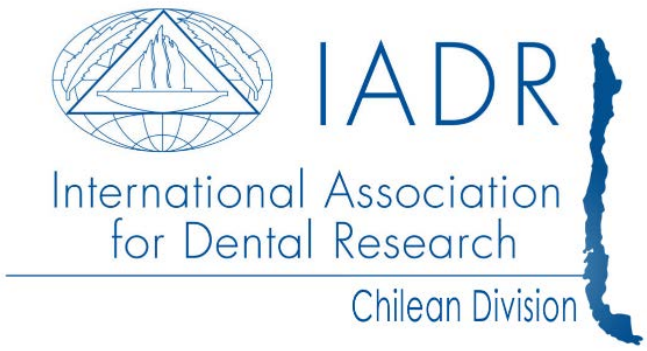

LIBRO DE RESUMENES

XXXIV REUNIÓN ANUAL

International Association for Dental Research

División Chilena

SANTIAGO – NOVIEMBRE 03, 04 y 05

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"La Directiva de la División Chilena de la International Association for Dental Research les da la más cordial bienvenida a nuestra XXXIV Reunión Anual, que en esta instancia se realiza de manera presencial, luego de 2 años de reuniones online como consecuencia de la pandemia por el Covid-19".

PROGRAMA CIENTÍFICO XXXIV REUNIÓN ANUAL IADR DIVISIÓN CHILENA

JUEVES 03 DE NOVIEMBRE

Horario	Salón Gabriela Mistral
08:00 - 09:00	**Acreditación**
09:00 - 09:30	**Inauguración**
	Simposio inaugural: Regeneración Tisular
09:30 - 10:00	**Prof. Dr. Marco Álvarez Pérez.** *"Estrategias de diseño de andamios 3D como aplicación para la regeneración de tejidos"*
10:00 - 10:30	**Prof. Dra. Carolina Inostroza Silva** *"Bioestimulación de células madre mesenquimales: Nuevas estrategias en regeneración"*
10:30 - 11:00	**Coffee break**
11:00 - 11:30	**Prof. Dr. Sebastián San Martín.** *"Perspectivas innovadoras para la regeneración tisular"*
11:30 - 12:00	Mesa Redonda
12:00 - 13:00	**Sesión y competición de pósteres**
13:00 - 14:00	**Almuerzo**

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	Salón Oscar Castro	Salón Gabriela Mistral	Salón Vicente Huidobro
	Simposio Patología Oral	**Simposio Biología Celular y Molecular**	**Simposio Cariología y Odontología Restauradora**
14:00 - 14:30	**Prof. Tania Flores Lillo** *"Rol de HIF 1α en etapas tempranas de la carcinogénesis oral"*	**Prof. Samanta Melgar Rodríguez** *"Caracterización in vitro de las células NKT10"*	**Prof. Carolina Pardo Díaz** *"Aumento de la longevidad de las restauraciones adhesivas".*
14:30 - 15:00	**Prof. Dra. Estefanía Nova Lamperti** *"Inmunomodulación en Cáncer oral"*	**Prof. Dr. Cristian Cortez Plaza** *"Perfiles transcripcionales durante la periodontitis experimental"*	**Prof. Dra. Issis Luque Martínez** *"Alteraciones de la Matriz orgánica y mineral de los tejidos dentarios duros por la radiación".*
15:00 - 15:30	**Prof. Dra. Montserrat Reyes Rojas** *"Inhibición de la vía Wnt/β-catenina como estrategia terapéutica en la prevención de la carcinogénesis oral"*	**Prof. Dr. Víctor Martínez Aguilar** *"Polimorfismos genéticos en pacientes con periodontitis y su posible vínculo con las demencias"*	**Prof. Dr. Mario Díaz Dosque** *"Innovaciones para tratamiento de enfermedades orales".*
15:30 - 16:00	Mesa Redonda	Mesa Redonda	Mesa Redonda
16:00 - 16:30	**Coffee break**		
	Simposio Salud Mental y Demencias	**Simposio Odontogeriatría y Salud Pública**	**Simposio Endodoncia y Biología Pulpar**
16:30 - 17:00	**Dra. Jamileth More de La Cruz** *"Uso de pruebas de memoria y proyecciones en salud para el seguimiento de pacientes Covid y adultos mayores"*	**Prof. Marjorie Borgeat Meza** *"Desigualdades sociales en la pérdida dentaria en adultos en Chile"*	**Prof. Alfredo Sierra Cristancho** *"Redefiniendo zonas de peligro anatómicas en endodoncia"*
17:00 - 17:30	**Aldo Letelier Durán** *"Demencia: rol de la nutrición y el ejercicio físico"*	**Prof. Mauricio Baeza Paredes** *"La Salud oral en el contexto de las enfermedades crónicas no transmisibles: desde la biología al diseño de políticas públicas"*	**María José Bordagaray San Martín** *"Traslocación inflamatoria y bacteriana en periodontitis apical"*

	Salón Oscar Castro	Salón Gabriela Mistral	Salón Vicente Huidobro
17:30 - 18:00	**Prof. Dra. María Jesus Arenas Márquez** *Periodontitis y deterioro cognitivo: ¿Relación casual o causal?*	**Prof. Javiera Espinoza González** *"Derribando las barreras del box - Odontogeriatría en atención domiciliaria e intrahospitalaria"*	**Prof. Dra. Cristina Bucchi Morales** *"Efecto de la inflamación e infección de la pulpa sobre las características biológicas de las células madre de la pulpa dentaria"*
18:00 - 18:30	Mesa Redonda	Mesa Redonda	Mesa Redonda

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VIERNES 04 DE NOVIEMBRE

Horario	Salón Oscar Castro	Salón Gabriela Mistral	Salón Vicente Huidobro
08:00 - 09:00	Acreditación		
09:00 - 10:30	Competiciones Orales	Competiciones Orales	
10:30 - 11:30	**Coffee break y competición de póster**		
11:30 - 13:00	Competiciones Orales	Competiciones Orales	
13:00 - 14:00	**Almuerzo**		
	Simposio TTM y DOF	**Simposio Microbiología Oral**	**Simposio Envejecimiento y Senescencia**
14:00 - 14:30	**Prof. Dr. Isaac García Carrillo** *"Mecanismos de nocicepción dental"*	**Prof. Roquelina Pianeta Alviz** *"Caracterización del microbioma subgingival en el mundo"*	**Luis González Osuna** *"Senescencia celular y Periodontitis. Implicaciones en la pérdida ósea alveolar"*
14:30 - 15:00	**Prof. Dr. Nicolás Pinto Pardo** *"Molecular characterization of pain: key role of kinases"*	**Prof. Dra. Carla Lozano Moraga** *"Descifrando el rol de los hongos en cavidad oral: ¿microorganismos comensales o patobiontes?"*	**Prof. Dra. Mónica Cáceres Lluch** *"Biología celular del envejecimiento de la encía y la peri-implantitis"*
15:00 - 15:30	**Prof. Rodrigo Cassasus Farran** *Inflamación de ATM y déficit de crecimiento máxilo-mandibular, evidencia, implicancias clínicas e investigaciones futuras"*	**Prof. Patricia Hernández Ríos** *"Translocación bacteriana e inflamación sistémica de bajo grado en pacientes con periodontitis"*	**Prof. Dra. Valeria Valez Medina** *"Rol de la mitocondria en la diferenciación de osteoblastos"*
15:30 - 16:00	Mesa Redonda	Mesa Redonda	Mesa Redonda

Horario	Salón Oscar Castro	Salón Gabriela Mistral	Salón Vicente Huidobro
10:30 - 11:30	**Coffee break y competición de póster**		
11:30 - 13:00	Competiciones Orales	Competiciones Orales	Competiciones Orales

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SÁBADO 05 DE NOVIEMBRE

	Salón Oscar Castro	Salón Gabriela Mistral	Salón Vicente Huidobro
Horario	Final Proyectos	Final Presentaciones Orales	
09:00 - 09:15			
09:15 - 09:30			
09:30 - 09:45			
09:45 - 10:00			
10:00 - 10:15			
10:15 - 10:30			
10:30 - 11:00	**Coffee break**		
	Simposio Regeneración Tisular	**Simposio Endodoncia**	**Simposio Osteo-inmunología**
11:00 - 11:30	**Prof. Dr. Luis Córdova Jara** *"Nuevos enfoques terapéuticos para las complicaciones de fractura"*	**Prof. Dra. Alejandra Fernández Moraga** *"Relevancia de los cambios epigenéticos en la periodontitis apical"*	**Prof. Karina Cordero Torres** *"Propuesta de aplicación de vesículas extracelulares en la regeneración ósea para osteoradionecrosis en pacientes con cáncer de cabeza y cuello".*
11:30 - 12:00	**Prof. Dr. Franco Cavalla Ruiz** *"Técnicas de estabilización de injertos para regeneración ósea guiada simultánea a la instalación de implantes"*	**Prof. Juan Carlos Caro Troncoso** *"Endodoncia Regenerativa: desafíos científicos y clínicos para reemplazar la gutapercha"*	**Prof. Julián Balanta Melo** *"Implementing Digital Dentistry to Identify Musculoskeletal Biomarkers in Craniofacial Conditions"*
12:00 - 12:30	**Prof. Dra. Carmen Suárez Arocena** *"El estrés oxidativo inducido por hiperglicemia e inflamación afecta la función osteoblástica"*	**Prof. Dra. Bárbara Giordano Kelhoffer** *"Nuevas estrategias en biomateriales para la regeneración ósea y los tratamientos endodónticos"*	**Carolina Rojas Pérez** *"CD73-bearing Treg-derived extracellular vesicles modulate in vitro and in vivo immune response and prevent alveolar bone loss during periodontitis"*
12:30 - 13:00	Mesa redonda	Mesa redonda	Mesa redonda
13:00 - 14:00	**Ceremonia de Premiación y Clausura**		

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PROGRAMACIÓN PRESENTACIÓN PÓSTERES

Horario	ID	Jueves 03 de noviembre	
		Sesión y competición de pósteres	**Autor/a**
12:00 a 13:00	P1	Effect of *Enterococcus faecalis* on osteoclastogenesis in vitro under cobalt-mimicked hypoxia	Fengyi Zhou
	P3	Differences among facial biotypes in masseter and temporal electromyographic activity	Nicole Santelices Villalobos
	P5	Correlation Between Fusion of Spheno-occipital Synchondrosis, Cervical Vertebral Maduration and Chronological Age	Lisa Armstrong Olivares
	P7	Effect of artificial cranial deformation on cranial base angle	Constanza Contreras Pinochet
	P9	Silicone for facial prostheses: influence of endogenous and exogenous agents	Artur Soto
	P11	Evaluation of bone repair in rat tibia with particulate PLGA-CaP	Nelson Silva
16:00 a 16:30	P13	Comparison of the absorption of artificial saliva between bulk fill composite resins	Bárbara Donoso
	P15	A Novel Impression Technique Using a Silicone Tray, an in vitro study.	Sissa Vicent Pérez
	P17	Is Bone Morphology Responsible For Buccal Non-Carious Cervical Lesions?	Pavel Capetillo Reyes
	P19	STAT3 activation is increased in gingival tissues during experimental periodontitis	Joaquín Espinoza Arrué
	P21	Clinical and imaging characteristics of osteoarthritis of the temporomandibular joint	Constanza Silva Méndez
	P20	Restless legs syndrome and jaw movements: an observational pilot study	Francisca Matthews Zúñiga
	P2	Angiogenesis and proliferation in immature permanent tooth: exploratory study	Mauricio Garrido Flores

Horario		Viernes 04 de noviembre	
		Sesión y competición de pósteres	**Autor/a**
10:30 a 11:30	**P4**	Geometric morphometric analysis of dolichofacial subtypes	Catalina Orellana Quezada
	P6	Location of Included Canines that generate Root Resorption in Neighboring Teeth	Valentina Araneda
	P8	Evaluation of periimplantar repair of implants manufactured in cp-Ti or Ti6Al4V with or without modified surface by LASER beam: topographic characterization, biomechanical, histological and immunohistochemical analyzes	Francislay Souza
	P10	Histomorphometric evaluation of osteoconduction of two HA/ß-TCP biphasic bone substitutes	Heloísa Helena Níma
	P12	Influence of Sandblasted technique on Immediate dentine sealing using sixth generation adhesive.	Egon Riquelme Arellano
16:00 a 16:30	**P14**	Can The Volume Of The Endodontic Access Cause Enamel Fracture?	Alejandro Ortíz Bernardin **Pavel Capetillo Reyes
	P16	Transcriptome analysis of healthy- and peri-implantitis gingival tissues: an in silico study	Alfredo Torres
	P18	*Porphyromonas gingivalis* induces inflammation, barrier disruption, and intestinal permeabilization.	Fernanda Torres Hein
	P22	‘’Sorption/solubility of printable resins through two post-curing processes.’’	Samuel Cáceres Alfaro
	P24	Deficit in craniofacial growth and development secondary to juvenile idiopathic arthritis: A systematic review	Josefina Rojas Merino
	P23	Terapia Antibiótica En Instalación De Implantes Oseointegrados. Frisbee.	Ignacio Agüero Prado

ÍNDICE PRESENTACIONES DE POSTER

P19. STAT3 activation is increased in gingival tissues during experimental periodontitis.

P20. Restless legs syndrome and jaw movements- an observational pilot study

P21. Clinical and imaging characteristics of osteoarthritis of the temporomandibular joint

P22. ''Sorption:solubility of printable resins through two post-curing processes.''

P23. Terapia Antibiótica En Instalación De Implantes Oseointegrados. Frisbee.

P24. Deficit in craniofacial growth and development secondary to juvenile idiopathic arthritis: A systematic review

P1. Effect of *Enterococcus faecalis* on osteoclastogenesis in vitro under cobalt-mimicked hipoxia

Zhou F.

Objectives	The bone destruction in persistent apical periodontitis associated with infection and a periapical hypoxic microenvironment is not well known. Thus, we aimed to investigate the effects of *Enterococcus faecalis* on osteoclastogenesis under cobalt-mimicked hypoxia.
Methods	Mouse bone marrow-derived macrophages (BMMs) were isolated as osteoclast precursors and stimulated by heat-killed *E. faecalis* in an environment of cobalt-mimicked hypoxia environment. The cell viability and apoptosis were detected using CCK-8 and flow cytometry, respectively. Osteoclast differentiation was determined via tartrate-resistant acid phosphatase staining (TRAP) and immunofluorescence staining. The osteoclastogenic protein and gene expressions were measured by western blot and real-time PCR.
Results	Under cobalt-mimicked hypoxia, the *E. faecalis* markedly inhibited the proliferation of the BMMs and significantly promoted the apoptosis of the BMMs. The differentiation of the BMMs into osteoclasts was enhanced in the presence of the *E. faecalis* under hypoxia, and the expression of Blimp, c-fos, and NFATc1 was up-regulated, while the expression of RBP-J was inhibited.
Conclusions	*E. faecalis* markedly promotes osteoclast differentiation under cobalt-mimicked hypoxia.

P2. Angiogenesis and proliferation in immature permanent tooth- exploratory study

Garrido C., Fernández C., Villalobos V., Ormeño D., Cáceres M.

Objectives	The pulp and apical papilla can be injured by caries disease or dentoalveolar trauma. To repair the damage, cells are needed to proliferate and migrate to the area of injury. The objective of this exploratory study was to determine the location and presence of cellular proliferation and blood vessels in pulp and apical papilla of immature permanent tooth.
Methods	Pulp and apical papilla were obtained from a third molar with incomplete root formation. It was fixed in 4% PFA for 16 hours. Immunofluorescence was used to determine the presence of Proliferating Cell Nuclear Antigen (PCNA), alpha SMA, CD31 and BrdU.
Results	Immunolocalization of PCNA, CD31, alpha SMA and BrdU was determined in different areas of the pulp tissue and in the junction zone of the apical papilla with the pulp.
Conclusions	The junction zone between pulp and apical papilla is an area with proliferative cellular activity and abundant blood vessels.

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P3. Differences among facial biotypes in masseter and temporal electromyographic activity

Santelices N., Espinoza D., Gamboa N., Gutiérrez F., Fuentes A.

Objectives	The facial morphology can be influenced by muscle function; therefore, the different facial biotypes can present diverse muscle activity that can associate with malocclusions and, functional alterations, among others. The aim of the present study was to identify the differences among the facial biotypes (brachyfacial, mesofacial and dolichofacial) in the electromyographic (EMG) activity of the masseter and anterior temporal muscles.
Methods	The search was made in Web of Science, Pubmed, Lilacs Bbo, Cochrane Library, Scopus y Proquest databases. Were included English and Spanish articles. The acronym used was PIO: Population were subjects between 12 and 40 years old, the topic of interest was the facial biotype, the outcome was electromyographic activity in temporal and masseter muscles. Were excluded studies that presented subjects with craniofacial disorders, temporomandibular disorders, muscular orofacial disorders and drug consumption that alters muscular function.
Results	The initial search obtained 2818 articles and ten articles were included. The risk of bias fwas determined by Newcastle Ottawa Scale and 80% of these articles presented low risk of bias. Seven studies showed higher EMG activity in brachyfacial in masseter muscle and four showed higher activity in anterior temporal muscle, during maximum voluntary clenching, daily life activities and rest position. One of the articles presented higher EMG activity in dolichofacials in the anterior temporal muscle in rest position. One study did not found significant differences among facial biotypes during chewing. In other studies, dolichofacial presented higher EMG activity in masseter during isometric contraction and in both muscles during rest.
Conclusions	There are disagreement among the studies included, although there is a tendency of higher EMG activity in brachyfacial than mesofacial and dolichofacial in both muscles. Nevertheless, further studies are required.

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P4. Geometric morphometric analysis of dolichofacial subtypes

Orellana C., Díaz A., Manríquez G.

Objectives	Three facial biotypes have been described in orthodontics: brachyfacial, mesofacial and dolichofacial. The latter is characterized by a growth pattern where the anterior facial height is markedly greater than the posterior facial height. This may be due to two completely different situations. On the one hand, increased anterior growth may be accompanied by normal posterior growth. On the other, decreased posterior growth with normal anterior growth. Both situations are classified as dolichofacial. In order to distinguish them, the relationship between C2 and gonion (Go) is an adequate proxy. When Go is located higher than C2, it represents an insufficient dolichofacialsubtype. If Go is located below C2, it corresponds to a subtype of dolichofacial sufficient. This study aimed to determine whether both dolichofacial subtypes present significant differences in the morphometric shape space.
Methods	From an anonymized database of 54 lateral skull teleradiographs and based on the relationship between C2 and Go, two groups of dolichofacial patients were obtained (insufficient and sufficient groups). In each teleradiography, 22 anatomical landmarks were digitizedand 2D coordinate matrices were obtained. Subsequently, standard geometric morphometrics pipeline was applied using TPS Rel Warp and Morpho-J programs.
Results	Discriminant function analysis showed significant shape differences between sufficient and insufficient dolichofacial groups ($p < .0001$). However, these differences were mainly due to the first component of shape, which summarizes sagittal variations (PC1=35%) rather than to the second one, summarizing vertical variations (PC2= 10%).
Conclusions	There is a difference in shape between dolichofacial insufficient and dolichofacial sufficient individuals. These differences are evident in morphometric space. These differences are mainly explained by the sagittal variation represented by the analyzed individuals.

P5. Correlation Between Fusion of Spheno-occipital Synchondrosis,Cervical Vertebral Maduration and Chronological Age

Armstrong L., Figueroa F., Clavería M., Rodríguez M., Meléndez P.

Objectives	The aim of this study is to evaluate among young patients the relation between chronological age, the spheno-occipital synchondrosis (SOS) fusion and the cervical vertebral maduration (CVM) and to look for an eventual impact in their association.
Methods	CBCT scans of 137 patients, aged between 5 and 25 years, were selected. SOS and CVM fusion was assessed on a mid-sagittal cut of the CBCT scans. Assessment of SOS was conducted as suggested by Franklin and Flavel and CVM was conducted following the six-stage classification of Baccetti. Spearman correlation test was used to assess the correlation between SOS and CVM ($p<0.05$). ANOVA two ways was performed at every CVM stage to analyze the association between SOS and chronological age ($p<0.05$).
Results	A strong correlation was found between SOS maduration and CVM, the Spearman correlation coefficient value vas ($r= 0.851$, $p = 0.001$). ANOVA Two ways test indicated significant association between chronological age (CVM $p= 0.05$) and (SOS $p= 0.02$).
Conclusions	SOS fusion correlates well with CVM and might be a reliable tool that provides clinicians with relevant information regarding the treatment opportunity, allowing them to redirect growth effectively. Hence, a large sample size-based study is required for further research.

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P6. Location of Included Canines that generate Root Resorption in Neighboring Teeth

Araneda V., Matulic V., Valenzuela N.

Objectives	The objective of this study is to determine the location of impacted canines that generate root resorption in neighboring teeth, according to different predictive methods of impaction, and the severity of the resorption.
Methods	Methods: The patients database of a private clinic of 2020 and 2021 was reviewed. Patients between 15 and 22 years old with diagnosis of impacted canines and root resorption complication in neighboring pieces were evaluated. The results were confirmed with the imaging report. Parts with an incorrect diagnosis and that did not have a panoramic radiograph were excluded. The pieces that presented RR were analyzed according to the Ericson & Kurol, Lindauer and Warford classification. In addition, the severity of root resorption in the affected pieces was evaluated.
Results	Results: 67 impacted canines evaluated. 17 presented the complication of root resorption in neighboring pieces (25.3%), all of them female. The most affected pieces were the lateral incisors (58.82%). Regarding severity, superficial involvement obtained 41.17%, followed by deep dentin involvement (35.29%) and pulp involvement (11.76%). In the Ericson & Kurol analysis, 94.11% presented angulations greater than 25°. According to the Lindauer classification in sector IV, a frequency of 70.58% was obtained. In relation to the Warford analysis, there were no significant differences between the angulations.
Conclusions	Conclusion: Our study shows that the location of the cusp of the canine crown in Lindauer sector IV and angulation greater than 25° according to Ericson and Kurol are related to RR. This is relevant when evaluating a panoramic radiograph in a patient with included canines.

P7. Effect of artificial cranial deformation on cranial base angle

Contreras C., Díaz A, Manríquez G.

Objectives	Artificial cranial deformation (ACD) is the modification of the magnitude and direction of cranial growth and development vectors which occurred at least for 6.000 years worldwide including Northern Chilean populations. Deforming devices were used during the early years of life to exert compressive forces which led to the skull deformation. Deformed skulls are classified as antero-posterior (AP), characterized by flattening of the frontal and occipital bones, and oblique (OB), by a lengthened cranial vault. ACD continues to be intriguing, from a social and anthropological but also from a clinical perspective, since it is a model that makes possible to assess the skull alterations impact in the developing neuro and viscerocranium. The aim of this work was to assess how the ACD alter the cranial base angle trough the univariate statistical analysis of AP, OB and non-deformed (ND) lateral teleradiographies.
Methods	The cranial base angle was mesured on 54 AP, 45 OB and 89 NF lateral teleradiografies. Mean and standard deviation of each group were obtained and compared statiscally in Past software 3.21.
Results	We found that cranial base angle from AP group (133,03°±5,23) was less than ND group (137,22±4,17). These differences were statistically significant (ANOVA: $F_{(2,185)}$ =12.67, p=6,95E-06. Dunn´s post-hoc (Bonferroni corrected p values): P AP/ND= 7,002E-05; P AP/OB= 0,019; OB/ND=0,9732).
Conclusions	Our results demonstrate how by positioning a deforming device in anterior and posterior skull (AP) during the early stages of development, the skull base is deformed, generating a quantifiable effect of the base angle. We anticipate our assay to be a starting point for future morphometric analysis that would consider other cranial landmarks and planes with the consequent comparison with 3D models. This will be relevant for a better understanding of the cranial growth and development, and how works the integration of the neuro and viscerocranium.

P8. Evaluation of periimplantar repair of implants manufactured in cp-Ti or Ti6Al4V with or without modified surface by LASER beam- topographic characterization, biomechanical, histological and immunohistochemical analyzes

Ávila F., Kawamata L., Hadad H., Pereira da Silva M., Freitas M., Nímia H., Honda P., Padilha N., Guastaldi A.

Objectives	This study aimed to evaluate the biological and mechanical behavior of peri-implant bone tissue in implants manufactured in cp-Ti with machined surfaces (CPMS) and modified by LASER (CPLS) and implants manufactured in Ti6Al4V with machined surfaces (ALLOYMS) and modified by LASER (ALLOYLS).
Methods	The surfaces were analyzed using scanning electron microscopy coupled with X-ray dispersive energy spectroscopy (SEM-EDX) prior to experimental surgery. Ninety-six (2x4mm) implants were installed in surgical beds milled in the right and left tibias of 48 male *Wistar* rats, one implant of each material (metal) or surface installed in each tibia. Biomechanical analysis was performed using the implant removal torque in all groups in the periods of 14, 21 and 42 days postoperatively and the tibias were sectioned and processed for histological and immunohistochemical analysis. The data obtained in the biomechanical analysis were submitted to statistical analysis ($p < 0.05$).
Results	The SEM-EDX before the installation of the implants showed a difference between the surfaces machined and modified by LASER, regardless of the metal of the implant. The removal torque of ALLOYLS was statistically higher than CPLS, CPMS and ALLOYMS in 14 and 21 days ($p < 0.05$), as well as CPLS was statistically higher than CPMS and ALLOYMS. In 42 days CPLS and ALLOYLS showed statistical differences when compared to CPMS and ALLOYMS ($p < 0.05$), however no difference was observed between CPLS and ALLOYLS ($p = 0.07$). The SEM-EDX of the implants removed by removal torque showed the total bone coverage of the surfaces of CPLS and ALLOYLS, regardless of the analyzed period and a gradual increase in bone coverage on the surfaces of CPMS and ALLOYMS in the periods of 14, 21 and 42 days respectively, CPLS in 42 days showed a mature bone tissue. In the qualitative histological analysis, a mature bone can be observed, suggesting an acceleration of the repair process in the CPLS and ALLOYLS groups.
Conclusions	The implants with surface modification by LASER beam, regardless of the material manufactured, provided important physical-chemical modifications on the surface, allowing better mechanical resistance with bone tissue when compared to implants with machined surface.

P9. Silicone for facial prostheses- influence of endogenous and exogenous agents

Ferronato A., Silveira L., Silva-Lovato C., Malheiros M.

Objectives	This study evaluated the colour change, surface roughness and Shore A hardness of a silicone (Dragon Skin) in situations experienced by users of facial prostheses.
Methods	The specimens with intrinsic pigmentation were distributed in groups (n=36/ group), with control (C) without exposure to variation factors; sweat and oiliness of the skin (SO); sweat, oiliness and sunscreen (SOS); immersion in 0.12% chlorhexidine digluconate (D), association of all factors (SOSD). Colour change was evaluated using a spectrophotometer (CIELab and National Standard Bureau, NBS system), roughness using a roughness meter, and hardness using a durometer. Measurements were taken immediately after sample preparation and after 30 days. Additionally, scanning electron microscopy images were used to analyse the surface of the material in 100x and 500x.
Results	The results were evaluated by the Kruskal-Wallis tests (colour change) and two-way ANOVA (roughness and hardness) with Sidak post-test (α= 0.05). Groups D (1.54±0.49) and SOSD (2.10±1.03) had the lowest means of colour change and were similar to each other. There was a difference in clinical perception (NBS: slight and marked, respectively). The greatest change in colour (6.99±1.43, NBS: large) and hardness (17.97±0.56) occurred in SOS, which promoted an intermediate roughness (3.48±1.05) between SOSD (2.25±0.53) groups C (4.46±0.95) and D (4.39±1.26), which were similar to each other. There was no difference in hardness between groups, except for SOSD.
Conclusions	An association between sweat, oiliness, sunscreen and immersion in 0.12% chlorhexidine digluconate (SOSD) promotes changes in colour, roughness and hardness, clinically acceptable.

P10. Histomorphometric evaluation of osteoconduction of two HA:ß-TCP biphasic bone substitutes

Níma H., Bernardes M., Kawamata L., Hadad H., Pereira M., Barbosa D., Perri P., Ávila F.

Objectives	The study aimed to evaluate the osteoconductive potential of two biphasic ceramic biomaterials based on hydroxyapatite (HA) and beta-tricalcium phosphate (ß-TCP), in critical size defects on rat calvaria.
Methods	For this, a 7mm diameter defect was performed in the calvaria of 48 male Wistar rats. The animals were randomly divided into four groups according to the treatment used in the defect: GC – filled with clot, GM – covered with Techgraft, Baumer®, GGP – filled with biomaterial GenPhos XP, Baumer® and covered with Techgraft, Baumer ® and GBC – filled with BoneCeramic, Straumann® biomaterial and covered by Techgraft, Baumer®. After, 30 and 60 days after surgery, samples were collected to histomorfometric analysis The values obtained will be tabulated and submitted to statistical analysis in Sigma Plot 12.0 software (Exakt Graph and Data Analysis) considering $p<0.05$.
Results	GBC group presented biomaterial surrounded by loose connective tissue at 30 days with bone formation in the deep region of the defect, while GGP demonstrated new bone around the particles, also GBC presented 34.91% of %NBA, followed by GGP (29.36%) ($p=0.450$). At 60 days, GBC presented particles interspersed with dense connective tissue, while GGP presented bone neoformation between particles of the biomaterial, and also GGP group presented a better value for %NBA (57.56%) when compared to GBC (37.95%) ($p<0.001$).
Conclusions	It is concluded that both biomaterials presented osteoconductive properties, however the biomaterial GenPhos XP, Baumer® presented a greater neoformed bone area when compared to BoneCeramic, Straumann®.

P11. Evaluation of bone repair in rat tibia with particulate PLGA-CaP

Padilha N., Nímia H., Kawamata L., Hadad H., Piqueira A., Silva E., Perri P., Ávila F.

Objectives	Evaluate the biocompatibility tissue response of resorbable three-phase three-dimensional matrix composed of polylactic / polyglycolic acid and two phases of resorbable calcium phosphate PLGA-CaP (Osteoscaf™) in non-critical rat tibial defects.
Methods	For this, 36 Wistar rats had 3mm osteotomies in both right and left tibias. After the animals were randomly assigned to group I: defect filled by blood clot and group II: defect filled by particulate PLGA-CaP (Osteoscaf™). After 10, 20 and 30 days postoperatively, the animals were euthanized and their tibias removed, followed by laboratory processing for decalcified cuts. Qualitative histological and quantitative histometric analyzes were performed using the Merz grid, and the values obtained were submitted to statistical analysis.
Results	The histological analysis showed that in both groups there was gradual bone formation during the periods and in group II, Osteoscaf ™ was partially surrounded by newly formed bone (NFB) tissue and richly vascularized connective tissue. Histometric analysis showed that there was a statistically difference for new bone between groups I and II in all periods. In 10 and 20 days, group I present more new bone area and in 30 days group II present better results.
Conclusions	Given the results obtained, it can be concluded that Osteoscaf ™ was biocompatible and allowed bone neoformation by apposition

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P12. Influence of Sandblasted technique on Immediate dentine sealing using sixth generation adhesive.

Riquelme E., Gómez P., Pedreros C., Vildosola P., Rodríguez S.

Objectives	Compare microleakage percentage of indirect composite restorations cemented with auto-adhesive cement and immediate dentine sealing (IDS) with Cleafill SE bond, using sand-blasted technique
Methods	36 recently extracted healthy molars, cleaned and stored in saline solution. Two calibrated operators performed on each tooth 3 cavities (mesial-occlusal, disto-occlusal, buccal cavities) standardized in 3x3x3mm of depth, width and length, and separated into 3 randomized different groups. Group SS: negative control (without IDS), Group S/ClFll: IDS using Clear Fill SE Bond (Kuraray, Japan) and Group C/ClFill with sand-blasted technique using 50 um aluminum oxide. All teeth were stored in distilled water for 48 hours. Subsequently, indirect composite restorations were done using Simile (Kerr Co, USA). Prior to cementation, all cavities were cleaned. For groups C/ClFill, were sandblasted with aluminum oxide. All restorations were cemented with MaxCem (Kerr Co, USA) following the manufacturer's instructions and with 1000 Mw/cm2 (Bluephase G2, Ivoclar-Vivandent, Liechtenstein) calibrated light unit. Samples were stored in distilled water for 72 hours and then cycled into 500 cycles between 5 y 50 Celsius, then they were dyed with methylene blue for 24 hours and were cut in half to evaluate the microleakage percentage. Samples were evaluated under a 4x Magnifying glass(Micrometrics SE Premium, Accu-Scope-USA). Test Kruskal Wallis and Mann-Whitney were applied with 95% confidence level
Results	The percentage for average, median and standard deviation (±) was SS: 71.8, 100.0 (±33.9); CA/ClF ll: 27,96, 26.67 (±12.50) y SA/ClFill: 25.00, 25.00 (±11.99) respectably for each group. There were no statistically significant differences between the C/ClFll and S/ClFll groups (p>0.05). Both groups (S/ClFll and C/ClFll) presented significant differences compared with the control group SS.
Conclusions	There were not statistically significant differences on microleakage for groups using IDS and sandblasted technique. Control group showed statistically higher microleakage compared to other groups when cementing indirect composites with auto adhesive cement

P13. Comparison of the absorption of artificial saliva between bulk fill composite resins

Chacón N., Donoso B., Gajardo M., Paz P.

Objectives	Evaluate whether there are differences in the absorption of saliva in 4 commercial brands of bulk fill composite resin after aging with thermocycling
Methods	48 samples were made based on 4 commercial brands of bulk fill composite resins; Filtek one (3M), Tetric Bulk fill (Ivoclar), Aura (SDI) and Fill up (Coltene). Twelve discs of composite resin were manufactured for each commercial brand, 4 mm thick and 5 mm in diameter. The samples were weighed and placed in 0.6 ml Eppendorf tubes filled with Xeros (artificial saliva, Dentaid). Subsequently, they were left in the thermocycler and subjected to 10,000 cycles distributed over 11 days in total. Then they were weighed again to compare with the initial weight to show the absorption of the liquid through the increase in weight and thus compare the 4 brands. The analysis of the groups was performed with the JASP program using the t-Student and ANOVA ($p<0,05$).
Results	A statistically significant difference ($p<0.05$) was obtained in the delta value (the difference between the initial and final weight), obtaining an average of 0.001 ml. However, there was no statistically significant difference ($p>0.05$) when comparing the delta values between the 4 commercial brands.
Conclusions	The results collected in this study, indicate that there is absorption of artificial saliva by the Bulk Fill composite resins, but that the commercial brands used did not influence the absorption process, all behaved in a similar way.

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P14. Can The Volume Of The Endodontic Access Cause Enamel Fracture?

Capetillo P., Aguado A., Ortíz A.

Objectives	To evaluate the biomechanical behavior by finite element analysis of premolar teeth with different endodontic accesses, under overload conditions. Also, to assess the effect of enamel anisotropy on fracture risk.
Methods	Based on biomedical images a finite element model of a premolar tooth with its supporting structures was designed. In addition, four models with endodontic accesses were simulated: ultra-conservative -UCEC, conservative -CEC, traditional -TEC, extended -EEC (Jiang, 2018). The material properties were assigned as elastic-linear, homogeneous, and isotropic, except for the enamel that was also represented as anisotropic (Munari, 2015). Two loading conditions were simulated: a physiological load of 150 N and a pathological overload of 500 N consistent with bruxism (Radaelli, 2018). The analysis criterion in enamel was the maximum principal stress, corresponding to a brittle fracture model (Ichim, 2007).
Results	Models with different cavity accesses presented minimal stress differences. For models with physiological load the simulation showed stress differences of 2 MPa, and differences of 7 MPa for models with overload. The stress distribution between the models was similar. The stress peaks in the enamel were located in the cavity walls. Models with pathological overload presented stress peaks of 53 MPa to 60 MPa, exceeding the tensile strength of enamel (47 MPa) (Cavalli, 2004). Physiologically loaded models showed stress peaks less than 20 MPa. When compared to anisotropic models, isotropic models presented higher stress peaks, ranging from 47% to 66%. Representation of enamel microstructure showed similar stress values with experimental studies (Giannini, 2004).
Conclusions	In this study, the volume increase of the endodontic accesses did not cause stress increases in the enamel consistent with brittle fracture. However, under pathological overload, teeth with endodontic accesses exceed the tensile strength of the enamel. For brittle fracture analysis of enamel, anisotropy is a relevant factor in numerical simulation.

P15. A Novel Impression Technique Using a Silicone Tray, an in vitro study.

Vicent S., Ramírez C., Fuentes B., Ibarrola G., Pardo C.

Objectives	The purpose of this study is to compare the measurements obtained between a master model and digitized plaster models acquired with the silicone tray impression technique.
Methods	A single fixed prosthesis preparation was milled on a second upper premolar resin tooth (2.5, master model) , 15 impressions were taken with the silicone tray impression technique, resulting in 15 plaster models. These models were scanned with the Carestream CS 3600 Access scanner, and different predefined marks in each specimen were measured using Carestream software Blender for dental and EXOCAD, and compared with those obtained from the master model that was also scanned.
Results	A maximum error rate of 0.12% was detected, and there were no differences ($p>0.05$) in the measurements of the study models with respect to those of the master model.
Conclusions	The novel impression technique using a silicone tray reproduces accurately the dimensions of a master model preparation, offering a reliable alternative to perform impressions of dental preparations for fixed prosthesis rehabilitation.

P16. Transcriptome analysis of healthy- and peri-implantitis gingival tissues: an *in silico* study.

Torres A., Díaz L., González F.

Objectives	To characterize the biological process, molecular function and related pathways in transcriptomics of peri-implant and healthy tissues.
Methods	The datasets GSE57631 (six peri-implantitis and two control samples) and datasets GSE33774 (seven peri-implantitis and eight control samples) were included from the National Center for Biotechnology Information (NCBI) Gene Expression Omnibus (GEO). A differential expression analysis ($p < 0.05$ and | logFC (fold change)| ≥ 1) and a functional enrichment analysis ($p < 0.05$) were performed. Peri-implatitis-related genes were extracted from the DisGeNET database, and the overlap between the GSE57631, GSE33774 and these DisGeNET-related gene datasets was examined to identify their correlation. Based on this, a protein–protein interaction (PPI) network was constructed by String-DB. Gene expression was merged and a peri-implantitis dataset was established. Finally, a characterisation including overlapping genes, related pathways, biological processes and molecular functions was constructed.
Results	Twenty-three transcriptomic profiles were analysed: Thirteen from peri-implantitis and ten from healthy gingival tissue samples. 26 genes were differentially expressed (10-fold change, p<0.05). Peri-implantitis transcriptomic characterization was mainly represented by genes from GO-categories "myd-independent TLR signalling", "response to lipoteichoic acid", "Cell junction disassembly", "Leukocyte mediated immunity", "Pattern recognition receptor activity" and "cellular death signaling pathway", reflecting the catabolic and inflammatory nature of peri-implantitis. Surprisingly, lipoteichoic acid is a major component of the wall of gram-positive bacteria, attributing to them a remarkable role in the occurrence of peri-implantitis. This may be considered a promising perspectives in understanding the aetiopathogenesis of peri-implantitis and further research is needed to confirm this novel finding.
Conclusions	There are quantitative and qualitative differences in the transcriptomic from healthy- and peri-implantitis gingival tissues. "Response to lipoteichoic" and "cellular death signaling pathway" are over-represented categories in peri-implantitis. Understanding these novel findings may help to develop new diagnostic and therapeutic approaches.

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P17. Is Bone Morphology Responsible For Buccal Non-Carious Cervical Lesions?

Capetillo P., Cruz J., Yagüe R.

Objectives	To verify, through finite element analysis, whether buccal bone thickness would explain the high prevalence of buccal non-carious cervical lesions (Hur, 2011), based on the abfraction mechanism (Lee&Eakle, 1984; Grippo, 1991) and fine buccal bone morphology (Sneed, 2011).
Methods	A three-dimensional control model (CTL) of a maxillary premolar and its supporting structures, with a buccal bone thickness of 1.6 mm, was constructed. Three variations of buccal bone thickness were simulated: fine (EFN) of 1.2 mm, thick (EGR) of 2 mm, and extra-thick (EXG) of 2.4 mm. The materials were considered elastic-linear, homogeneous, and isotropic. Two occlusal load conditions were simulated (200 N, 45°): buccal (B) and palatal (P), to study the tensile stresses in the cervical region. As a failure criterion described in the abfraction theory, the maximum principal stress was analyzed.
Results	The stress distribution was similar for all models. The stress peaks were located at the root in front of the bone crest, and in the cervical region of the tooth. At the buccal cement-enamel junction, the tensile stress peak was 44 MPa, only 5% greater than the stress concentration at the palatal cervical. The variation of the buccal bone thickness showed stress differences of 2 MPa among the models. The stress peaks did not exceed the enamel tensile strength of 47 MPa (Cavalli, 2004).
Conclusions	Buccal bone thickness does not affect the stress concentration in the cervical region of the tooth. Therefore, according to the abfraction mechanism, buccal bone thickness does not explain the high prevalence of non-carious cervical lesions on buccal surface. The hypothesis that fine buccal bone morphology reduces the stress concentration in the palatal cervical region of the tooth, based on the eventual flexibility of the bony table, was not confirmed.

P18. *Porphyromonas gingivalis* induces inflammation, barrier disruption, and intestinal permeabilization.

Torres F., Santana O., Sansores-España L., Melgar-Rodríguez S., More J., Martínez-Aguilar V., Díaz-Zuñiga J.

Objectives	Periodontitis is a chronic non-communicable disease caused by dysbiosis of the subgingival microbiota, and is one of the most prevalent bone-resorptive pathologies worldwide. *Porphyromonas gingivalis* is a keystone pathogen, responsible for the microbiota dysbiosis, and is related with the onset and progression of periodontitis. Recently, it has been proposed that for dysbiosis to exist there must be an alteration in the microbiota, barrier permeability and inflammation. In this context, it has been shown that *P. gingivalis* induces alterations in the intestinal microbiota, leaving the question as to whether it is capable of inducing inflammation and alteration of the intestinal barrier. Thus, in the present work, the effect of *P. gingivalis* on inflammation and integrity of the intestinal barrier, and intestinal permeability was evaluated.
Methods	6-week-old male Sprague-Dawley rats were given 1x1010CFU/mL of *P. gingivalis* in 100 uL twice a week for 30 days. Untreated rats were considered as controls. From 4 rats *per* group, the intestine was isolated to extract the total RNA and to quantify the expression levels of the pro-inflammatory cytokines IL-1β, IL-6 and TNF-α. In another 4 rats, the tissues were fixed with paraformaldehyde 4% by cardiac perfusion and the zonula ocludens 1, Claudin, and occludin were visualized by immunofluorescence assay. Finally, in 4 rats per group, FITC-Dextran 4kD was administered by oral gavage and after 4 hours, serum, urine and kidneys were obtained to determine the permeabilization of the intestinal barrier.
Results	In the oral gavage model of P. gingivalis, an increase in the expression of pro-inflammatory mediators, alteration in the integrity of the intestinal barrier and greater intestinal permeability were observed, compared to control rats.
Conclusions	These data demonstrate that oral administration of *P. gingivalis* triggers structural and functional changes in the intestine.

P19. STAT3 activation is increased in gingival tissues during experimental periodontitis

Espinoza J., Arce M., Rodríguez M., Abusleme L., Dutzan N.

Objectives	STAT3 integrates and transduces the signaling of multiple pro-inflammatory cytokines associated with periodontitis. STAT3 expression on CD4+ T cells is essential for Th17 cell differentiation in gingival tissues, drivers of periodontitis immunopathology. Little is known about the activation of STAT3 (pSTAT3) in gingival tissues during periodontitis. We aimed to characterize pSTAT3 in gingival tissues during health and experimental periodontitis. Also, we evaluated the relative gene expression of proteins that participate in STAT3 signaling in gingival tissues during experimental periodontitis.
Methods	Activation of STAT3 was characterized in gingival tissues by Western blot and Immunohistochemistry. Ligature-induced-periodontitis (LIP) mice model was used to characterize pSTAT3 during inflammatory tissue destruction, and non-ligated tissues were collected as control. RT-qPCR was used to determine the gene expression of diverse proteins (*Il6, Il10, Il11, Il17a, Il17f, Il20, Il21, Il22, Il23a, Il27, Il6st, Osm, Rorc, Socs3, Stat3*) related with STAT3 signaling.
Results	We detected increased pSTAT3-positive cells and pSTAT3 protein levels during LIP compared to healthy gingival tissues. We determined a significant increase in the gene expression of most of the genes studied during LIP compared to health.
Conclusions	STAT3 activation is higher in experimental periodontitis compared to health. Relative gene expression of proteins participating in STAT3 signaling increases in LIP compared to healthy gingival tissues. Funding: This work was financed by the Chilean Government through the FONDECYT program. Project for Initiation in Research # 11180389. ANID-Subdirección de Capital Humano/Doctorado Nacional/2022-21221003.

P20. Restless legs syndrome and jaw movements- an observational pilot study

Matthews F., Casals M., Zycer S., Oyarzo J., Botta L.

Objectives	The aim of this study was to identify transcranial ultrasound characteristics of substantia nigra (SN), blood iron kinetic and polysomnographic parameters, such as periodic limb movement (PLM) and jaw movements, in restless legs syndrome (RLS) patients.
Methods	A cross-sectional observational pilot study was conducted in the European Sleep Institute in Santiago, Chile, in 2022. Patients diagnosed with RLS undergone evaluation of echogenicity index transcranial ultrasound, blood irron kinetic and polysomnographic parameters of PLM and jaw movements. Descriptive analyses and correlation coefficient using Pearson's test was made.
Results	Eleven patients aged between 30 and 82 years (8 women and 3 men) were included. A statistically significant positive relationship was observed for age with leg movement (=0.740; p= 0.09) and negative, but not significant, with SN echogenicity index (= -.506, p= 0.112). Transferrin was related to jaw movements, but not significantly (=0.590; p= 0.056). No relationships were observed between the SN echogenicity index with blood iron kinetic variables, nor with leg or jaw movements during sleep.
Conclusions	Although it was not possible to demonstrate a relationship between RLS, jaw movement and blood iron kinetic; this pilot study provides a substrate to future research in jaw movements during sleep, blood iron kinetic, PLM and RLS.

P21. Clinical and imaging characteristics of osteoarthritis of the temporomandibular joint

Silva C., Inostroza F., Torres C., Osorio S., Fuentes A.

Objectives	One of the most common temporomandibular disorders (TMD) is osteoarthritis of the temporomandibular joint (TMJ OA). It is diagnosed according to "Diagnostic Criteria for Temporomandibular Disorders" (DC/TMD) protocol, accompanied by an imaging test (Cone Beam CT, CB-CT). The objective of this study is to determine the clinical and imaging characteristics of Chilean patients with TMJ OA.
Methods	An observational, descriptive and cross-sectional clinical pilot study was conducted. The sample consisted of 5 participants over 18 years of age, patients of the Dental Clinic, Faculty of Dentistry, University of Chile. They were examined and diagnosed with TMJ OA according to axis I of the DC/TMD validated in Spanish and CB-CT (Planmeca ProMax3DMid). This study is part of a line of research that will evaluate a new treatment for this disease.
Results	The 5 participants were female (mean age: 46.2 ± 21.4). The average of maximum unassisted mouth opening (MAB) was 43.4 ± 7.6 mm. 40% presented MAB<40 mm. The mean joint pain on palpation on the Numerical Scale (NRS), in the left TMJ was 5.9 ± 2.73, and in the right TMJ was 3.5 ± 3.84. Most of the patients presented coarse crepitus (60%). Regarding the bone characteristics, the highest frequency present in the condyle was the osteophyte (67%) and in the mandibular fossa was sclerosis (57%). When classifying by severity according to Moystad et al protocol (2), four TMJs had a total score of mild abnormality, five TMJs had moderate abnormality, and one TMJ was classified as severe abnormality.
Conclusions	Chilean patients with TMJ OA present clinical functional limitation and imaging signs of bone degeneration in different degrees of severity. More studies are needed to assess the efficacy of new treatments aimed at improving these characteristics.

P22. Sorption:solubility of printable resins through two post-curing processes.

Cáceres S., Ramírez C., Gisseleire C., Navarro A., Ibarrola G., Muñoz M.

Objectives	To Compare sorption and solubility in printable resins that were subjected to the post-curing cycle in a professional and cosmetic oven.
Methods	20 circular area test bodies were printed, which were randomly distributed into two groups (n=10) determined according to the post-curing methods, either in a professional curing unit or a cosmetic curing unit. The bodies in both groups were subjected to 1 cycle of post-curing on each side for 3 minutes, after post-curing, the methodology used in the ADA specification no. 27 and ISO 4049 standard. The volumes of each body and measured weights were used in the formula to calculate sorption and solubility, these being analyzed with the Pearson linear correlation test for sorption and ANOVA test for solubility.
Results	There is a statistically significant difference in terms of a lower degree of sorption and solubility for the conventional post-curing oven recommended by the manufacturer (SHERAflash-light plus) vs. the cosmetic oven.
Conclusions	Sorption and solubility are lower in the SHERAflash-light plus post-curing oven compared to a cosmetic one, Therefore, the quality of the light source is relevant to complete the curing process of the printable resins and obtain the best characteristics of the polymerized resin.

P23. Terapia Antibiótica En Instalación De Implantes Oseointegrados. Frisbee.

Agüero I., Veliz C., Dallaserra M., Souper R.

Objectives	Determinar la efectividad de los antibióticos como terapia en pacientes que requieren instalación de implantes oseointegrados, a través de la búsqueda y análisis de las revisiones sistemáticas relevantes sobre el uso de terapia antibiótica, realizando una síntesis de la evidencia disponible respecto a la indicación, régimen y beneficios del uso de antibióticos en cirugía de implantes.
Methods	Se realizó una búsqueda avanzada en Epistemonikos, la mayor base de datos de revisiones sistemáticas en salud. Se extrajeron los datos desde las revisiones identificadas, se analizaron los datos de los estudios primarios, posteriormente se realizaron metaanálisis de los distintos desenlaces evaluados y tablas de resumen de los resultados utilizando el método GRADE.
Results	Se identificaron 24 revisiones sistemáticas que en conjunto incluyeron 20 estudios primarios. De estos, 13 corresponden a ensayos aleatorizados y sólo 5 comparan el uso de terapia antibiótica con placebo.
Conclusions	Se concluyó que el uso de terapia antibiótica es incierto en comparación al uso de placebo en la instalación de implantes óseo-integrados, a los 2 a 6 meses de seguimiento, respecto al fracaso del implante e infección postoperatoria, debido a que la certeza de la evidencia es muy baja. Es de esperarse que a la luz de futuros estudios la evidencia pudiese cambiar.

P24. Deficit in craniofacial growth and development secondary to juvenile idiopathic arthritis: A systematic review

Rojas J, Baxter E, Díaz MC, de la Maza B, Benavides G, Casassus R.

Objectives	The aim of this study was to conduct a systematic literature review to describe the relationship between juvenile idiopathic arthritis and the craniofacial growth and development, identifying clinical and radiographic abnormalities, in the prepuberal population.
Methods	A search of bibliographic material was carried out in PubMed, SciELO, Google Scholar and Dentistry & Oral Science Source (EBSCO). Search terms included: “Juvenile idiopathic arthritis”, “craniofacial development”, “temporomandibular joint”, “mandibular growth” “dentoskeletal abnormalities” and “inflammation”.
Results	From a total of 29 potential articles, after completing the selection procedure, four articles met the requirements of the inclusion and exclusion criteria, being properly reviewed by both researching members. Within the selected articles, it was found that the most common clinical signs of craniofacial growth and development in patients with JIA correspond to a smaller and retrognathic mandible, a retruded chin and a tendency to open bite. While in signs through cephalometric analysis, the findings were a larger and more pronounced mandibular plane angle, decreased facial height, increased anterior to posterior facial height ratio, posterior mandibular rotation, and a proclination and protrusion of the upper and lower incisors. Finally, in the included studies it was mentioned that there is a significant relationship between the severity of JIA and the severity of these craniofacial alterations
Conclusions	Prepubertal children exposed to JIA show deficits in craniofacial growth and development which is related to the course and severity of the disease

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PROGRAMA DE PRESENTACIÓN DE TRABAJOS ORALES

JORNADA VIERNES 04 DE NOVIEMBRE, 09:00 a 13:00 hrs.

Horario	Salón Gabriela Mistral	Salón Oscar Castro
09:00 - 09:15	Analysis of the protumoral mechanisms of the periodontal bacterium Fusobacterium nucleatum on growth, epithelial-mesenchymal transition and the expression of immunosuppressive markers in cell lines of oral squamous cell carcinoma. **Camila Muñoz**, Luciano Ferrada, Erick Riquelme, Wilfredo González-Arriagada, Felipe Zúñiga, Estefanía Nova-Lamperti	Porphyromonas gingivalis-lipopolysaccharide and hyperglycemia synergize placental proinflammation and impaired exosomes. **María José Bendek Viera**, María Luisa Mizgier, Ornella Realini, Marcela Hernández, Lara Jorge Monteiro, Alejandra Chaparro
09:15 - 09:30	The Porphyromonas spp lipopolysaccharide promotes angiogenesis via Toll-like-receptors in vitro. **Alejandra Fernández**, Daniela Herrera, Anilei Hoare, Marcela Hernández, Vicente Torres	The experimental periodontitis triggers brain pan-inflammation. **Diego Valdés**, Samanta Melgar-Rodríguez, Andrea Paula-Lima, Jaime Díaz-Zúñiga.
09:30 - 09:45	Scavenger receptor CD204 as a novel marker in gingival aging. **Verónica Villalobos**, Mónica Cáceres	Association Between Oral Health Status, Self-perceived Oral Health, and Depression. **Tomás Palomer**, Duniel Ortuño
09:45 - 10:00	Extracellular vesicles as linking mediators between gestational diabetes and periodontitis. **María Luisa Mizgier**, Ornella Realini, María José Bendek, Sofía Monje, Aldo Figari, Alejandra Chaparro	Daily Fluctuations of Proteins, Calcium, Phosphate and pH in Saliva. **María Antonieta Albornoz Bravo**, Carla Paola Lozano

Horario	Salón Gabriela Mistral	Salón Oscar Castro
10:00 - 10:15	Ferroptosis activity co-occurs with clinical progression of periodontitis. **Alfredo Torres**, Marión Arce, Angélica Michea, Akos Vegvari, Roman Zubarev, Fermín González	Filamentation of Candida albicans induced by H2O2 from Streptococcus sanguinis. **Catalina Melo Malig**, Valentina Alarcón, Felipe Ibarra, Carla Paola Lozano
10:15 - 10:30	Cytotoxic effect of Pickering emulsion on oral squamous cell carcinoma. **Bárbara Valenzuela Faundes**, José Jara, Mario Díaz.	Dimensions of anxiety in dental students after the covid-19 outbreak. **Sebastián Zamorano**, Nicolás Ponce, Juan Caro, Patricia Moya
10:30 - 11:30	**Coffee break y competición de póster**	
11:30 - 11:45	Dietary habits, nutritional status and caries in the Chilean population. **Sebastián Valdés**, Paola Parra, Rocío Quezada, Karla Gambeta-Tessini	Jak-inhibitor ameliorates salivary mitochondrial alterations in Sjögren's syndrome mice. **María José Barrera**, Patricia Carvajal, Isabel Castro, Daniela Jara, Sergio González, María Julieta González
11:45 - 12:00	Deciphering oral tissue aging: The role of TMPRSS11a in the accumulation of senescent cells. **Christian Fernández**, Verónica Villalobos, Cáceres M.	Botulinum toxin differentially affects male/female masticatory system in mice. **Camila Bravo**, Nicolás Mejías, Noelia Blanco, Rocío Carvajal, Julián Balanta-Melo, Sonja Buvinic
12:15 - 12:30	Evaluación estructural por el método de elementos finitos de geometrías de microagujas huecas para la administración de fármacos y posterior análisis CFD la una matriz de microagujas. **Francisco Henríquez**, Jorge Morales, Diego Celentano	Association between Temporomandibular Joint Degenerative Disease and Condylar Mobility. **Nicola Elsaca**, Duniel Ortuño.

Horario	Salón Gabriela Mistral	Salón Oscar Castro
12:30 - 12:45	hsa-miR-424-5p and hsa-miR-513c-3p dysregulation influence cellular proteostasis in Sjögren's syndrome. **Sergio González**, Patricia Carvajal, Isabel Castro, María José Carrera, Claudio Molina, María Julieta González	Report of sample size calculation in randomized controlled trials in dentistry **Gabriela Peña**, Sebastián Leiva.
12:45 - 13:00	Cross-cultural adaptation of the PIDAQ questionnaire to evaluate the psychosocial impact of dental esthetics in Chilean adolescents. **Humberto González Oneto**, Duniel Ortuño, Catalina Macherone, Yazmin Zedan, María Ignacia Torres	Biochemical Salivary changes during the day, a clinical study. **Javiera Villalobos Contreras**, Natalia García-Manríquez, Karla Gambetta-Tessini, Carla Paola Lozano, Constanza Echevería, Rodrigo Giacaman
13:00 - 14:00	**Almuerzo**	

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JORNADA VIERNES 04 DE NOVIEMBRE, 16:30 a 18:00 hrs.

Horario	Salón Oscar Castro	Salón Gabriela Mistral	Salón Vicente Huidobro
16:30 - 16:45	Functional dentition and cognitive health in ≥80 years Chilean population. **Gustavo Sáenz-Ravello**, Mauricio Baeza, Gisela Jara, Johanna Contreras, Andrea Paula-Lima, Jorge Gamonal	Determinants of access to oral health care in Chile: A new model. **Raúl Palacio**, Sofía Quezada, Maria Bozo.	Main Reasons for Vegan/ Omnivorous being Excluded from a Clinical-Study. **Marcela Arancibia**, Valentina Valenzuela, Matías Pino, Consuelo Silva, Constanza Fernández
16:45 - 17:00	Digital-platforms for Potentiating Recruitment and Screening Process in a Clinical-Study. **Constanza Fernández**, Marcela Arancibia, Cesia Vargas, Catalina Maturana, Rosio Peña i Lillo, Fernanda Padilla	Silver Diamine Fluoride for Older Adults. The Dental students' perceptions. **Karla Gambetta-Tessini**, Francisca Corbett, Diego Valenzuela, Soraya León	Training in tobacco control, in dentistry students. **Alejandro Serrano**, Marco Cornejo
17:00 - 17:15	Porphyromonas gingivalis lysate induces tissue disorganization in human placental explants. **Sebastián Araneda Rojas**, Alejandro Fernández, Ana Liempi, Denisse Bravo, Marcela Hernández, Ulrike Kemmerling	Association of polymorphisms to periodontitis in patients with down syndrome. **María Georgina Cáceres Peniche**, Víctor Manuel Martínez-Aguilar, Samanta Melgar-Rodríguez, Jaime Díaz-Zúñiga, Alicia Leonor Pinzon Te, Rodrigo Serrano Piña	Gut dysbiosis: potential role of the experimental periodontitis. **Oscar Santana**, Fernanda Torres Hein, Luis Daniel Sansores-España, Samanta Melgar-Rodríguez, Jamileth More, Víctor Martínez-Aguilar, Jaime Díaz-Zúñiga
17:15 - 17:30	Microbial dysbiosis during experimental periodontitis. **Marión Arce**, Natalia Endo, Estefanía Moreno, Nicolás Dutzan, Loreto Abusleme	Anticaries properties of natural berries: Systematic literature review. **Natalia García**, Rodrigo Giacaman, Carla Paola Lozano, Ana Muñoz, María Fernanda Morales	Bacterial endotoxins increases Cdk5 activity in trigeminal ganglia neurons. **Camila Durán**, Diego Cáceres, Martín Araya, Nicolás Pinto, Elías Utreras

Horario	Salón Oscar Castro	Salón Gabriela Mistral	Salón Vicente Huidobro
17:30 - 17:45	Cellular senescence may stimulate IL-6 in aged gingival wounds. Patricio Smith, **Susana Ríos**, Nicolás Tobar, Javier Espinoza, Constanza Martínez, Mónica Cáceres, Jorge Martínez, Alejandra Chaparro	Immunohistochemical identification of macrophages with CD68 in Peripheral Ossifying Fibroma. **Jorge Celis Dooner**, Fernanda Avendaño Carcey, Sergio González Providell, Isidora Mujica Valenzuela	The regularity of surface topography of dental implants: a determining factor of the cell adhesion process. **Vanessa Campos Bijit**, Nicolás Cohn - Inostroza, Alejandro Rivera Palacios, Alfredo Von - Marttens, Cristian Cortez Plaza, Cristian Covarrubias Gallardo.
17:45 - 18:00	RANKL/OPG/IL-17A axis in Alzheimer's-disease like pathology: potential effect of periodontitis. **Sebastián Cordero Quezada**, Luis Daniel Sansores-España, Andrea Paula-Lima, Samanta Melgar-Rodríguez, Jaime Díaz-Zúñiga.		Mandibular Arch Shape in a Sample of the Metropolitan Region. **Francisca Vidaurre Latorre**, Macarena Iriarte, Alejandro Díaz, German Manríquez

ÍNDICE PRESENTACIONES ORALES – CATEGORÍA JUNIOR

OJ1. RANKL:OPG:IL-17A axis in Alzheimer's-disease like pathology- potential effect of periodontitis

Cordero S., Sansores-España L., Paula-Lima A., Melgar-Rodríguez S., Díaz-Zuñiga

Objectives	Periodontitis is a chronic non-transmissible disease caused by the dysbiosis of subgingival microbiota that have recently been associated with Alzheimer's disease (AD). Also, it is known that in periodontitis, the increase of RANKL/OPG ratio, and IL-17A levels is responsible for osteoclasts activity and bone resorption. Conversely, in brain ischemic diseases, the increase in the RANKL/ OPG ratio play a protective role by avoiding the ischemic effects, and the increase of the IL-17A levels in hippocampus can trigger piramidal neurons death. This research aimed to determine the levels of RANKL, OPG, and IL-17A in hippocampus of rats affected by AD-like pathology or experimental periodontitis.
Methods	Sprague-Dawley male rats 6 weeks age were divided into the following groups: 1) experimental periodontitis, 2) experimental AD, 3) periodontitis control, and 4) AD control. After 55 days in the periodontitis model or 7 days in AD model, the RANKL, OPG, and IL-17A levels were quantified in the hippomcapus homogenates by ELISA or qPCR.
Results	A slight but less levels of RANKL/OPG ratio were detected in the hippocampus of rats with AD compared with the other conditions. Also, an increase in the production of IL-17 was detected in the hippocampus of both AD and periodontitis models.
Conclusions	The possible role of RANKL/OPG during both models of periodontitis or AD in the hippocampus is unclear. However, the presence of IL-17A may be a risk of neuronal death and, therefore, cognitive impairment associated with both models.

OJ2. Gut dysbiosis- potential role of the experimental periodontitis

Santana O., Torres F., Sansores-España L., Melgar-Rodríguez S., More J., Martínez-Aguilar V., Díaz-Zuñiga J.

Objectives	Periodontitis is a non-communicable chronic inflammatory disease that causes the destruction of the teeth supporting tissues. Some periodontitis models have recently demonstrated to induce both Alzheimer's disease (AD) and gut dysbiosis at an independent manner. Indeed, periodontitis induced by palatal inoculation of Porphyromonas gingivalis trigger AD-like pathology, but it is not clear whether it is due to a direct action of periodontitis or gut dysbiosis. To determine the presence of gut dysbiosis, not only must there be microbiological alteration, but also there must be inflammation and intestinal barrier breakdown. Thus, the present work aimed to determine the inflammation and the intestinal barrier integrity in an experimental periodontitis model induced by palatal inoculation of P. gingivalis.
Methods	Methods: 6-week-old male Sprague-Dawley rats were inoculated with 1x10 10 CFU/mL of P. gingivalis in 100µL, twice a week for 30 days. Untreated rats were considered as controls. After 30 days, 4 rats per group had their intestine removed to quantify the expression levels of IL-1β, IL-6 and TNF-α by qPCR. An additional 4 rats per group were transcardially perfused with 4% paraformaldehide to analyze the presence and distribution of zonula ocludens 1, Claudin, and occludin in the intestines by immunofluorescence. Finally, 4 rats from each group were administered FITC-Dextran 4kDa by oral gavage and, after 4 hours, serum, urine, kidneys and hippocampus were obtained to determine the degree of permeability of the intestinal barrier.
Results	Results: the rats affected by periodontitis presented intestinal inflammation characterized by an increase in pro-inflammatory mediators, alteration in the distribution and expression of intercellular junction proteins, and increased permeability of the intestinal barrier with a potential alteration of the blood-brain barrier.
Conclusions	Periodontitis is capable of affecting the intestine and, probably as a consequence, be related with AD-like pathology.

OJ3. The experimental periodontitis triggers brain pan-inflammation

Valdés D., Melgar-Rodríguez S., Paula-Lima A., Díaz-Zuñiga J.

Objectives	Periodontitis is a chronic non-communicable disease caused by a dysbiotic subgingival microbiota. Among bacteria associated with dysbiosis, *Porphyromonas gingivalis* have been recognized as a keystone pathogen. Also, P. gingivalis is capable of trigger local osteoclasts activation and thus, contribute with their pathogenic mechanisms with the bone resorption. Recently, we demonstrate that the inoculation of *P. gingivalis* in palatal mucosa induce an increase in the pro-inflammatory mediators in the hippocampus, and cognitive decline. However, it has been reported that another microorganisms can induce pan-inflammation, affecting all the brain tissues. This implies, that the region of the brain most affected by inflammation could eventually trigger different effects in the individual. Thus, we aimed to determine if experimental periodontitis is capable of inducing brain pan-inflammation.
Methods	Sprague-Dawley male 6-weeks old rats were inoculated with 100µL of P. gingivalis strain W50 containing 1x1010CFU/mL in the palatal mucosa. The inoculation was performed at the 1st and 7th days. Rats inoculated with transport bacterial medium without bacteria were considered as controls. After 55 days, the brain was isolated *ad integrum* to obtain the hippocampus, cerebellum, middle brain, and brain cortex. Bone level was determined by micro-CT, and the pro-inflammatory mediators Interleukin (IL)-1β, IL-4, IL-6, IL-10, IL-17A, and TNF-α were quantified by ELISA.
Results	In the rats affected by periodontitis, an increase in the levels of IL-1β, IL-6, IL-17A, and TNF-α were detected in hippocampus, cerebellum, middle brain, and brain cortex, compared with controls.
Conclusions	Our data suggest that experimental periodontitis induced by palatal inoculation of *P. gingivalis* strain W50 trigger bran pan-inflammation.

OJ4. Training in tabacco control, in dentistry students

Alejandro Serrano, Marco Cornejo

Objectives	To describe the training received for tobacco control according to gender in dentistry students at the Universidad de Chile..
Methods	Observational, cross-sectional, quantitative and analytical design study. A sample was selected for convenience, from 4th and 5th year students of the Faculty of Dentistry of the Universidad de Chile during the period December 2020-March 2021. A physical format survey, self-completed and anonymous, was applied after signing the informed consent. A descriptive analysis of the variables was performed according to absolute and relative frequencies. For association between variables, the proportions test was used. A 95% confidence level and a p value < 0.05 were considered.
Results	172 participants answered the survey, 15.5% were smokers (17.9% in women and 13.1% in men; p value 0.493). In relation to training, 77.9% indicated having received training in techniques to help their patients quit smoking, 41.9% declared knowing some nicotine replacement therapy to quit smoking. 91.9% stated that they had received training on the importance of recording tobacco use in the patient's clinical history and 62.8% of the reasons why people smoke. Only 9.9% knew of any other pharmacological treatment to quit smoking. Statistically significant differences were observed only in the variable "having sufficient knowledge and skills to help quit smoking", since 22.1% of the total declared having them, 16.5% of womenand 28.6% of men; p value 0.048..
Conclusions	The prevalence of smokers is 15.5%, being higher in women, although without statistically significant differences. A high percentage states that they have received training on tobacco control. However, mostdo not know about nicotine replacement therapies and other drug treatments to quit smoking. And only 2 out of 10 state that they have not enough knowledge to help patients quit smoking.

OJ5. Association Between Oral Health Status, Self-perceived Oral Health, and Depression.

Tomás Palomer T., Ramírez V., Ortuño D.

Objectives	This study evaluated the association between oral health status, self-perception of oral health and depression in adults in Chile from the National Health Survey (NHS) 2016-2017.
Methods	We conducted a cross-sectional study of secondary data from the NHS 2016-2017 in a subsample of 2,953 individuals over 18 years who had information regarding oral health, dental examination, mental health, and depressive symptoms. Expansion factors were respected, and associations were evaluated with logistic regression models, adjusted for sex, age and educational level and stratified by sex (Stata).
Results	Individuals with removable dentures had an OR of 2.42 (95% CI 1.02 - 5.74; p: 0.045) of depression in the last 12 months. In women who frequently felt discomfort when eating because of their teeth or dentures, the OR of having been diagnosed with depression was 2.07 (95% CI: 1.33 - 3.24; p: 0.001), and of having received treatment for this pathology, an OR of 1.93 (95% CI: 1.23 - 3.03; p: 0.004). Men with caries in the upper teeth had an OR of 1.36 (95% CI: 1.15 - 1.61; p: <0.001) of depression in the last 12 months.
Conclusions	Oral health and self-perception are significantly associated with depression and depressive symptoms, evidencing a modification of the effect of the sex variable in adults in Chile.

OJ6. Main Reasons for Vegan:Omnivorous being Excluded from a Clinical-Study

Arancibia M., Valenzuela V., Pino M,. Silva C., Fernández C.

Objectives	Conditions that could affect the results of a clinical study need to be anticipated and stated in the eligibility criteria. For oral health-related studies, some systemic diseases, medications, and other factors could be confounded factors and they need to be avoided. This study describes the main reasons for exclusion in an investigation targeting vegans and omnivorous.
Methods	Vegans and omnivorous between 18-39 years old willing to participate in a clinical study answered an online survey (SurveyMonkeyR). The survey was previously approved as pre-screening material by the local IRB. Questions inquired about eligible criteria, and the survey concluded when patients selected one exclusion criteria. Data were described using frequencies and percentages, and distributed by diet patterns.
Results	From 1,101 valid answers (average age of 25.6±5.6), 21.3% were vegans (n=235), and 52.2% omnivorous (n=575). Vegetarians (n=291; 26.4%) and who answered they cannot attend to in-person appointments (n=66; 6%) were immediately excluded. From 569 answers, esophageal reflux (n=51[9.6%]; 9 vegans/42 omnivorous), food allergy (n=28[5.3%];11 vegans/17 omnivorous), and pulmonary diseases (n=26[4.9%]; 8 vegans/18 omnivorous) were the most prevalent medical conditions. Antidepressants were the most commonly taken medication (10.17% out of 531, 22 vegans/32 omnivorous). Ongoing orthodontic treatment (25.64% vegans/22.90% omnivorous), daily smoking (16.67% vegans/ 14.80% omnivorous), and antibiotic use in the last two months (21.3% vegans and 17.52% vegetarians) were also prevalent. Omnivorous who do not eat red meat (8%) and people with sugar consumption higher than 6x/day (3%) were excluded.
Conclusions	According to the self-reported data, ongoing orthodontic treatment and medication consumption were the main reasons for exclusion in a young vegans/omnivorous sample.

OJ7. Daily Fluctuations of Proteins, Calcium, Phosphate and pH in Saliva

Albornoz M., Lozano C.

Objectives	Saliva is key for dental remineralization and caries protection. Whether saliva's most important remineralizing compounds have daily fluctuations is unclear. The aim of this research was to determine the daily fluctuations of the protein content, calcium and phosphate concentration, and pH in young adults' saliva.
Methods	Eleven participants were invited to donate 15 mL of unstimulated saliva, in 6 time-points during one day, from 7:00 am to 3:00 am, the next day. Participants were given a personalized Mediterranean diet, according to individual nutritional requirements. Protein content (µg/mL) was determined by a commercial BCA kit. Calcium and Phosphate were measured by spectrophotometry (Reflectoquant Flex, Merck) and expressed in mg/L. An electronic pH-meter was used to measure salivary pH at each time point. ANOVA tests were performed to calculate differences at each time point among the participants.
Results	Protein concentration showed the highest value at 7:00 pm (1702.7 µg/mL) and the lowest at 3:00 am (1402.6 µg/mL). Calcium and Phosphate had the highest concentration at 7:00 am with 34 mg/L and 93 mg/L, respectively. The mean pH value slightly increased after meals during the day; 7.36 (3:00 pm), 7.39 (7:00 pm) and 7.37 (11:00 pm) compared with a drop to 7.25 observed at 3:00 am. Protein concentration, calcium and phosphate levels, and pH measures were not statistically significantly different at any time-point during the day ($p>0.05$).
Conclusions	Salivary protein concentration, Calcium, Phosphate and pH seem remain stable in saliva from healthy young adults. Future studies could explore these variations in high-risk patients or in other age groups.

OJ8. Biochemical Salivary changes during the day, a clinical study.

Villalobos J., García-Manríquez N., Gambetta-Tessini K., Lozano C., Echevería C., Giacaman R.

Objectives	Biochemical composition of saliva may act as a protective factor against oral diseases, particularly dental caries. Daily fluctuations on the levels of some caries-related molecules have not been explored. The aim of this investigation was to explore circadian changes in the salivary concentration of several molecules, including nitrate, nitrite, glucose, lactate and ammonia in healthy young adults.
Methods	Fifteen mL of unstimulated saliva from 8 participants was collected at 6 time intervals during a day, from 7:00 am to 3:00 am, on the following day. Participants were provided with a standardized Mediterranean diet, calculated according to their nutritional requirements. Biochemical parameters in the saliva, including nitrate, nitrite, glucose, lactate and ammonia were measured (mg/L), using spectrophotometric test (Reflectoquant Flex, Merck). Differences were estimated with ANOVA at each time point.
Results	Nitrate, nitrite and glucose concentrations significantly varied during the day ($p<0.05$). Fasting (7:00 am) nitrate concentration was 22.2 mg/L and 70,8 mg/L at 3:00 pm. Nitrite increased from 1.9 mg/L at 7:00 am to 4,2 mg/L at 3:00 pm. Conversely, glucose decreased from 10.4 mg/L at 7:00 am to 4 mg/L, 4,1 mg/L and 3,4 mg/L at 3:00 pm, 7:00 pm and 11:00 pm, respectively. Lactate and ammonia remained stable throughout the day, without statistical significant differences ($p>0.05$).
Conclusions	Intrasubject variations were demonstrated in the concentrations of nitrate, nitrite and glucose, with differences between fasting and postprandial conditions. Biochemical properties of saliva seem to have circadian fluctuations. Further studies are needed to understand the implications in health and disease.

OJ9. Filamentation of *Candida albicans* induced by H_2O_2 from *Streptococcus sanguinis*.

Melo C., Alarcón V., Ibarra F., Lozano C.

Objectives	To evaluate the effect of H2O2 present in the supernatant of *S. sanguinis* cultures on the filamentation of oral *Candida albicans*.
Methods	To quantify oral *C. albicans* filamentation, cultures of oral clinical isolates of the yeast from caries-free (P25-4; ICDAS 0) and caries active (P1-1; ICDAS 6) subjects were performed. These cultures were supplemented with different volumes of *S. sanguinis* culture supernatant, using fetal bovine serum as a positive control and NaCl as a negative control. These cultures were incubated at 37 °C for 24 h under microaerophilic conditions. Subsequently, the number of hyphae of each isolate present in 10 microscopic fields per sample were counted, by duplicate in 3 independent experiments. In addition, growth curves of the isolates were made in different concentrations of H2O2, by duplicate. Differences were estimated with ANOVA test among the groups.
Results	Both isolates showed a similar filamentation in the presence of bacterial cultures. P25-4 presented greater filamentation at a greater volume of bacterial culture supernatant ($p<0.05$). P1-1 did not show differences in filamentation for the different volumes of supernatant used and with respect to the positive control ($p>0.05$). Both isolates decrease 70% of their viability at 0.1 mM H2O2.
Conclusions	H2O2 present in the supernatant of *S. sanguinis* promotes the filamentation of oral *C. albicans* in a dose-response manner.

OJ10. Report of sample size calculation in randomized controlled trials in dentistry.

Peña G., Leiva S.

Objectives	To determine the quality of the sample size report in randomized clinical trials published in scientific journals of dentistry during 2019 and 2020.
Methods	We included all randomized clinical trials published from the six highest impact dental scientific journals according to Web of Science, from January 1 2019, to December 31 2020. We excluded articles from follow-up treatment studies or observational studies, studies with bayesian analysis and pathophysiological studies. Two authors collected all data in parallel, using digital forms, and discrepancies were agreed upon by a third author. Data related to the report of sample size are reported as descriptive statistics, and sample size recalculation was replicated using the G* POWER version 3.1.9.6 program to evaluate their precision, then the discrepancies between the calculation reported by the articles and the replicated one were quantified.
Results	We selected 108 articles, and 65 could be replicated, 10 (9%) did not report any sample size calculation, and 63 (58%) did not report all the required parameters. The difference between the sample size reported in the article and the replicated was different in 53 (82%) articles, presenting a difference greater than 20% in 38 (71%) of 65 that provided sufficient data to be replicated. The assumptions for the control group were not reported in 67 (62%) articles and in 88 (81%) cases it was not reported which hypothesis test was used. Only 18 studies (17%) reported all data necessary to calculate the sample size.
Conclusions	The RCTs published in scientific journals of dentistry have a poor quality since not all the elements necessary to be replicated are provided and the discrepancies found were significant.

OJ11. Dimensions of anxiety in dental students after the covid-19 outbreak

Zamorano S., Ponce N., Caro J., Moya P.

Objectives	determine which dimension of anxiety in dentistry students at the Finís Terrae University who return to attendance in 2022 is the most affected.
Methods	Cross-sectional design in students entering the 1st year of dentistry at Finís Terrae University. Prior informed consent, the William WK Zung self-assessment scale was applied, an instrument with 20 statements that measure symptoms associated with anxiety. Each response generates individual scores, which are totaled and transformed into an index that indicates an equivalent clinical impression. The final score is the sum obtained in each item. Items 1 to 5 are considered the description of the affective dimension and items 6 to 20 the description of the somatic dimension. A descriptive analysis was performed by sex (male/female/other) and age (years completed) of the general result and by dimension.
Results	58 students answered the questionnaire, 74.4% women. The mean age was 18.6 (SD: 0.97). 82.8% presented some degree of anxiety, with women being more affected. 58.6% classify with moderate anxiety and 20.7% severe anxiety. The affective dimension obtained a higher prevalence than the somatic in relation to the final result.
Conclusions	The affective dimension has a higher prevalence in anxiety symptoms , it is relevant to continue with studies associated with this dimension to approach the understanding of the origin of anxiety in dental students.

OJ12. Association between Temporomandibular Joint Degenerative Disease and Condylar Mobility

Elsaca N., Ortuño D.

Objectives	Degenerative joint disease (DJD) of the temporomandibular joint (TMJ) is an inflammatory condition characterized by the deterioration of soft and hard tissues, therefore, it can predispose to the development of morphological and functional alterations, such as limited or increased condylar mobility (CM). Our aim was to determine the association between DJD of the TMJ and these CM disorders.
Methods	111 TMJ Cone Beam Computed Tomography protocols from a database of San Bernardo`s Health Centre of Los Andes`s University were analyzed. Imagenological signs of DJD were evaluated using Schiffman`s Criteria (2014). CM was examined at maximum unforced opening based on the location of the condyle in relation to the articular eminence`s apex; then classified into hypomobility (condyle posterior to the apex), normal mobility (condyle and apex aligned) or hypermobility (condyle anterior to the apex). A statistical analysis of frequencies was used to classify subjects as healthy or with DJD and the type of CM, according to sex and age range. Chi-square test was used to assess the association between DJD and CM for left and right TMJs separately, and a multinomial logistic regression model to obtain the odds ratio of each type of CM.
Results	90% of the patients were women. 73,8% subjects had at least one TMJ with DJD. Condyles were the most affected surface in both TMJs. Most frequent signs in condyles were flattening, osteophytes and erosion. Hypermobility was the prevailing CM in both TMJs. We found a statistically significant association between DJD and CM, both in right (p=0,003) and left (p=0,001) TMJs. There was a higher risk of hypermobility, with an OR of 1,2 (CI95%;0,280-5,214) on right TMJs and 1,6 (CI95%;0,271-9,793) on left TMJs.
Conclusions	We found an association between DJD and MC in both TMJs, more frequently in women in their early 20s to late 40s.

OJ13. Immunohistochemical identification of macrophages with CD68 in Peripheral Ossifying Fibroma

Celis Dooner J., Avendaño Carcey F., González Providell S., Mujica Valenzuela I.

Objectives	Peripheral Ossifying Fibroma (POF) is a reactional conjunctival hyperplasia of the gingival mucosa, presenting clinically as a nodule. Histologically, it is composed by an epithelial lining and fibrous connective tissue, with trabecular bone, immature bone tissue, and/or calcified cementoid-like material. It has been proposed that the presence of bone tissue could be related to the presence of macrophages. Identify macrophages through immunohistochemical staining for CD68 in histological samples of POF.
Methods	Demographic, histological, and immunohistochemical characteristics of 17 POF cases were examined.
Results	CD68 staining was positive in 15 cases, and CD68+ cells were found to be located immediately adjacent to the epithelium, immediately adjacent to the ulcer, in the thickness of the connective tissue, in relation to bone tissue, and in relation to cementoid-type calcifications.
Conclusions	Macrophages could be an important component in POF histogenesis. Locations close to the ulcer demonstrate the higher immunostaining. It is suggested that these macrophages may correspond to M1 phenotype, future research could review the association between M2 phenotype and the osteogenesis phenomenon. Macrophages can be identified in histological sections of POF using CD68. For the identification of their polarization, it is recommended to use markers complementary to CD68.

OJ14. Botulinum toxin differentially affects male:female masticatory system in mice

Bravo C., Mejías N., Blanco N., Carvajal R., Balanta.Melo J., Buvinic S.

Objectives	Botulinum toxin type A (BoNTA) injection in masticatory muscles is an *off-label* treatment widely used for aesthetic and clinical interventions of the masticatory system. We have demonstrated that BoNTA-unilateral injection in mice masseter muscle evokes muscle atrophy and mandibular condyle bone loss. All our previous work has been carried out in adult male mice. However, patients undergoing BoNTA injections are primarily women. Considering that females are more sensitive to stimuli evoking musculoskeletal damage, the current study aimed to evaluate and compare the BoNTA-evoked musculoskeletal injury in the masticatory system of male/female adult mice.
Methods	Male/Female 9 weeks-old mice (18 of each) were injected with 0.2U BoNTA and saline solution in the right and left masseter muscle, respectively. Groups of 6 males/females were euthanized at 2d, 7d, or 14d after the intervention. Masseter muscles were dissected and processed for mRNA detection of atrophy/regeneration markers (Atrogin, Murph, Myogenin) by qPCR. Mandibles were stored in formalin and scanned by micro-computed tomography (micro-CT, 5.8 µm voxel; John Nyakatura lab, University of Humboldt, Berlin). 3D-reconstructions and microstructure analysis were performed with DRAGONFLY (Object Research Systems, Canada).
Results	In masseter muscles, BoNTA evoked a significant increase in the atrophy markers Atrogin and Murf at 2-7d, both in males and females. However, the induction of the muscle regeneration marker Myogenin was greater in BoNTA-injected muscles of males than in females. On the other hand, in the mandibular condyle, BoNTA evoked a similar reduction in the parameters of Bone Volume and Trabecular Thickness in males/females, 7-14d after the intervention. However, BoNTA prompted an earlier and higher reduction in Bone Volume Fraction and increased Trabecular Space in females than in males.
Conclusions	These results suggest a higher susceptibility of females to musculoskeletal damage of the masticatory system evoked by BoNTA, which should be taken into account when considering its clinical use.

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2. datos en archivo.

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ÍNDICE PRESENTACIONES ORALES – CATEGORÍA SENIOR

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OS19 Jak-inhibitor ameliorates salivary mitochondrial alterations in Sjögren's syndrome mice

OS20 Cross-cultural adaptation of the PIDAQ questionnaire to evaluate the psychosocial impact of dental esthetics in Chilean adolescents.

OS21 Mandibular Arch Shape in a Sample of the Metropolitan Region

OS22 Functional dentition and cognitive health in ≥80 years Chilean population

OS23 The regularity of surface topography of dental implants: a determining factor of the cell adhesion process.

OS24 Digital-platforms for Potentiating Recruitment and Screening Process in a Clinical-Study

OS25 Bacterial endotoxins increases Cdk5 activity in trigeminal ganglia neurons

OS1. Analysis of the protumoral mechanisms of the periodontal bacterium *Fusobacterium nucleatum* on growth, epithelial-mesenchymal transition and the expression of immunosuppressive markers in cell lines of oral squamous cell carcinoma

Muñoz C., Ferrada L., Riquelme E., González-Arriagada W., Zuñiga F., Nova-Lamperti E.

Objectives	Characterize the protumoral mechanisms induced by *Fusobacterium nucleatum* on growth, epithelial-mesenchymal transition (EMT), and expression of immunosuppressive markers in oral squamous cell carcinoma cell lines.
Methods	Oral cancer cell lines were infected with the periodontal bacteria *Fusobacterium nucleatum* at a MOI 100. To evaluate the effect of the bacteria on tumoral growth of cancer cells, we used the visualization and measure of tumor spheres at a 3, 6 and 10 days post-infection. The expression of EMT markers on oral cancer cells, such as MMP-9 and E-cadherin were analyzed by qPCR, after 6 and 48 h post infection. Finally, the expression of immunosuppressive molecules on OSCC cells induced by the bacteria was evaluated by flow cytometry.
Results	A significant increase in the size of tumor spheres infected with the *F. nucleatum* was found at 3, 6 and 10 days post-infection. MMP-9 was significantly elevated in infected cells at 6 hours post infection and E-cadherin was significantly downregulated post infection. Also, related to immunosupressive molecules, infected and non-infected cancer cells highly expressed CD155, PDL-1, however Galectin-9 was significantly elevated only in infected cells.
Conclusions	The periodontal bacterium *Fusobacterium nucleatum* could promotes tumor progression of OSCC through increased tumor growth, acquisition of ETM-associated markers, and increased expression of markers associated to tumor immunosuppression.

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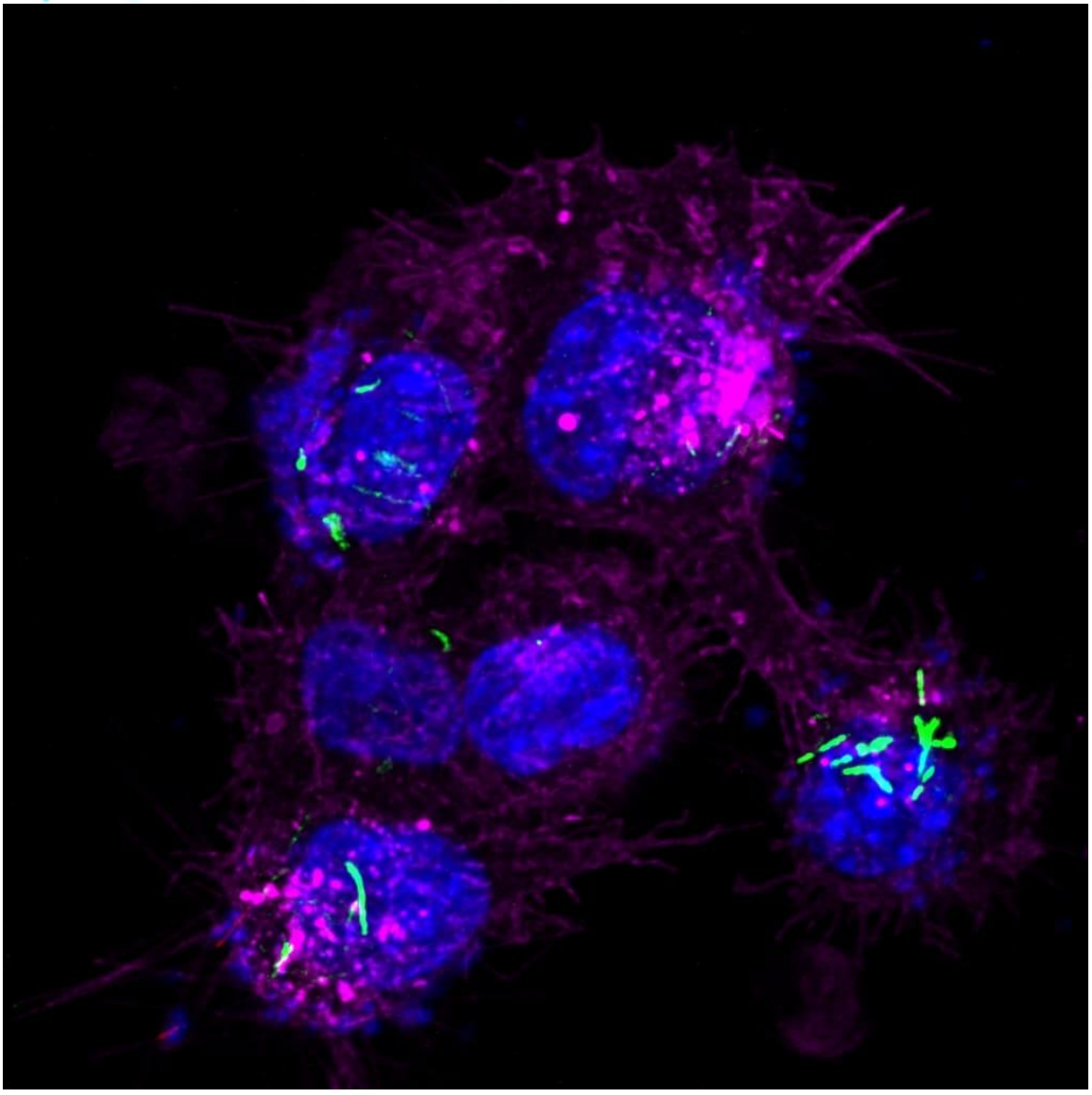

OS2. *Porphyromonas gingivalis* lysate induces tissue disorganization in human placental explants.

Araneda S., Fernández A., Liempi A., Bravo D., Hernández M., Kemmerling U

Objectives	*Porphyromonas gingivalis* (*P. gingivalis*) is considered a "keystone pathogen" in periodontitis and is associated with adverse pregnancy outcomes. It has been proposed that virulence factors from *P. gingivalis* might alter placental function. However, the effect of *P. gingivalis* lysates on the human placental barrier has not been studied. Objective: To evaluate the impact of *P. gingivalis* lysates on the placental barrier structure.
Methods	*P. gingivalis* lysate was obtained by freezing-thawing-sonication. Gingipain activity and the presence of lipopolysaccharide were determined. Healthy human placental explants (HPE) obtained from term deliveries were incubated with different protein concentrations (10, 50, 100, and 200 µg/ml) of lysate for 24 hours. Tissue damage was evaluated by conventional histology, histochemistry for type I collagen (Masson's trichrome, Picrorojo-Sirius), glycosylated molecules (PAS), and immunohistochemistry for laminin and fibronectin.
Results	Lysate of *P. gingivalis* caused significant tissue damage in the free chorionic villus structure, evidenced by the separation and destruction of the trophoblast, discontinuity of supporting basal lamina, and type I collagen disorganization.
Conclusions	The tissue alterations caused by the virulence factors of *P. gingivalis* in the free chorionic villus could explain, at least partially, the possible adverse pregnancy outcomes in women with periodontitis.

OS3. The *Porphyromonas spp* lipopolysaccharide promotes angiogenesis via Toll-like-receptors *in vitro.*

Fernández A., Herrera D., Hoare A., Hernández M. Torres V.

Objectives	To evaluate whether the lipopolysaccharides (LPS) of *Porphyromonas endodontalis* (*Pe*) and *Porphyromonas gingivalis* (*Pg*), via TLR2 and TLR4, trigger angiogenesis-related effects *in vitro.*
Methods	The *Pe*(ATCC35406)-LPS and clinical isolate (CI) were purified with TRIzol. For *Pg*, a pure commercial *Pg*-LPS was obtained. Transwell assays were performed to evaluate the effects of the different LPS (10 µg/mL) in endothelial cell (EC) migration at 24h. Cell migration was quantified in an optical microscope (40x). The effects of *Pe*-LPS on FAK phosphorylation (Y397, pFAK) was assessed by immunowestern blot. Endothelial tube formation was measured in Matrigel surfaces, in the absence or presence of each LPS for 14 h, and counted in under a light microscope (20x). IL-6 and VEGF-A levels were determined in cell supernatants, following 24h treatment with LPS and measured in multiplex bead immunoassay. The involvement of TLR2 and TLR4 was assessed with blocking antibodies. Data analysis was performed with STATA V12 software.
Results	*Pe*-LPS, but not *Pg*-LPS, stimulated EC migration ($p<0.05$). Pre-treatment with anti-TLR2 and anti-TLR4 antibodies prevented *Pe* LPS-induced cell migration ($p<0.05$). *Pe*-LPS increased the signal intensity of p-FAK/FAK ratio. *Pe*-LPS and *Pg*-LPS induced endothelial tube formation. Blocking of both TLRs decreased tube formation induced by *Pg*-LPS and *Pe*-LPS ATCC, while only TLR2 blocking decreased tube formation induced by *Pe*(CI)-LPS. Moreover, all LPS induced IL-6 and VEGF-A synthesis in endothelial cells. TLR2 and TLR4 were required forIL-6 induction by *Pg*-LPS, while only TLR4 was involved in IL-6 secretion by *Pe*(CI)-LPS and *Pg*-LPS. Finally, VEGF-A synthesis did not require the TLR signaling.
Conclusions	*Pe*-LPS stimulated EC migration and FAK phosphorylation via TLR2. Also, *Pe*-LPS induced endothelial tube formation, mainly through TLR2-pathway, while *Pg*-LPS did it via TLR2 and TLR4. In addition, *Pe*-LPS and *Pg*-LPS caused the secretion of IL-6 via TLR4 and VEGF-A.

OS4. Microbial dysbiosis during experimental periodontitis

Arce M., Endo N., Moreno E., Dutzan., Abusleme L.

Objectives	Periodontitis is a chronic inflammatory disease in which the local immune response against a dysbiotic subgingival microbiome results in alveolar bone resorption and tooth loss. Dysbiosis and alterations in the microbial communities associated with periodontitis are currently considered fundamental factors in its etiology. Therefore, this study aimed to analyze the establishment of microbial dysbiosis from studies that have used the ligature-induced periodontitis (LIP) model.
Methods	From 9 studies available in the literature, data analysis was performed with 16SrDNA gene sequences. The sequences were divided according to the amplified 16SrDNA gene hypervariable region (V1-V3 and V4), pre-processed, and analyzed using Mothur software. Alpha and beta diversity analyses were performed, in addition to the characterization of relative abundance with analysis based on the definition of Operational Taxonomic Units at 97% similarity.
Results	The microbial richness and diversity across the different studies are similar. A change in the relative abundance of bacterial species is observed from the fifth day after ligature, with significantly overrepresented *S. danieliae* and *Muribaculaceae* family in health, and *F. rodentium*, *Enterococcus sp.*, *E. faecalis*, *B. pseudolongum*, and *Adlercreutzia sp*. during LIP across studies.
Conclusions	There are relevant changes in the richness, diversity, structure, and relative abundance of microbial communities from health to LIP, that are present in all studies reanalyzed.

OS5. Scavenger receptor CD204 as a novel marker in gingival aging

Villalobos V., Cáceres M.

Objectives	Macrophages are sentinels against oral pathogens infections, activity mediated by surface expression of pathogenic pattern recognition receptors (PRRs). The surface PRRs expression is closely related to phenotype acquisition as well as phagocytic functions against pathogens. Therefore, changes in their surface expression provided insight into macrophage functions. We aim to evaluate changes in PRRs on macrophages involved in the phagocytosis of gram-negative periodontal pathogens in gingival tissue during aging.
Methods	We performed immunofluorescence assays to evaluate CD68+ macrophages and the expression of CD204 and TLR4 in gingival tissue samples from young, middle-aged, and aged volunteers. In addition, we evaluated changes in protein levels of CD204 by western-blot assay from cell lysate of THP-1 macrophages stimulated with TNFα or LPS*pg* to detect PRRs expression.
Results	Our results show an increased number of CD68+ cells and decreased CD204 expression in aged samples. Interestingly resident macrophages CD68+ present low levels of CD204 expression age-dependent manner. Otherwise, macrophages THP-1 treated with TNFα and LPS*pg* show reduced levels of CD204 monomer and oligomer form related to control.
Conclusions	We found that CD204 is expressed in gingival tissue at both connective and epithelial regions which has not been previously reported, and the levels during aging of total CD204+ cells decreased and also macrophages CD68+CD204+. The western-blot results show that the two populations of CD204 proteins, oligomers and monomers, are decreased in response to the inflammatory stimulus, where TNFα has a major impact on the oligomeric CD204. Changes in CD204 oligomers could be implicated with the diminished functionality of this membrane trimeric receptor. The results in vitro model are in concordance with histological changes in CD204. These findings could present an important view on macrophages' oral immunity against pathogens gram-negative. We look forward to approaching the role of CD204 in aging and disease.

OS6. Cellular senescence may stimulate IL-6 in aged gingival wounds.

Smith P., Ríos S., Tobar N., Espinoza J., Martínez C., Cáceres M., Martínez J., Chaparro A.

Objectives	Aging is characterized by increased levels of cellular senescence, a biological response in which senescent cells modify their transcriptional program, increasing the expression of inflammatory mediators that may modify tissue regeneration. In this study we have analyzed whether gingival fibroblasts derived from human aged subjects or induced to senescence by oxidative stress, may alter the expression of inflammatory factors of importance to the wound healing response.
Methods	Primary cultures of human gingival fibroblasts were obtained from young (n=4) and aged donors (n=4). Gingival fibroblasts were exposed to hydrogen peroxide to induce senescence. Cellular senescence was assessed by identifying cell size and by staining for gamma H2A.x and Senescence Associated beta galactosidase. Cell proliferation was assessed by immunofluorescence for Ki67. The expression of senescence-associated genes was evaluated by RT-qPCR. Gingival wounds were performed in young and aged mice to evaluate the expression of IL-6 using immunohistochemistry. Statistical analysis was performed by using the unpaired t test or Mann-Whitney test through Prism.
Results	Among different mediators evaluated, gingival fibroblasts from aged donors secreted significantly increased amounts of IL-6 at the protein levels and showed augmented levels of senescence when compared to young counterparts. Gingival fibroblasts stimulated with H2O2 became senescent and showed significantly increased IL-6 expression levels. Gingival wounds in aged mice showed signs of delayed connective tissue healing and increased IL-6 levels when compared to young wounds.
Conclusions	The present results suggest that aged wounds are characterized by increased levels of IL-6 and cellular senescence may stimulate IL-6 secretion in gingival fibroblasts. This mechanism may contribute to the pathogenesis found in delayed aged gingival wounds.

OS7. Extracellular vesicles as linking mediators between gestational diabetes and periodontitis

Mizgier ML., Realini O., Bendek MJ., Monje S., Figari A., Chaparro A.

Objectives	Periodontitis is an inflammatory disease, affecting around 45-50% of global population and over 60% of pregnancies. At an epidemiological level, it is associated with an increased risk of adverse pregnancy outcomes (APOs), as gestational diabetes mellitus (GDM). However, the biologic mechanisms linking periodontitis and GDM remain elusive. We have postulated that periodontitis-derived extracellular vesicles (EVs) could be involved in the crosstalk between both diseases. EVs are secreted by several cell types and their cargo contain proteins and non-coding RNAs, being important mediators of cell-to-cell communication. Our aim is to explore gingival crevicular fluid (GCF)- and plasma-derived EVs concentration and their subpopulations (microvesicles and exosomes) in women with GDM compared to healthy pregnancies and their relationship with periodontitis severity.
Methods	A cross-sectional study was conducted. Pregnant women were recruited at 24-32 gestational week. Demographic, obstetric, and periodontal data were recorded, and oral glucose tolerance test was performed for GDM diagnose. GCF and plasma samples were collected and EVs isolated by ExoquickTM or ultracentrifugation, respectively. EVs size and concentration was assessed using nanoparticle tracking analysis and EVs markers by multiplex immunoassay.
Results	32 out of 86 women had GDM. Total EVs and exosomes concentration were higher in women with GDM vs with healthy pregnancies in GFC ($p<0.01$) but not in plasma samples. Moreover, exosomes, microvesicles, and total EVs were higher in GCF from pregnant women with severe periodontitis vs mild periodontitis and gingival health ($p<0.01$). Plasma-exosomes and microvesicles were higher in pregnant women with severe vs mild periodontitis ($p=0.04$ and $p=0.03$, respectively). In addition, all studied EVs expressed specific markers CD81, CD9, CD63 and Syntenin-1.
Conclusions	Periodontitis induced an exacerbated release of EVs into the circulation, which could contribute to a systemic inflammatory status in pregnant women leading to APOs, as GDM. Further studies on EVs content and role are required to determine such mechanisms.

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OS8. *Porphyromonas gingivalis*-lipopolysaccharide and hyperglycemia synergize placental proinflammation and impaired exosomes

Bendek MJ., Mizgier M., Realini O., Hernández M., Monteiro L., Chaparro A.

Objectives	Periodontal bacteria translocation to placental tissues has been proposed as a mechanism of association between Periodontitis and Adverse Pregnancy outcomes, such as Gestational Diabetes Mellitus (GDM). However, the simultaneous effect of *Porphyromonas gingivalis*-Lipopolysaccharide (*P.g*-LPS) and hyperglycemia has never been investigated in an *ex vivo* placental model. We proposed that together, they synergistically upregulate the activation of proinflammatory pathways and induce a distinct placental-extracellular vesicles (EVs) release profile. Objective: To assess the effect of *P.g*-LPS and hyperglycemia on placental *ex vivo* proinflammatory status and EVs release profile.
Methods	Term-chorionic villi explants from healthy pregnant women (n=10) were obtained and stimulated with: 1) Normoglycemia; 2) Hyperglycemia; 3) *P.g*-LPS; 4) *P.g*-LPS + Hyperglycemia (dual stimuli). TLR-4, Phospho-NF-κB and inflammasome NLRP-3 protein expression was analyzed by Western Blot; and nuclear localization of NF-κB through immunofluorescence. Cytokines IL-1β and TNF-α mRNA expression was assessed by RT-qPCR. EVs release profile was analyzed by nanoparticle tracking analysis and their surface markers by Western Blot and Multiplex Immunoassay. Statistical analysis of Friedman's or ANOVA multivariate comparison was performed (alpha 0.05).
Results	The dual stimuli induced higher NLRP-3 protein expression (p<0.001), nuclear localization of NF-κB (p<0.001), and TNF-α (p=0.015) mRNA expression in placental explants. *P.g*-LPS increased NF-κB phosphorylation (p=0.017) and IL-1β (p=0.001) mRNA expression. Placental EVs expressed CD63, CD9, CD81, Syntenin-1 and ALIX in all conditions. The dual stimuli reduced exosomes concentration (30-150 nm) comparing with normoglycemia (5.4x1012 vs. 7.7x1012 particles/mL, p=0.042), and increased the concentration ratio of microvesicles (200-1000 nm) relative to exosomes across experimental conditions (2.28 vs. 1.38, p=0.029).
Conclusions	The *ex vivo* placental model responds to *P.g*-LPS and hyperglycemia by synergistically increasing its proinflammatory status and altering the release of its exosomes, which might be a response to cellular stress. Thus, this novel study contributes evidence to the biological plausibility between Periodontitis and GDM association.

OS9. Ferroptosis activity co-occurs with clinical progression of periodontitis

Torres A., Arce M., Michea A., Vegvari A., Zubarev R., González F.

Objectives	To evaluate cell-death processes present in the human GCF during progression of periodontitis.
Methods	Five healthy patients with periodontitis aged between forty and fifty years-old were monitored weekly in their progression of periodontal destruction scored as clinical attachment loss (CAL), obtaining GCF samples in each session. Two groups were established: Progression (PG) and non-progression (NP), according to CAL differences during monitoring phase. Proteins were identified with high-throughput proteomic techniques (HPLC-MS) with label free analysis to determine the relative protein abundance, and western-blot analysis were performed to validate results. Enrichment bioinformatic analyses were performed in String-DB, FeRRDB and Shiny GO environment.
Results	Proteomic analysis of GCF identified 1504 proteins: 1502 and 1500 proteins in NP and PG, respectively. 48 proteins were exclusively identified in PG, while 52 were identified in NP. FTH1, a suppressor for ferroptosis were absent in PG while SNCA, a driver for ferroptosis, was exclusively found in PG. Western blot analysis confirmed FTH1 results suggesting ferritinophagy. ANXA5, an apoptosis marker, and PADI4, a marker for netosis, were more abundant in NP ($P<0.05$). In PG, enrichments analysis showed ferroptosis activity, binding to metallic ions and lipid metabolism. These results indicates that ferritinophagy-mediated ferroptosis is involved in the clinical progression of periodontitis and may explain inflammatory dysregulation as a hallmark of periodontitis.
Conclusions	Ferroptosis activity co-occurs with clinical progression of periodontitis. A better understanding of this novel findind may generate new diagnostic and therapeutic approaches.

OS10. Cytotoxic effect of Pickering emulsion on oral squamous cell carcinoma

Valenzuela, B., Jara, J.; Díaz M.

Objectives	Oral squamous cell carcinoma is one of the most frequent neoplasms in the world. Conventional therapies have lack efficacy due to multidrug resistance, and also present various adverse effects that affect the patient's quality of life. The use of natural products derived from essential oils (EO) has been proposed as an adjuvant treatment. *Origanum vulgare* essential oil (AEO) has demonstrated cytotoxic activity in cellularmodels. One of the ways to improve the biological activity is through the formulation of Pickering emulsions (PE) with AE, whose characteristic is to be stabilized by solid particles. To evaluate the pharmacological effect of EP of *Origanum vulgare* essential oil on oral squamous cell carcinoma tumor cells
Methods	AEO was obtained by vapor entrainment, characterized by gas chromatography. Characterization of EP was performed by dynamic light scattering and scanning electron microscopy (SEM). Cell viability of two cell lines, SCC-25 and CAL-27, was evaluated at 48 hr, through MTT reduction assay. The results were analyzed with Graphpad prism 6.0 software.
Results	The PE presents sizes of 1900 ±112 µm, Z potential of -48.8 ±6.2 mV and PDI =1. The major components of AEO: thymol, carvacrol, and cis-sabinene. The IC50 for SCC-25 with AEO was 2.7 µg, and in PE it was 1.5 µg. In the case of CAL-27 the IC50 with PE was 1.44 µg ($p \leq 0,05$.)
Conclusions	PE has been described as a controlled release form of AEO over time. It is observed that the studied parameters of our emulsion are stable. It inhibits the growth ofcancer cells while maintaining the effect of AEO. Therefore, AEO Pes present cytotoxic activity in SCC-25 and CAL-27 cells.

OS11. Determinants of access to oral health care in Chile- A new model

Palacio R., Quezada S., Bozo M.

Objectives	The Chilean health system has implemented reforms to reduce socioeconomic inequality in health by developing and expanding new health policies. However, despite the high incidence of oral health problems, there is not much information on the determinants of inequality in access to oral health care, especially income. This study, through the use of the 2017 Socioeconomic Characterization Survey, seeks to contribute to this area.
Methods	This survey considered 202,155 individuals. The dependent variable was based on the question: How many dental consultations or attentions did you receive in the last 3 months? It was adjusted for age, health system, educational level, sex, rurality, and income. Several two-part models were used (logistic/Poisson, logistic/gamma, logistic/neg. binomial). Also, using the Akaike information criterion, the model that fits better with the data to explain which determinants affect individuals' access to oral health care and the number of visits was determined.
Results	The two-part model with the best goodness of fit was logistic/gamma, which showed that age, health system, educational level, gender, rurality, and income affected whether individuals had access to oral health care ($p<0.01$) or not. On the other hand, only the variable age affected the number of visits ($p<0.01$).
Conclusions	Currently, Chilean and international studies on inequality in access highlight that the higher the socioeconomic level, the more possibilities for accessing a dental consultation, which is consistent with this study. However, few studies talk about the influence of age. The methodology of this study has rarely been used in dentistry, being a valuable tool to know the determinants that influence the access and number of dental visits.

OS12. Dietary habits, nutritional status and caries in the Chilean population

Valdés S., Parra P., Quezada R., Gambeta-Tessini K.

Objectives	To determine the relationship between the nutritional status, diet composition and the prevalence of cavitated carious lesions in people over 15 years of age according to the data collected by the Chilean National Health Survey (CNHS) 2016-17
Methods	A cross-sectional study was developed analyzing data from the CNHS. Variables included body mass index (BMI), diet composition, and the presence of cavitated caries lesions. Then, using the complex sample analyses package of SPSS v 25 chi-squared and binary regression models were performed.
Results	The prevalence of people with carious lesions is 51.3%. Only 17.4% of Chileans reported drinking the recommended amount of water. Caries prevalence is highest in those who never consume dairy (61.3%, $p<0.001$) or whole wheat flour (54.7%, $p=0.004$) and among consumers of sugary drinks (54.4%, $p=0.004$). The BMI also increases caries the prevalence, however, this was not statistically significant ($p=0.18$). The binary model was significant for 5% of the variance. Soft drinks (OR=1.3, $p=0.03$) and whole wheat consumption (OR=1.2, $p=0.04$), controlled by age ($p<0.001$) and sex ($p=0.002$) were statistically associated with the cavitated caries prevalence
Conclusions	There was a relationship between dietary patterns (diary, fiber, and sugar consumption) and caries prevalence. It might be relevant to explore these associations further to create and improve caries risk models including the risk indicators previously mentioned. There is need to develop a national oral health survey to monitor these risk factors and to evaluate existing oral health programs.

OS13. Silver Diamine Fluoride for Older Adults. The Dental students' perceptions

Gambetta-Tessini K., Corbett F., Valenzuela D., León S.

Objectives	Silver diamine fluoride (SDF) is used for arresting and preventing caries lesions in high-risk populations, including older adults. This study investigates the knowledge, perceptions, and willingness to use SDF in final-year dental students from various Chilean dental schools.
Methods	An online survey was designed consisting of 24 total questions regarding students' demographic information and SDF contextualization, students' knowledge about SDF properties and indications, and students' perceptions about usefulness, appropriateness, and willingness to use SDF. The survey was distributed by email to graduating dental students from 20 Chilean dental schools. Data were tabulated and the percentage distribution of responses was calculated using SPSS v 25.
Results	A total of 276 surveys were returned. Most students (n=251, 90.9%) reported never having used SDF and not having access to any clinical guidelines on SDF for elderly people (n=195, 70.7%). Students recognized that SDF has antimicrobial properties (n=172, 62.3%), promotes fluorapatite formation (n=159, 57.6%), causes black staining (n=166, 60.1%) and arrests carious lesions (n=216, 78.3%). A 62.3% (n=172) of the students agreed that SDF could be the best choice for carious lesion management in older people with cognitive or physical impairment and a similar proportion would be inclined to use SDF in their future clinical practice (n=176, 63.8%).
Conclusions	Last-year dental students have a positive perception of SDF regarding its usefulness and appropriateness for managing caries in older adults. However, many students reported never having used SDF in their undergraduate clinical courses. A high proportion of students would use SDF in their future clinical practice.

OS14. Deciphering oral tissue aging- The role of TMPRSS11a in the accumulation of senescent cells

Fernández C., Villalobos V., Cáceres M.

Objectives	The life expectancy has increased exponentially. Along with this, there has been an epidemiological transition from infectious to chronic non-communicable diseases associated with aging. One of the hallmarks of aging is cellular senescence, which has been associated with various aging-related pathologies due to its accumulation in tissues by a mechanism that is still unknown. Particularly the effect of senescent cells in various tissues has been described; however, this phenomenon is unknown in gingival tissue. Results from our laboratory indicate that a anchored-membrane protease, TMPRSS11a, induces senescence by increasing its expression is increased in gingival tissue from aged donors. In gingival tissue little is known about induction of cellular senescence when exposed to bacterial noxa and pro-inflammatory environments and how the accumulation of these cells affects the loss of homeostasis and tissue function.
Methods	To determine how various sublethal stimuli induce senescence and alter the recognition of senescent cells by the immune system, using primary gingival fibroblasts exposed to sublethal doses of LPS, TNF-α and H2O2, we evaluated by cell biology and biochemistry techniques markers associated with senescence and recognition ligands for senescent cells by the immune system.
Results	We found that stimulation for 7 days with these stimuli increased markers of SAHF, DDR and cell cycle arrest, as well as increased levels of TMPRSS11a. We also found alterations in the levels of recognition ligands such as CD112, CD155, MICA/B and HLA-C.
Conclusions	Our findings indicate that bacterial noxa or proinflammatory environments to which oral tissue is subjected effectively induce senescence in gingival fibroblasts and that these alter their recognition molecules favoring their accumulation in tissue and affecting their homeostasis. This knowledge allows us to develop tools or therapies that target these mechanisms for the application of senolytic or senostatic strategies and thus delay or reverse oral pathologies associated with aging.

OS15. Association of polymorphisms to periodontitis in patients with down syndrome

Cáceres MG., Martínez-Aguilar V., Melgar-Rodriguez S., Díaz-Zuñiga J., Pinzon A., Serrano R.

Objectives	Down syndrome (DS) is one of the most common chromosomal conditions in humans, which manifests itself during cell division by presenting an additional copy on chromosome 21. In patients with DS there is a higher incidence of periodontal disease (PD) compared with the general population. PD includes a wide variety of chronic inflammatory diseases that affect the gingiva, bone, and periodontal ligament. Some studies suggest that cytokine polymorphisms could be associated with PD through a pro-inflammatory susceptibility. Aim: To determine the presence of polymorphisms of the CCL5, CCR5, and TNF-α genes, and the levels of the cytokines IL-8, and IL-17 in patients with or without DS affected or not by PD.
Methods	A case-control study was carried out in the Diagnostic Department of the Faculty of Dentistry of the Autonomous University of Yucatan, and ethically approved (FODO-2019-0001). 24 patients with DS and with different degrees of PD were recruited, and patients without DS were selected as controls. A periodontal examination was performed on each participant to confirm the periodontal diagnosis. Saliva samples were obtained to determine the presence of the polymorphisms by qPCR, and the cytokines by ELISA. For the polymorphisms, the Hardy-Weinberg frequency and odds-ratio was determined. The cytokine levels were analyzed by ANOVA-Tukey.
Results	The GA and AA genotypes of the CCR5 G59029A polymorphism were a risk factor for PD, as well as the presence of the A allele. Also, higher levels of IL-8 and IL-17A were detected in patients with periodontitis stage III-IV.
Conclusions	The polymorphism of the CCR5 receptor G59029A could be considered as a risk factor in patients with DS to develop periodontitis stage III-IV. Otherwise, pro-inflammatory mediators correlate positively with polymorphisms and DS.

OS16. Evaluación estructural por el método de elementos finitos de geometrías de microagujas huecas para la administración de fármacos y posterior análisis CFD de una matriz de microagujas.

Henríquez F., Morales J., Celentano D.

Objectives	In this work we present the structural comparison of 4 different designs of individual hollow MNs for use as transdermal drug delivery system (TDDS) through the finite element method (FEM) and a subsequent fluid analysis, in a matrix of MNs by computational fluid dynamics (CFD).
Methods	For structural analysis and comparison of the proposed designs, ANSYS 2021 R1 software is used to simulate the insertion of an individual MN in the skin. The study and analysis were performed under simulations of structural strength, buckling and MN-skin contact. For CFD modeling, lidocaine was proposed as the analgesic of interest. This analysis was performed by comparing a vertical flow and a lateral flow proposal for a 4X4 MN matrix, where the fluid enters at a velocity of 0.05m/s and a pressure of 2000Pa. Finally, the organism is established as an aqueous porous medium, to model the filtration of lidocaine into the blood capillaries.
Results	The most favorable proposal to avoid structural failure in the insertion of the MN in human skin was the conical MN, which withstands 0.16N as a force before failure. In addition, a higher homogeneity in delivery is appreciated in the vertical flow matrix.
Conclusions	In relation to the loads supported in the buckling study as critical loads, a load of 13.37N is obtained in the most favorable case for the proposed design as a stainless steel conical MN and a maximum application force of 0.16N. It is important to highlight that the inlet pressure or administration pressure must be established as a variable parameter and be a decisive factor in the design of devices, since these conditions could negatively affect the structural integrity of the MN.

OS17. Anticaries properties of natural berries- Systematic literature review

García N., Giacaman R., Lozano C., Muñoz A., Morales MF.

Objectives	Present in high concentrations in numerous fruits, anticariogenic properties have been described for polyphenol compounds. Berries have been reported as potentially having an inhibitory effect on the dental biofilm and subsequently on caries, but the evidence is unclear. The aim oof this research was to explore the literature to summarize the evidence on the potential anticaries effect of berries and on their inhibitory effect on the dental biofilm.
Methods	Following Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) guidelines, PubMed, Web of Science, and SCOPUS databases were scanned using predefined and accessible terms, with a search strategy based on a structured PICO question. After article selection, 23 studies met the inclusion criteria, most of them *in vitro*. Data from those studies were extracted in a table for qualitative analysis. Meta-analyses were conducted using standardized mean differences with a 95% confidence interval by Review manager 5.4.
Results	Only 3 types of berries were found to have a reported anticaries effect; grape seed extract (GSE), cranberry, and sour cherry. In general, these berries would have a potential as anticaries agents. Nine studies that fulfilled the eligibility criteria were subjected to quantitative analysis. Meta-analyses showed GSE was associated with enhanced remineralization (SMD=0.96 CI95% [0.45,1.46], p<0.0002) on dental enamel and (SMD=0.65 CI95% [0.13,1.17], p=0.01) on dentin. Cranberry extracts positively influence the cariogenic dental biofilm by decreasing biomass (SMD=-2.23 CI95% [-4.40,-0.05], P=0.04), and biovolume (SMD=-2.86 CI 95% [-4.34,-1.37], p=0.0002), and increasing biofilm pH (SMD= 7.9 CI95% [3.49,12.31], p<0.0004).
Conclusions	Within the limitations of this systematic review and meta-analysis, GSE and cranberries or their active compounds could represent an alternative for caries management. Further clinical trials are needed to verify this effect in a clinical situation.

OS18. hsa-miR-424-5p and hsa-miR-513c-3p dysregulation influence cellular proteostasis in Sjögren's síndrome

González S., Carvajal P., Castro I., Carrera MJ., Molina C., González MJ.

Objectives	In salivary glands from Sjögren's syndrome (SS) patients and 3D-acini of HSG cells, we evaluated if IFN-g promotes changes in the expression of two candidates microRNAs (miRNAs) possibly involved in ATF6, SEL1L, HERP, XBP1s, and GRP78 regulation
Methods	Salivary glands (SGs) biopsies from nine SS patients and seven control subjects were analyzed. hsa-miR-424-5p and hsa-miR-513c-3p levels were determined by Taqman assays and their localization by *in situ* hybridization. Target molecules were studied by qPCR, Western blot, and immunofluorescence. 3D-acini were stimulated with IFN-g, whereas functional and interaction miRNA assays were performed in HSG cells.
Results	SGs from SS-patients and 3D-acini stimulated with IFN-g showed hsa-miR-424-5p downregulation, whereas hsa-miR-513c-3p was upregulated. The hsa-miR-424-5p detection was weaker in epithelial cells with high ATF6α staining, while hsa-miR-513c-3p detection was strongest in cells with low XBP1s staining. *In vitro* assays showed that ATF6a mRNA and protein levels decreased after hsa-miR-424-5p overexpression, while increased ATF6a mRNA and protein levels were observed after hsa-miR-424-5p silencing. Similar effects were observed for XBP-1s mRNA and protein levels after transfection with the hsa-miR-513c-3p mimic or inhibitor.
Conclusions	This study suggests the significant role of IFN-g in modulating hsa-miR-424-5p and hsa-miR-513c-3p levels, affecting ATF6a, SEL1L, HERP, XBP-1s, and GRP78 expression, involved in the unfolded protein response that regulates cellular proteostasis, and ultimately secretory function in SGs from SS-patients.

OS19. Jak-inhibitor ameliorates salivary mitochondrial alterations in Sjögren's syndrome mice

Barrera MJ., Carvajal P., Castro I., Jara D., González S., González MJ.

Objectives	To analyze the effect of tofacitinib on the mitochondrial ultrastructure in submandibular glands of a murine model of Sjögren's syndrome as well as on the expression of some pattern recognition receptors (PRRs) involved in the recognition of mitochondrial damage-associated molecular patterns (DAMPs).
Methods	30 mg/kg/day tofacitinib citrate was administered by oral gavage to six-month-old female NOD.B10Sn-H2b/J mice (4-5 mice per group). After 28 days of tofacitinib or vehicle administration, their submandibular glands were obtained. The mitochondrial ultrastructure was evaluated by electron microscopy and the protein levels of PRRs (NLRP3, TLR9, ZBP-1, and cGAs), as well as molecules activated downstream (TBK1, pTBK1, pSTING, and STING) were determined by Western blotting.
Results	Glandular epithelial cells of NOD.B10Sn-H2b/J mice present swollen mitochondria with disruption of membranes and crest disorganization that previously were reported in patients with Sjögren's syndrome. Tofacitinib treatment improves the architecture of mitochondria and decreases the protein levels of NLRP3, cGAS, and pTBK1.
Conclusions	The alterations in mitochondrial morphology together with the increased PRRs protein levels suggests release of mitochondrial DAMPs in submandibular glands of NOD.B10Sn-H2b/J mice. The results obtained under tofacitinib treatment suggest a potential use of this drug in mitochondrial alterations associated with inflammation. Fondecyt Iniciación 11201058 and Fondecyt-Chile 1210055.

OS20. Cross-cultural adaptation of the PIDAQ questionnaire to evaluate the psychosocial impact of dental esthetics in Chilean adolescents.

González Oneto H., Ortuño D., Macherone C., Zedan Y., Torres MI.

Objectives	Objective: The Psychosocial Impact of Dental Aesthetics Questionnaire (PIDAQ) is a self-administered index useful for evaluating orthodontic aspects that impact individuals' oral health-related quality of life. This study aimed to validate the cross-cultural adaptation and equivalence of the PIDAQ questionnaire to the language of the Chilean adolescent population.
Methods	Methods: The framework of the Guidelines for the Transcultural Adaptation Process of self-reports and the Manuals for a language with a gender approach and inclusive communication in Chilean adolescents were used for the transcultural adaptation of the questionnaire. The instrument was tested on 33 adolescents between 11 and 17. Its equivalence was evaluated according to criterion, content, and construct validity according to COSMIN methodology and validated by Cronbach's alpha statistical test.
Results	Results: A total of 23 questions in the questionnaire were evaluated according to how clear and understandable the questions were to the reader and according to a Likert scale graduated in: not at all clear, unclear, unclear, clear, or very clear. Acceptable reliability with a Cronbach's Alpha of 0.792 was obtained for the questionnaire. The questions grouped according to the dimensions of dental self-confidence, social impact, psychological impact, and esthetic concern obtained a Cronbach's alpha of 0.86, 0.9, 0.87 and 0.75, respectively.
Conclusions	Conclusion: The cross-cultural adaptation of the PIDAQ questionnaire achieved equivalence with the original instrument and obtained reliable criterion, content, and construct validity in Chilean adolescents.

OS21. Mandibular Arch Shape in a Sample of the Metropolitan Region

Vidaurre F., Iriarte M., Díaz A., Manríquez G.

Objectives	The study of dental arches shape variatioon is of interest to both anthropologists and orthodontists. To determine the shape type of dental arches it is common practice to use preformed templates. The aim of this study is to describe the pattern of shape variation of mandibular dental arch using geometric morphometrics (GM) tools in a population sample from the Metropolitan Region of Chile.
Methods	Standardized photographs of 134 plaster casts of the mandibular dental arch were taken. in order to obtain GM two dimensional raw data, 18 landmarks were digitized on each photograph. A Procrustes analysis of the resultant landmark coordinates was performed through Morpho-J software.
Results	Although the centroid size of males is significantly larger than that of females (CSize M = 10.71 +/- 0.56; Csize F=10.28+/- 0.55; t= 4.54 p (same mean) = 1.271 E-05), the discriminant analysis with cross-validation according to sex showed no significant differences in the shape components between the two (correctly classified females: 62.7%; correctly classified males: 64.2%). The pattern of dental arches shape variation is mainly explained by PC1 (50.1% of the overall variance, showing anteroposterior changes), and PC2 (13.3%, showing a transverse variation).
Conclusions	There is a large variability of mandibular arch shape around the consensus shape, which resembles the "ovoid" shape of the preformed templates. The other shapes (i.e. triangular, parabolic or square), are variations of the consensus shape mediated by the second molars and incisors in PC1 and by the second premolars in PC2. Geometric morphometrics shows a morphological continuity in the shape of mandibular arch that should be incorporated into clinical practice in orthodontics.

OS22. Functional dentition and cognitive health in ≥80 years Chilean population

Sáenz-Ravello G., Baeza M., Jara G., Contreras J., Paula-Lima A., Gamonal J.

Objectives	The United Nations proposal to declare the Decade of Healthy Aging 2021-2030, emphasizes the necessity of strengthening strategies for the aged in Chile. Therefore, implementing public policies that aim to have functional dentition (FD) (≥20 teeth) at an older age allows a higher healthy-life expectancy, contributing to successful oral aging. The objective is to evaluate the association between functional dentition and cognitive health in people aged ≥80 years.
Methods	Expanded data from 299 observations (N=436,981) collected in Chile's National Health Survey 2016-17 (ENS) was analyzed using STATA-17 survey module. ENS has oral health data (questionnaire/clinical). Generalized linear Gaussian and logistic models were performed to evaluate the association between FD and cognitive health (CH), measured by the minimental score (MMSE), adjusting for sex, household income, and cardiovascular risk (CVR). Statistical significance was considered when $p<0.05$.
Results	As age increases, a progressive decrease in FD is observed: 91.7% between 35-44 years, 30.2% between 65-74 and 9.16% in those aged ≥80 years. The population aged ≥80 years is predominantly female, with <8 years of education, household income less than $217,999 pesos, and belonging to the urban areas. People aged ≥80 years and FD present: 95.5% MMSE≥13 and 60.6% low-CVR, as opposed to 87.5% and 22.37% of those without FD, respectively. After adjusting for sex, household income, and CVR ($p>0.1$), there is an association between FD and CH ($\beta=2.1$, 95% CI 0.11-4.09, $p=0.039$). There is no association between the two adjusted variables when considering DC as an independent variable ($p=0.3$).
Conclusions	The presence of functional dentition in the population ≥80 years is associated with cognitive health. Hence, it is necessary to develop and strengthen strategies in the direction of successful oral aging.

OS23. The regularity of surface topography of dental implants: a determining factor of the celladhesion process.

Campos-Bijit V., Cohn-Inostroza N., Rivera A., Von-Marttens A., Cortez C., Covarrubias C.

Objectives	To characterize the topography and composition of commercial titanium dental implants manufactured with different surface treatments and to investigate their influence on the process of cell adhesion in vitro.
Methods	Two sandblasted/acid – etched (SLA) (Inno Implants UK Ltd; BioHorizons, US) and two calcium phosphate (CaP) treated (Biounite, Argentina; Zimmer Biomet, Inc., US) implants were studied. A smooth-surface implant (Zimmer Biomet Inc.) was used as control. The topography and composition of the implant surfaces were analyzed by scanning electron microscopy (SEM, IT300LV- JEOL) and X-ray dispersive spectroscopy (EDX, Aztec-Oxford), respectively. In addition, atomic force microscopy (AFM, NanoSurf) was used to analyze the surface roughness. Fibrinogen protein adsorption and adhesion of retromolar gingiva-derived mesenchymal stem cells (GMSCs) to the implant surfaces were studied after 48 hours. Adherent cells were examined on the implant surfaces using SEM and confocal fluorescence (Leica-TCS Sp8) microscopies for morphological and quantitative analyses. ANOVA and Tukey tests (α=0.05) were applied to determine statistical significance.
Results	SEM reveled that Inno, BioHorizons, and Zimmer implants present an irregular surface, while Biounite has a regular topography composed of an ordered pattern. EDX confirmed a calcium and phosphate layer on the Biounite and Zimmer surfaces, and AFM showed varied roughness parameters. Protein and cell adhesion was observed on all the studied implant surfaces. However, the Biounite implant having a CaP and regular topography exhibited both the highest protein adsorption capacity and density of adhered GMSCs. Although, Zimmer implant also has a CaP treatment, the protein and cell adhesion were lower than those observed on Biounite.
Conclusions	The results of this study indicate that surface regularity of the implants seems to be a factor more determining than the presence of CaP treatment on cell adhesion behavior. Regular topography produces a higher protein adsorption which consequently promotes a higher cell attachment.

OS24. Digital-platforms for Potentiating Recruitment and Screening Process in a Clinical-Study

Fernández C., Arancibia M., Vargas C., Maturana C., Peñailillo R., Padilla F.

Objectives	One major challenge in clinical studies is to recruit patients meeting all the selection criteria. This process could take a long-time while spending several economic and human resources. Here, we describe a recruitment and screening process using digital platforms and physical recruitment material to reach potential participants.
Methods	The IRB approved this recruiting process, including social media for dissemination and online pre-screening. The main eligibility criteria were organized in an online form (*SurveyMonkey*R) programmed to automatically exclude unfitting patients.The online-questionnaire was shared as QR or direct link through *Instagram*. Physical recruitment material (i.e. paper flyers distributed in strategic areas and giant prints) complemented online material. Included participants received a short text message to be shared with other potential participants using additional platforms, such as *WhatsApp*R.
Results	Boosting posts on *Instagram*, video vs. static infographics, and history sharing tagging targeted accounts effectively increased the survey clicks (e.g., from 4 to 193 clicks per day). From 1253 received clicks, 75.1% were women. Only 34% completed the entire survey, which took an average time of 1 m 24 s. Although the recruitment was targeted to a specific group of people (i.e. vegans and omnivorous), some vegetarians (n=293; 26.3%) were interested in participating. From participants that could attend in-person appointments (n=1,115), 89 vegans (38% of vegans) and 186 (32% of omnivorous) were manually selected to be contacted. Among the clinically assessed (n=72), only 4 patients (5.6%) were excluded during the in-person screening.
Conclusions	Although digital and physical recruitment methods are complementary, boosting posts on social media was the best way to reach a large audience. Self reported online questionnaires appear to be useful as a triage, during the screening process for a clinical study. Thus, these strategies reduce human workload and save time, optimizing in-person screening.

OS25. Bacterial endotoxins increases Cdk5 activity in trigeminal ganglia neurons

Duran C., Cáceres D., Araya M., Pinto N., Utreras E.

Objectives	Cellular and molecular mechanisms involved in tooth pain are far to be understood. Dental pulp is highly innervated by primary afferents of trigeminal ganglia (TG) neurons, which sense innocuous and noxious stimuli and transmit it to CNS. During development of caries disease, Gram+ and Gram- bacteria colonize the dental pulp and release lipopolysaccharides (LPS) and lipoteichoic acid (LTA), respectively. Interestingly, LPS sensitize trigeminal neurons but the role of LTA is not known yet. Our group is studying the role of the protein kinase Cdk5 in dental pain. We found TNF-α treatment increased p35 expression and Cdk5 activity in TG neurons. Therefore, in the present work we evaluated the effect of LPS and LTA over Cdk5 kinase activity in trigeminal neurons.
Methods	By immunofluorescence (IF) we evaluated whether LPS and LTA treatments at different times (1, 3 and 24 h) increased canonical (P-P65, component of NFkB) and non-canonical signaling pathways (P-ERK1/2, Egr1) in primary cultures of mouse trigeminal neurons. In addition, we analyze immunolocalization of Cdk5, p35, TRPV1 (a known Cdk5 substrate) and Cdk5-mediated TRPV1 phosphorylation (P-TRPV1) in this culture treated by LPS or LTA.
Results	We found that LPS and LTA treatment increased immunolocalization and nuclear translocation of Phospho-P65, a component of its canonical pathway. In addition, we found that LPS and LTA significant increased Cdk5 and p35 immunodetection. More importantly, we found that LPS and LTA increased P-TRPV1 in primary cultures of mouse trigeminal neurons.
Conclusions	Altogether, our results demonstrate that bacterial endotoxins, as LPS but also LTA, sensitize trigeminal neurons through Cdk5/p35-mediated TRPV1 phosphorylation, suggesting a possible new molecular mechanism implicated in dental pain.

PROGRAMACIÓN PRESENTACIÓN PROYECTOS DE INVESTIGACIÓN

Horario	Sábado 05 de noviembre	
	Sesión y competición de pósteres	**Autor/a**
09:00 - 09:15	Depresión, ansiedad, stress y calidad de vida de los directivos y docentes de Odontología de la Universidad Finis Terrae con el retorno a la presencialidad	Sebastián Zamorano Vidal
09:15 - 09:30	Determinación del mecanismo de inducción de senescencia en fibroblastos jóvenes y envejecidos en respuesta a noxas presentes en el tejido gingival.	Diego Ormeño
09:30 - 09:45	Caracterización y localización de linfocitos Th17 en peri-implantitis	Josefa Sáez
09:45 - 10:00	Effect of healthy diets on saliva properties in older persons	Constanza Echeverría Garcés
10:00 - 10:15	Efecto antiinflamatorio de boldina sobre macrófagos estimulados con exudado periapical y Porphyromonas endodontalis inactivada por calor	David González Quintanilla

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