IL-1β and IL-17A is analyzed in a group of healthy patients and patients with periodontitis, and comparing the profiles of both groups, differentiating stages I and II from stages III-IV.

Material and Methods: 68 individuals were selected: 22 classified as healthy and 46 diagnosed with periodontitis in stages I-IV, by the new classification. Samples of GCF were stored at -40ºC, followed by centrifugation and GCF collection for testing. GCF samples were analyzed quantitively for immune mediators OPG, RANKL, IL-1β and IL-17A using beads multianalyte flow assay kit from LegendPlex (Luso Palex) by flow cytometry. Kruskal-Wallis nonparametric test was used, followed by Dunn test with Bonferroni. H = Kruskall-Wallis; p = significance.

Results: Comparation between the mediators showed higher values of IL-1β in the stages III/IV group compared to groups I/II and healthy ($p < 0.001$). IL-17A showed equally a higher value in group III/IV compared to the healthy group ($p = 0.011$).

Conclusion: IL-1β and IL-17A can jointly represent relevant inflammatory mediators in GCF samples in stages III/IV periodontitis.

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Poster

P06. Applicability of coating materials for the prosthetic abutment screw in the dental clinic

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Introduction: Today, partially edentulous patients represent the main group of candidates for oral rehabilitation with implants. Although the success rates are high, complications have been described, among which the loss of the prosthetic abutment screw is one of the most mentioned. One of the strategies to reduce the incidence of screw loss is related to its properties, by reducing the friction coefficient it will increase the preload and the removal torque value (RTV) which might be achieved applying some coating materials, that can be done by the oral health team in the dental clinic, which are PTFE tape and a silicone gel, Gapseal®.

Material and Methods: 60 implant-prosthetic abutment-screw assemblies are divided into 3 groups: the control which screws remain uncoated, the group of screws coated with PTFE, and the group of screws coated with Gapseal®. We will record the preload, the RTV and RTV loss before and after the thermocycle loads. In the end, we will collect 5 samples from each group and analyse the threads of the screw using SEM to evaluate their wear.

Results: We expect that the application of PTFE or Gapseal® increases the preload and the RTV either before or after thermocycle loads. It´s also expected to reduce the wear of the screw turns after thermocycle loading.

Conclusions: We expect to conclude that the application of PTFE or Gapseal® may be useful to prevent further loosening of the prosthetic screw and, at the same time, reduce wear on the threads of the prosthetic screw.

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Poster

P07. Oral manifestations and their prevalence arising from the use of illicit drugs in a prision population

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Introduction: The most commonly consumed illicit drugs in prison, as reported in the literature, are: cannabis, cocaine and heroin. Synthetic substances such as methamphetamine and ecstasy are also prevalent. Dependence on these drugs has been proven to be harmful to the oral cavity and may lead to a series of abnormal manifestations.

Objective: To observe the effects caused in the oral cavity by the consumption of illicit drugs in a prison population in the North of Portugal.

Material and methods: A convenience sample of inmates from a Portuguese prison was selected. Participants had to have one of the following criteria: previous consumption of alcohol, tobacco and/or illicit drugs and present oral manifestations.

Results: Of the 48 male inmates selected for the study, the mean age was 41 years (mean=41.27; SD=8.68), and most of them have the 2nd or 3rd cycle of Portuguese basic education system (29.2%, 27.1%). Regarding smoking habits, most participants are smokers (91.7%) but the same percentage reported not consuming alcohol. The consumption of illicit drugs is a common practice among inmates (97.9%), being cannabis, heroin and cocaine the most consumed substances (33.3%). Of the 48 participants, 45 (93.8%) had oral manifestations, with caries lesions being the most prevalent (58.3%) and oral mucosa lesions the least prevalent (6.3%). Sixty-five percent of the inmates are attending the methadone rehabilitation program.

Conclusions: The main oral manifestations found, associated with the consumption of illicit drugs, were: caries lesions, tooth sensitivity, periodontal disease, TMJ disorders, xerostomia, and bruxism.

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Poster

P08. Acupuncture treatment in xerostomia induced by radiotherapy in head and neck cancer patients

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Background: Different studies suggested that acupuncture may have a beneficial effect in relieving xerostomia induced by radiotherapy.
Methods: A preliminary clinical, randomized and non-blinded study was conducted. Sample consisted of 18 patients with malignant neoplasia in the head and neck area submitted to radiotherapy treatment. Patients were randomized in two groups, experimental (EG) and control (CG). The experimental group was submitted to 8 acupuncture sessions. The control group consisted of patients of the "waiting list". All patients were subjected to the sialometry and modified Schimer test. To self-report of dry mouth symptoms and quality of life, two questionnaires of The European Organization for Research and Treatment of Cancer (EORTC) were used: the EORTC QLQ-C30 and the EORTC QLQ-H&N35, validated for head and neck cancer patients.
Results: Modified Schimer test and sialometry test showed a statistically significant higher amount of saliva and increase in saliva flow in EG compared to CG. The EORTC self-reports also showed statistically significant improvement of dry mouth symptoms and quality of life in EG compared with CG. There were not detected side effects associated with acupuncture.
Conclusions: Despite the limitations, our study suggests that the acupuncture treatment used can objectively increase salivary production (flow and quantity), improve quality of life and minimize side effects caused by radiotherapy.

P09. BUBR1 as a prognostic biomarker in canine oral squamous cell carcinoma

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Introduction: Chromosomal instability (CIN) plays a key role in carcinogenesis of several cancers and can be related with deregulation of the spindly assembly checkpoint (SAC) including BUBR1 protein kinase (1, 2). These proteins have been related with tumour development and poor survival of human patients with oral squamous cell carcinoma (OSCC) (3, 4). However the expression of SAC components in canine oral cancer is still missing.
Aim: The aim of the present study was to evaluate the expression of the SAC protein BUBR1, in canine OSCC, and its association to clinical and pathologic characteristics and prognosis.
Material and methods: Tissue samples of 60 canine OSCC submitted to the Pathology Laboratory - INNO were included. The variables analyzed comprised age, gender, breed, localization and size of the lesion, histopathological diagnosis and grade, presence of bone and vascular invasion and follow-up. Immunohistochemistry technique against BUBR1 was performed.
Results: BUBR1 protein expression was detected in all cases and classified as highexpression extent score in 31 (51.7%) cases for BubR1. An independent prognostic value for BubR1 extension was found where patients with tumours with high BUBR1 expression had lower OS (P = 0.012), which was also observed to advanced tumour stage (P = 0.013), pattern of invasion III (P = 0.033) or stage of invasion IV (P = 0.032).
Conclusion: We observed for the first time to our knowledge, a role of BUBR1 as independent prognostic factor in canine OSCC. Further understanding may provide na improved insight of oral tumorigenesis and may open up new treatment possibilities in this species.

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P10. Photobiomodulation in oral paresthesia management – A clinical case.

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Introduction: Implant placement on the mandible are a common cause of paresthesias of the inferior alveolar, lingual, and mental nerve. Photobiomodulation (PBM) is a non-thermal light therapy aiming at modulating tissue metabolism. PBM has shown several positive effects on the regeneration of peripheral nerve injuries and had been use in the management of these disorders.
Materials and methods: A 62 year-old female presented feeling of numbness in the lingual frenulum and lower lip area after placing implants in the region. Proprioception was also affected for the lower lip on the left side, in the bottom of the vestibule of tooth 41 (VAS disconfort scale – 9). The patient had history of peri-implantitis in the maxillary bilateral posterior zone that led to their extraction after 2 years. The treatment proposed was fotobiomodulation with laser (6 sessions; 2 per week) using laser Nd:YAG 1064nm, 8j/cm^2.
Results: After 3 sessions of laser the patient started to feel improvement (VAS-4); after the 5th session of laser the patient refer no manifestations of parestesia (VAS – 0). At the end of treatment there were no longer any symptoms and without complications. After 6 months, the patient did not show any signs of recurrence.
Conclusions: The use of laser through photobiomodulation has been suggested to be an effective and non-invasive alternative to treating paraesthesia's. In the case presented here, it was effective and without any complications. More studies in the area should be performed to confirm the usefulness of these method.

Poster

P11. Laser in chronic hyperplastic candidiasis diagnosis and management – a case presentation

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Introduction: Chronic Hyperplastic Candidiasis (CHC) is a type of oral candidiasis that classically presents na adherent white or white and red patch caused by a chronic fungal infection. The clinical characteristic's, some histological or cytological features or microbiological testes could lead to diagnosis. However, some lesions could need a more complex diagnosis work plan. Diagnosis using adjunct tools such as diagnostic laser could help and facilitate the detection of fungal mucosae colonization.
Material and Methods: A 58 year-old male present a red lesion limited by a white plaque on anterior part of buccal mucosa and labial commissure on both sides, without other associated diseases. Smoker (40APY). Histological biopsy, cytology and microbiology was performed. A laser 405nm (lasotronix, Poland) was used in continuous mode and evaluated using a yellow filter eyeglass. The appearing of orange color was considered positive. For management, a Nd:YAG 1064nm laser with 1W, 10 Hz, 60s, 59 J. were used for local treatment of lesions.
Results: In first diagnostics appointment, a positive orange color was detected in both lesions. Histological biopsy revealed hyperqueratosis areas, without dysplasia and showing areas with fungal hyphae. Cytology and microbiological exams showed colonization by candida Albicans and CHC diagnosis was made. Local Nd:YAG laser treatment was performed. In 2 months the lesion was better. No orange color was detected and cytological exam did not reveal any signs of candidosis.
Conclusions: Laser could be an adjunct tool not only for helping diagnosis but also for treatment of focal lesions without systemic complications.

Poster

P12. Can NBI be an adjunct tool in oral lichen planus? A preliminar study

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Introduction: Oral lichen planus (OLP) is generally detected by visual inspection of the abnormalities on the surface of the mucosa and diagnosis is confirmed by histological biopsy. Biopsy is reliable but is invasive and emotionally distressful for many patients. Although it remains unclear that the use of adjunctive diagnostic screening methods improves the diagnostic efficacies of oral premalignant and cancerous lesions, narrow band imaging (NBI) is a promising endoscopic technique useful in identification of lesions with abnormal vasculature, which is associated with OLP.
Objective: The aim of this study was to analyse OLP lesions, assessing the potential of narrow band imaging (NBI) in mapping and diagnosis of lichen planus.
Material and methods: Preliminary and prospective evaluation of 5 patients with suspected but not previously confirmed OLP underwent to NBI examination. The images were analysed and all lesions were categorized.
Results: An inflammatory lobular pattern was observed in several areas of the oral cavity, including areas without clinical manifestation of the disease. Histological biopsy in these áreas confirmed OLP.
Conclusion: The NBI is a potential approach for clinically analyzing microvascular organization of OLP lesions and it could be useful in helping diagnosis of these lesions.

Keywords: lichen planus, oral cavity, NBI, narrow band imaging

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