

ORAL ERYTHROPLAKIA: A CASE REPORT

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Aim: Oral erythroplakia (OE) is a very rare potentially malignant lesion of the oral mucosa, which occurs after the age of 45, especially in men. It's a magenta-red spot or plaque with moderate to severe dysplasia. Transformation rates are considered to be the highest among all oral precancerous. Surgical excision is the treatment of choice.

Methods: it reports the case of a patient referred to the Oral Pathology Service of the A.O. Ordine Mauriziano di Torino.

Results: T.P., male, age 54, smoker 20 cigarettes a day, occasional alcohol.

July 2022: abscess of half-occluded 48 traumatizing the buccal mucosa, given antibiotics.

August 2022: extraction of 48, remains red spot.

September 2022: incisionale biopsy with diagnosis of OE (moderate dysplasia); the patient stops smoking.

October 2011: Excision biopsy of the lesion *in sano*.

February 2022: 5-month follow-up no recurrence of the disease.

Conclusions: surgical excision of the OE, together with the elimination of the risk factors smoking and chronic traumatism, contributed to the patient's recovery.

MONOSTOTIC FIBROUS DYSPLASIA OF THE ANTERIOR MANDIBLE: A CASE REPORT

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Aim: Fibrous dysplasia (FD) is a bone disorder caused by a genetic defect altering osteogenesis and leading to the replacement of normal bone with an excess proliferation of fibrous tissue. It can affect a single site (monostotic fibrous dysplasia, MFD) or multiple sites (polyostotic fibrous dysplasia, PFD). FD is usually observed in adolescents and young people stabilizing in adulthood. In this paper we present a case of MFD involving the left anterior region of the mandible.

Methods: the 29-year-old female patient came to our attention without any symptoms in the affected region. On OPG a radiolucent lesion with irregular margins and non-uniform appearance was found, entirely involving element 3.3. After CBCT analysis, conservative surgical removal of the lesion and extraction of 3.3 was performed. Intra-operatively, a regenerative surgical approach using a pin-stabilized membrane was adopted.

Results: histological examination and radiological picture suggested the diagnosis of FD.

Postoperatively, the patient reported transient paresthesia of the affected area. Follow-up with mapping of the hypo-sensitive area was performed and pharmacological therapy was prescribed.

Complete recovery was achieved within 30 days.

Conclusions: fibrous dysplasia accounts for 7% of benign bone tumors. At the diagnostic stage, it is important to perform thorough clinical, radiographic and histological examinations to refute the differential diagnosis with other more aggressive tumors.

Conservative surgery is the most frequently adopted treatment, followed by osteoplasty through an intraoral approach. Observation and follow-up should be maintained closely.

ORAL METASTASIS OF THYMOMA: A CASE REPORT

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Aim: the aim of this study is to report a rare case of oral metastasis of thymoma.

Methods and Results: in October 2022, a 62-year-old Italian man was visited at the Oral Medicine department of the Policlinico A. Gemelli referring a fast growing not ulcerated swelling on the left buccal mucosa.

The patient referred difficulties in chewing and mouth closure due to the lesion.

The patient's medical history reported a thymoma diagnosed in 2019 treated with thymectomy. Anamnesis was negative for smoking and alcohol consumption. The clinic examination revealed a swelling with well-defined and regular margins on the left half of the face. The oral examination confirmed the pres-

ence of an asymptomatic, non-ulcerated, blue color exophytic lesion localized on the left retromolar trigone. The Computed Tomography revealed an osteolytic area in the posterior mandible. Through a needle aspiration and incisional biopsy, siero-hematic material and a lesion sample were collected. The histo-pathological analysis reported a B3 type thymoma metastases.

Conclusions: this is only the second reported case of oral metastasis of thymoma. Although it seems to be an extremely rare event, oral metastases of thymoma are possible. Therefore, this disease should be considered in the differential diagnosis of mandibular osteolytic lesions when the anamnesis accounts for a thymoma.

ORAL ERYTHROPLAKIA: THE IMPORTANCE OF EARLY DIAGNOSIS IN THIS UNCOMMON ENTITY

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Aim: Oral erythroplakia (OE) is defined as any lesion of the oral mucosa that presents as bright red velvety plaques which cannot be characterized clinically or pathologically as any other recognizable condition. It is classically considered as oral potentially malignant disorders (OPMDs) with the highest rate of malignant development. This lesion is little seen in clinical practice, so the aim of this study is to report 3 clinical cases of OE describing their characteristics.

Methods: we collected data from each patient regarding the first dental visit, medical and pharmacological history, spoiled habits like smoking and type of lesion manifested in the mouth. A biopsy investigation was subsequently performed for each patient in conjunction with histopathological evaluation.

Results: time frame of the visits was between 2018 and 2022. On 2 cases the oral sites involved were the floor of the mouth, while on the third one was the mucosa of soft palate. Biopsy was performed and histopathological analysis revealed the diagnosis of OSCC in 2 out of 3 cases. In one case metastasis was already present at the level of the lateral-cervical lymph node.

Conclusions: OE is classified as the OPMD with the highest percentage of degeneration into oral cancer, therefore early diagnosis is essential. In the event of an oral lesion with the characteristics of an OE, a biopsy should be performed immediately. OE is a rare lesion, knowing its clinical and histological characteristics is important to be able to manage it correctly and avoid misdiagnosis.

BLACK HAIRY TONGUE TREATED WITH OZONIZED WATER: A NEW APPROACH

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Aim: to report a refractory Black Hairy Tongue (BHT) case treated with ozonized water.

Methods: a 55y/o man with negative anamnesis came to us with a lingual lesion for about 2 years. He referred he drank alcohol regularly and smoked about 40 cigarettes per day. At the objective exam we observed elongated filiform papillae (6 mm) and a brownish color of its dorsum. We diagnosed a BHT. A bi-molecular analysis revealed a number of *T. forsythia* 36 times higher in the affected areas. To reduce bacterial load, irrigation sessions with ozonized water (OW) have been scheduled. Fresh OW was dispensed from a special device (Aquilab, Sweden&Martina, Milan, Italy), with a concentration of 0.060 mg/l for a total of 2 minutes, for two sessions carried out one week apart from each other.

Results: after 14 days from the first session, a notable improvement could be appreciated both in the reduction of the length of the filiform papillae and in the extension of the lesion itself on the lingual dorsum. The patient became asymptomatic and did not want to continue with other irrigation sessions with OW. Despite our warnings the patient continued to smoke, also during the period of therapy.

Conclusions: BHT is a common lesion in the oral cavity especially in heavy smokers and immunosuppressed subjects. Oral dysbiosis has been strongly associated with the occurrence of BHT.

No specific protocol has been described in the literature, especially for refractory and relapsing cases. Irrigations with ozonized water could be a winning strategy in these cases.

A NEW METHOD TO COUNTERACT BIOFILMS OF THE ORAL CAVITY: AIRFLOW COLD ATMOSPHERIC PLASMA

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Aim: in this study, we aim to evaluate the effectiveness of an airflow Cold Atmospheric Plasma (CAP) source in selectively eradicating biofilms formed by oral pathogens without damaging gingival cells.

Methods: two different biofilms have been formed starting from a pure culture of *S. mutans* UA 159 and a mixed culture of microorganisms isolated from a saliva sample of a patient with periodontitis. *S. mutans* biofilm was exposed to the CAP source at a distance of 6 and 12 mm for 30 s, 60 s, 120 s, 180 s and 240 s treatment time, whilst the biofilm developed from saliva was treated at a distance of 6 mm for 60 s and 120 s. Colony Forming Units (CFU) count and XTT metabolic assays were used to evaluate the CAP's Minimum Biofilm Eradication Concentration (MBEC). In addition, CAP effects at 6 mm distance and for 30 s,

60 s, 120 s and 180 s treatment time were assessed on human gingival fibroblasts (HGF) viability and morphology by MTS assay and Toluidine Blue at 24, and 48 h.

Results: CAP treatment at 6 mm distance significantly reduced both metabolic activity and CFU count when applied for 60 s on both *S. mutans* and saliva biofilm. CAP treatment at 12 mm distance was effective in eradicating *S. mutans* biofilm when applied for 180 s. HGF cells viability and morphology were almost unaffected by 30 s CAP treatment, whilst at 180 s a peak of reduction by ~50% after 24 h and by ~75% after 48 h was reached.

Conclusions: CAP treatment can eradicate preformed biofilms developed by both *S. mutans* and the complex mixture of saliva microorganisms, suggesting the use of this CAP source to counteract oral biofilms.

AN ABNORMAL SIZED MUCOEPIDERMOID CARCINOMA: A RARE CASE REPORT

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Aim: the aim of this study is to report a rare case of a large mucoepidermoid carcinoma (MEC) involving the upper lip and hard palate.

Methods: a 72-year-old man came to our attention for the presence of an extensive mass on the upper lip and hard palate in the last 30 months and never treated. He was a heavy smoker and a considerable consumer of alcohol and spices. The diagnostic process included a clinical examination, instrumental tests (CT, MRI), laboratory investigations for tumor markers and a biopsy followed by a histological examination.

Results: clinically we detected a voluminous neof ormation extending from the upper lip to the hard palate (7 cm x 4 cm) with a hard-elastic consistency and absence of mobility. CT and MRI revealed significant involvement of soft tissue and inva-

sion of the maxillary bone. Total body CT and systemic tumor markers were negative for metastasis. An excisional biopsy was performed which confirmed the diagnosis of MEC.

Conclusions: although MEC accounts for 30% of all salivary gland cancers, it comprises only 10% of all salivary gland tumors and less than 5% of head and neck tumors. Furthermore, MEC are often less than 1 cm to 3 cm. In the present study, we report a MEC with abnormal size and rare extension from palate to upper lip. Because of rarity of this pathology in clinical practice and lack of specific symptoms and characteristic appearances, its clinical diagnosis may be challenging. This should lead clinicians to consider this tumor in differential diagnosis, to provide an early diagnosis, essential to avoid extensive surgery.

ORAL ADVERSE DRUG REACTIONS OF SECUKINUMAB IN A PATIENT AFFECTED BY PSORIATIC ARTHRITIS

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Aim: Psoriatic Arthritis (PsA) is a chronic inflammatory disease of the joints. PsA may be treated with Secukinumab. Adverse drug reactions (ADR) to Secukinumab involving the oral mucosa are rarely reported.

Methods: we report a case of a man affected by PsA who attended the Oral Medicine Sector (AOUP "P. Giaccone" Palermo, Italy).

Results: a 66-year-old Caucasian man showed up in September 2018 reporting pain localized in the tongue, exacerbated by spicy and hot foods. His medical history included a diagnosis of PsA, in treatment with Secukinumab. The clinical examination showed: atrophic and hyperkeratosis/hyperplastic areas in the dorsal surface of the tongue. The clinical diagnostic hypothesis was an oral manifestation of ADR to Secukinumab with sus-

pected infection with *Candida Albicans*. A lingual swab was taken, and the patient was also instructed on proper maneuvers of oral hygiene and avoiding irritating foods. The presence of *Candida Albicans* was confirmed and local antifungal therapy was prescribed. The patient was also referred to his rheumatologist to switch therapy to Ixekizumab. After 14 days from the switch of therapy, a considerable clinical improvement was observed and the patient reported the absence of symptomatology.

The patient is still under treatment for PsA; he is undergoing periodic follow-up visits, and oral lesions are resolved.

Conclusions: ADR of Secukinumab in the oral cavity may worsen the quality of life of patients affected by PsA. This case report shows that a correct clinical framework and the switch of therapy can resolve oral ADR.

ORAL MUCOCELE IN PEDIATRIC PATIENT

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Aim: the present case report shows the diagnostic and therapeutic iter adopted in treating bluish-purple colour, submucosal lesion of the left lower lips with clinical features compatible with mucocele.

Methods: an 8-year-old patient referred to the dental department reporting the appearance of rounded, painless, tense-elastic, blue-coloured neof ormation on the lower lip, which underwent a significant increase in size (up to 2 cm-wide), in the last two weeks. The lesion was associated with discomfort during chewing and speech. After evaluating the medical history and clinical data, an excisional biopsy was performed. Surgical management requires local infiltration of mepivacain 2%, cold blade incision, soft tissue dissection and removal of the whole lesion.

Results: histopathological examination confirmed “retention-type mucocele”, showing the presence of minor salivary glands with modest ectasia of major ducts and minimal chronic nonspecific inflammation.

Conclusions: mucocele is a common salivary gland disorder characterized by a reactive pseudo-cystic neof ormation containing mucous. The major etiologic factor is chronic tissue trauma, commonly caused by lip-biting and other parafunctional habits where mucous extravasation/retention phenomenon follows-well documented in the pediatric population, without gender or racial predilection.

It's a common benign condition, but if left untreated, mucocele may last for several weeks or months, with periodic regression behaviour followed by recurrence or spontaneous rupture.

INNOVATIVE TESTS USEFUL TO PREDICTE THE DEVELOPMENT OF ORAL CANCER

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Aim: this preliminary study was conducted to verify if the Cytobrush biopsy is effective in collecting OSCC selected biomarkers from an oral cancer lesion. It represents a fundamental point for making early diagnosis.

Methods: patients enrolled for the study were diagnosed with primary OSCC staged I-IV (TNM). Three non invasive cytobrush biopsies were taken from the mouth of each patient. Cytobrush tips were inserted in sealed Eppendorf vials, cataloged and stored in the cold 0-4°C and sent to the lab for analysis in refrigerated boxes. The samples obtained were processed through a high sensibility ELISA test analysis. An important exclusion criterion is the absence of a previous histological diagnosis.

Results: we selected six biomarkers: EGFR, p53, Ki67, PD-L1, B7-H6, HLA-E. We divided the collected samples from each patient in three groups:

those taken from the center of the tumor lesion always showed high levels of all the markers searched (6 out of 6 markers were present).

Those taken from the margin showed high levels of 4 to 6 markers searched (4,5 or 6 out of 6 markers).

Those taken from healthy oral mucosa showed very low levels of all the sought-after markers (a maximum of 2 out of 6 markers).

Conclusions: this study showed the possibility of obtaining an early diagnosis by the brushing of the anatomical locations where oral cancers are frequently encountered.

ORAL STATUS SCORE FOR THE EVALUATION OF THE ORAL HEALTH IN PATIENTS AT RISK OF MRONJ

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Aim: evaluate the agreement on a new and objective system for determining the ONJ onset risk in a group of 50 patients in need to start antiresorptive medications following a diagnosis of osteoporosis, multiple myeloma, or bone metastases.

Methods: a questionnaire was devised that assigns scores clinical and radiological parameters that the clinician must consider when assessing the risk of developing MRONJ. The final score ranges from 0 to 30 and indicates the patient's oral health status. A further score is added in case the patient has already developed MRONJ.

Results: from the analysis of the total score emerged that the average score is equal to 6.7 ± 4.2 , with a much higher score in the case of non-issue of the authorization for the start of the therapy (10.7 ± 4.0) than in cases of release (5.2 ± 3.3) ($p < 0.0001$).

No statistically significant difference emerged between the three operators who gave the scores (dentist, expert student, inexperienced student), who report similar score values both in mean and in standard deviation.

Conclusions: thanks to the use of the score questionnaire both a more experienced clinician and a less experienced one were able to evaluate the oral health status of patients at risk of ONJ. The status is considered as a tool that allows not only to identify the infectious foci but also to identify the patient's health in a general way, assessing whether the patient is taking care of himself or not.

If the patient neglects his oral health, the status allows to evaluate the need to adopt strategies to improve it, reducing the possibility of developing ONJ.

OCT-TRAINED LEARNING ALGORITHMS FOR ORAL CARCINOGENESIS: PROJECT PHASE I

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Aim: Optical Coherence Tomography (OCT) and Artificial Intelligence (AI) have been proposed as prospective diagnostic support in oral carcinogenesis. However, *in vivo* standardized procedural sequences for training OCT-AI, from site-specific surgical sampling to OCT and histological evaluations, are still lacking and needed. This study proposes the first phase of a novel multiphasic project aiming to perform an AI software applied to Oral Squamous Cell Carcinoma (OSCC) optical diagnosis.

Methods: the selection of clinical, OCT and histological OSCC images has been conducted using target site-specific instrumental procedures, pre- and post-diagnostic biopsy. Specific standardized OCT diagnostic patterns were used and matched

with histological outcomes, to generate a dedicated primary dataset for AI computerized software.

Results: 70 OSCC were enrolled and preliminarily scanned by OCT pre-targeted site-specific biopsy, obtaining 120 OCT scans per lesion, for a total of 8400 scans. Each set of OCT scans per lesion was linked to the corresponding histological confirmatory image to realize the matched dataset for clinical/OCT/histological data of OSCC.

Conclusions: this project phase I proposes a primary standardized procedure for OCT-AI applications in OSCC diagnosis to reduce operator-dependent data registrations and interpretations and customize more appropriate decision-making guidance.

COMBINING RADIOMICS AND MACHINE-LEARNING TO DIAGNOSE OSTEOPOROSIS FROM ORTHOPANTOMOGRAPHY

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Aim: the aim of this study was to develop a radiomics -based machine learning model to diagnose osteoporotic patients from orthopantomographies.

Methods: a cohort of 100 patients for which an orthopantomography (OPT) and a dual-energy X-ray absorptiometry (DXA) were available, at “Casa Sollievo della Sofferenza” hospital in San Giovanni Rotondo were included. Patients were categorized as “healthy” (T-score <1) and “osteoporotic” (T-score >2.5). Patients’ OPTs were uploaded on the LifeX software. A region of interest (ROI) was drawn, including the external part of the mandibular ramus distally to the mandibular lingula and mesially up to the mental foramen. The radiomic features were extracted and uploaded on Orange software. After normalization, ranking methods were performed including: In-

fogain, Gain Ratio, Gini Index, ANOVA, X2, ReliefF and Fast Correlation Based Filter (FCBF). Machine learning models including Logistic Regression, Support Vector Machine, K-Nearest Neighbors, Decision Tree, Random Forest, Artificial Neural Network, Gradient Boosting and Naive Bayes were applied to the radiomic features selected by the FCBF.

Results: gradient Boosting and a Naive Bayes algorithm showed the best general prediction performance with an AUC equal to 0.822 and 0.773, a sensitivity of 66.0% and 72.3%, and a specificity of 82.0% and 74.0%, respectively.

Conclusions: by combining Radiomics with AI-based algorithms, promising prediction models can be developed for the diagnosis of osteoporosis from 2D OPTs. The results need to be confirmed in an external validation setting.

SELF-PERCEIVED LONELINESS DURING COVID-19 PANDEMIC IN BMS PATIENTS: A MULTICENTRIC STUDY

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Aim: to evaluate self-perceived loneliness during COVID-19 pandemic in patients with Burning Mouth Syndrome (BMS) compared to healthy controls (HC).

Methods: 100 BMS patients and 100 HC, matched for age and gender, were recruited in two Italian Universities. All participants were administered the General Health Questionnaire (GHQ-12), the Depression Anxiety and Stress Scale (DASS-21), the Insomnia Severity Index (ISI), the UCLA Loneliness Scale (ULS-8), the Multidimensional Scale of Perceived Social Support (MSPSS-12) and the Suicidal Ideation Attributes Scale (SIDAS).

Results: BMS patients lived with fewer people during lockdown and were less satisfied with their relatives. GHQ, DASS, ISI, ULS and MSPSS high scores were reported in both BMS and HC. No statistically significant difference in GHQ, ISI, ULS,

MSPSS and SIDAS scores was found between groups. Differently, BMS patients perceived higher levels of stress than HC with a higher DASS total score: 16[10-24.2] in BMS vs 10[4-17] in HC; $p < 0.001^{**}$. In multivariate logistic regression DASS and MPSS scores showed the greatest increase in R2 for ULS (30.86 $p < 0.001^{**}$ and 18.55 $p < 0.001^{**}$ respectively) in BMS group while in controls a moderately significant R2 change for loneliness prediction was determined only by DASS score (7.41 $p < 0.004^{**}$).

Conclusions: Covid-19 pandemic profoundly affected self-perceived loneliness in both BMS and HC. A difference in ULS predictors was found between groups. The higher level of stress and the lower social support were significantly related to loneliness prediction in BMS patients.

COMBINING DEEP LEARNING AND CASE-BASED REASONING FOR EARLY DETECTION OF OSCC: A PILOT STUDY

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Aim: dentists are responsible for secondary prevention of oral squamous cell carcinoma (OSCC) and the recognition of oral lesions, but a cursory oral examination during dental and medical recalls may be typical. OSCC is diagnosed at a late stage, indicating also potential case of professional liability for delayed diagnosis. Deep Learning (DL) and Case-Based Reasoning (CBR) can be used to detect and classify oral lesions, detecting suspicious OSCC and providing explanations for diagnosis. This study aims to explore the potential of combining DL and CBR to improve patient outcomes.

Methods: a DL-CBR decision support system was developed using a modified Faster-R-CNN (Region-based Convolutional Neural Network) FPN+ architecture trained on 30 cases of oral ulcers belonging to three classes: neoplastic, aphthous, and traumatic.

Results: DL has achieved state-of-the-art performance in detecting and classifying clinical images, with detection rates of 82% and classification rates of 90% (98% for neoplastic vs no-neoplastic binary classification).

DL-CBR decision process was tested by 9 residents and 6 specialized doctors in 10 challenging cases. This study revealed that resident doctors are more likely to rely on CBR than on DL.

Conclusions: the DL-CBR system provides reliable and effective support to medical professionals and has potential for supporting even less experienced doctors in diagnosing challenging cases.

The system and associated cases will be soon publicly available to promote collaboration and knowledge sharing among clinical centers and DL development centers.

ANALYSIS OF SALIVARY MIRNAS IN WOMEN AT HIGH RISK OF BREAST AND OVARIAN CANCER DEVELOPMENT

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Aim: the present pilot study aims to evaluate the effect of a nutritional and lifestyle intervention on miRNA expression (nutri-pigenomics) in Breast Cancer (BRCA) 1-2 genes mutated females. Subjects with a germ mutation of the BRCA 1-2 genes are more predisposed to develop ovarian cancer (16-59%) and breast cancer (55-60%). Here we report the preliminary results on the modification of salivary miRNA expression since the beginning of experimental intervention up to 12 months.

Methods: twenty-five females, aged between 18 and 40 years, with a germ mutation of the gene BRCA1-2 were included in the study. The experimental intervention involves a preliminary visit conducted in association with the Breast Unit of the Academic Hospital of Parma which includes medical history, diagnostic exams, dental visit, salivary and blood collec-

tion, questionnaire on the quality of life and a nutritional counselling. The patients underwent to periodic visits (6, 12, 18, 24 months). The whole saliva collected was spat into a sterile container, for a total of 2 mL of saliva. Presence and concentration of 84 selected miRNAs were evaluated through real-time polymerase chain reaction (RT-qPCR).

Results: forty-three salivary samples of 17 enrolled woman were analyzed. Nineteen miRNAs did not amplify in any sample. Instead, miR-27 a, miR221, miR-191, miR-16 had a proportional change in their expression with the beginning of the nutritional and lifestyle intervention.

Conclusions: salivary diagnostics is revolutionizing the concept of early diagnosis and monitoring of oral and systemic diseases.

THE IMPACT OF A PROGRAM OF PRIMARY PREVENTION ON THE INCIDENCE OF MRONJ

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Aim: the aim of the study was to investigate the incidence of medication-related osteonecrosis of the jaw (MRONJ) after the set-up of structured programme of primary prevention before commencement and during treatment with zoledronic acid therapy taken for the treatment of bone metastasis in oncologic patients.

Methods: in a prospective cohort study performed at the unit of dentistry and oral surgery of the university of Pisa, from September 2017 until December 2020, all oncologic patients with radiographic evidence of bone metastases and eligible for treatment with zoledronic acid were included and followed up until December 31, 2020.

Results: of the 605 patients, MRONJ developed in 11 (1.8%) during the follow-up.

Female gender (OR 4.4; 95% CI 1.8-22.1; $P = .043$) and statin treatment (OR 25.1; 95% CI 0.1-2822; $P < 0.001$) were associated with an increased risk of MRONJ.

Conclusions: in conclusion, MRONJ remains a significant risk associated with the use of antiresorptive drugs in the setting of malignancy.

Importantly, this work reinforces the importance of a tailored program of prevention based on the evaluation of systemic and local risk factors.

IMPACT OF TWO TOPICAL TREATMENTS ON ORAL *LICHEN PLANUS*: A RANDOMIZED CLINICAL TRIAL

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Aim: to assess the impact of two topical treatment strategies on oral lichen planus (OLP) by analyzing the signs and symptoms of the disease and the risk of side effects.

Methods: 38 subjects with proven OLP were selected and randomly allocated with a 1:1 ratio to receive tacrolimus 0.1% ointment (T group) or an anti-inflammatory mouthwash (M group) containing calcium hydroxide 10%, hyaluronic acid 0.3%, umbelliferone, and oligomeric proanthocyanidins. OLP symptoms, signs and disease severity score have been recorded during the 3-month follow-up.

Results: both protocols have significantly induced an improvement of OLP severity. However, at 3 months (T3), tacrolimus has been related to significantly reduced OLP signs ($p = 0.035$), symptoms ($p = 0.045$), and disease severity scores ($p = 0.041$) compared to the mouthwash. Furthermore, the Spearman analysis revealed a significant correlation between OLP signs and symptoms at each follow-up session in all patients.

Conclusions: although both effective, tacrolimus induced a greater improvement in OLP symptoms and signs compared to the mouthwash.

COMPARISON OF TWO TOPICAL TREATMENTS FOR ORAL *LICHEN PLANUS* MANAGEMENT: A RCT STUDY

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Aim: Oral *lichen planus* (OLP) is a chronic, inflammatory, immune-mediated disease, which can alter the quality of life of patients. The clinical management of OLP remains a current challenge when searching for new drugs that can control its symptoms and signs with minimal side effects. The purpose of this randomized clinical trial was to compare the efficacy and therapeutic safety of clobetasol oral gel 0.05% versus an anti-inflammatory oral solution (mouthwash) in the management of patients with symptomatic OLP.

Methods: the sample size calculation was determined to be at least 32 individuals for an alpha error of 0.05 and a power of 80%. Forty patients with OLP were selected according to the clinical and histopathological criteria of van der Meij and van der Waal. Through a randomized design, 20 patients received Clobetasol 0.1% oral gel (group C) and 20 an anti-inflammatory mouthwash (group M) consisting of 10% calcium hydroxide, 0.3% hyaluronic acid, umbelliferone, and oligomeric proanthocyanidins. At baseline (T_0) and after 3 months (T_1), patients underwent dental and dermatological examinations

to assess symptoms by Numerical Pain Scale (NRS) and signs by Thongprasom score. Statistical analysis was performed using the SPSS Windows package (version 25; SPSS, Chicago, IL, USA). Data were calculated using the t-test for the dependent variable, Wilcoxon's test, and Mann-Whitney's u-test.

Results: both clobetasol and mouthwash resulted in statistically significant reductions in signs ($p < 0.001$ and $p = 0.02$, respectively) and symptoms ($p < 0.001$ for clobetasol and $p = 0.02$ for anti-inflammatory). Clobetasol caused a higher occurrence of side effects than mouthwash, which was shown to be safer.

Conclusions: the mouthwash was less effective in determining the reduction of signs and symptoms in patients with severe OLP, compared with clobetasol, which is confirmed to be the first-line drug for the treatment of severe forms of OLP. The mouthwash could be used in the treatment of mild-moderate forms of OLP, as it resulted in good symptom control and significant activity in preventing lesion progression.

ULTRASONOGRAPHY: A PRECIOUS ALLY IN THE ASSESSMENT OF INTRA-ORAL LESIONS

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Aim: to evaluate the usefulness of ultrasound investigation when a oral soft tissue lesion is detected, as part of the overall and/or preoperative evaluation.

Methods: between March, 2019 and January, 2023 9 patients were examined, referred by Oral Pathologist following the clinical findings of lingual or oral mucosae swellings or other irregularities.

Ultrasound investigations were conducted using linear probes (3-12Mhz), via intraoral and/or extraoral approach, based on the localization of the clinical lesion. Color-Doppler study protocol was always applied for better characterization of the findings.

Devices: GE Logiq Q7 Expert, Siemens Acuson NX3 Series.

Results: ultrasound examinations were always capable of identifying the clinical finding, describing the lesion's dimension, its echogenicity (and consequently its consistency, if solid, liquid or both), edges, and the presence or absence of blood flow and its characteristics, providing useful information for further actions.

Conclusions: the execution of an ultrasound investigation of the clinical findings allows a more accurate evaluation of the intra-oral lesions, also as part of preparation for surgery, through an easy, rapid to perform and non-invasive exam, which doesn't require specific preparation nor implies exposure to radiations. Ultrasound can also direct towards the need for a more detailed examination (MRI, CT).

OZONE THERAPY FOR MEDICATION RELATED OSTEONECROSIS OF THE JAW: A CASE REPORT

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Aim: to evaluate the effectiveness and safety of ozone gel as a conservative treatment for medication-related osteonecrosis of the jaw (MRONJ) and related symptoms in a patient with multiple myeloma.

Methods: V.B., age 77, affected by multiple myeloma developed MRONJ as consequence of 14 Zometa infusions. Exposed bone areas were present in the mandibula, where ozone gel was applied. The application consists of sub mucosal injection of ozone (Ozosan® Gel) through a composite needle with metal tip into the mucosal margin surrounding the bone exposure for five minutes each time. Pain before and after every application was assessed using a visual analogue scale

(VAS). The primary outcome of the therapy effectiveness is based on the clinical aspect of the lesions and on the reduction of painful symptoms (measured with VAS).

Results: preoperative VAS was 2. After 5 applications VAS reached 0. After 18 treatments, spontaneous bone sequestration was achieved in both lesions with complete epithelialization of the mucosa. In the majority of the applications, the patient did not report any painful symptoms related to procedures, neither during nor after treatment.

Conclusions: ozone application has been found to be an effective treatment for osteonecrosis-related pain and even bone exposure.

CLINICAL ORAL MEDICINE AT THE SAPIENZA UNIVERSITY OF ROME: A YEAR RETROSPECTIVE STUDY

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Aim: the objective of this study was to characterize a one-year outpatient clinical oral medicine (OM) services at a dental school-based setting and highlight the importance of an underrecognized practice to the general public.

Methods: this was a retrospective medical records review of all patients seen at the oral medicine clinic (Momax) of Sapienza University of Rome by OM experts. Demographic, past medical/social history, reason for referral, distance between patients' home and Sapienza, as well as clinical diagnosis and clinical procedures were collected and entered into a deidentified electronic spreadsheet.

Results: throughout 2022 there were 1291 consultation encounters for 580 patients (44.9%; 58% females) with a median age of 60 (range:11-96). Patients lived a median distance

of 14 (range: 1-1044) km from the OM clinic. About 70% of the patients came for a second evaluation from an OM expert, whereas about 20% came for a dental evaluation prior to cancer treatment.

Most common clinical diagnoses included dental caries (16.2%), mucosal benign conditions (9.7%), chronic periodontitis (9.1%) and oral leukoplakia (6.9%). Biopsy was the most frequent procedure performed at consultation.

Conclusions: this single-center OM services study stresses the importance of an underrecognized practice amongst the dental and medical community whose aim is to improve the quality of life of medically complex, and cancer patients. Larger studies are needed to determine the importance of OM practices in the Italian and European public health settings.

PSYCHOLOGICAL PROFILE AND SALIVARY COMPLAINTS IN BMS: A CROSS SECTIONAL STUDY

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Aim: xerostomia and sialorrhea are often reported as additional symptoms in Burning Mouth Syndrome (BMS) even without a measurable alteration in saliva quantity. The aim of the study is to evaluate any differences among patients referred only burning (B), burning/xerostomia (BX), burning/sialorrhea (BS) and burning/xerostomia/sialorrhea (BXS).

Methods: 500 patients were enrolled and divided into four groups: B (140), BX (253), BS (49), BXS (58). Education, BMI, smoke, alcohol consumption, comorbidities, drugs, intensity/quality of pain and psychological profile were recorded.

Results: no statistically significant differences were found in the four groups about sociodemographic profile and risk factors. BX group reported higher percentage of globus (43.1%); BXS group reported higher percentage of dysgeusia (58.6%);

BS group reported higher percentage of tingling (28.6%). All subjects reported high scores of anxiety and depression tests and poor sleep quality. 8.7% of patients with BX were taking blood thinners ($p: 0.002^{**}$). The results of multivariate analysis show that globus, BMI, smoking and dysgeusia are statistically significant in B; globus and blood thinners in BX; male gender and tingling in BS; alcohol, quality of pain and dysgeusia in BXS.

Conclusions: BMS patients exhibit a complex symptomatologic pattern with xerostomia representing the most frequent symptom in addition with burning. Sociodemographic and psychological profile, pain, risk factors, systemic comorbidities and drug intake could not explain the variability of symptomatology in the four groups considered.

AMELANOTIC BLUE NEVUS OF THE ORAL MUCOSA: CASE REPORT AND LITERATURE REVIEW

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Aim: we describe a case of amelanotic blue nevus of the oral mucosa and narrative review of the literature.

Methods: a caucasian 48-year-old smoker woman presented for evaluation of an upper labial mucosal lesion. She presented with a 3 mm papula on the labial mucosa of the left upper hemilabrum. The asymptomatic lesion showed a slightly increased consistency, was normochromic with relaxed mucosa and ischaemic appearance with a small marginal bluish area with tractional mucosa with labial eversion. Anaesthesia was performed with mepivacaine 3% paraperiosteal. A scalpel lozenge including the neof ormation and 1 mm healthy perilesional margin was performed, 980 nm diode laser photocoagulation in continuous mode at 1.5W for haemostasis. Histological re-

port: Macroscopic finding (specimen received in formalin); material sent for examination as "3 mm upper lip neof ormation"; fully processed material for histological examination. Achromic proliferation of unpigmented spindle cells. Extensive immunohistochemistry was performed on the specimen: smooth muscle actin-, HMB45+, MelARED+, S100+.

Results: a narrative review of the last ten years of scientific literature available in the PubMed database was performed: No other cases with a finding of amelanotic nevus of the oral cavity were found.

Conclusions: amelanotic nevi of the oral mucosa are very rare and due to the fact that they are usually asymptomatic, they are often incidental findings during routine examinations.

PLEOMORPHIC ADENOMA OF THE MINOR SALIVARY GLANDS

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Aim: the aim of this study is to evaluate the surgical approach and outcomes of pleomorphic adenoma affecting the minor salivary glands.

Methods: fifty-five years old man referred to the Dental Department of the University of Milan for a neof ormation in the oral cavity. He reported for five years the presence of a lesion with slow growth in the upper vestibular area. The lesion was tense-elastic, around about 1 cm in diameter, covered by normal mucosa, non-fixed and painful to palpation.

After evaluating medical history (good general health and no smoking) and clinical data (no trauma of the area), the excisional biopsy was performed.

After one week, a good healing of mucosal tissue could be observed without the presence of relapse or pathological alterations.

Results: histopathological examination allowed us to make a final diagnosis of adenoma pleomorphic.

Conclusions: Pleomorphic adenoma is the most common benign salivary gland neoplasm. The age range of occurrence is 30-50 years and is found mainly in the parotid gland (85%), while it is rare in the submandibular gland (8%) and minor salivary gland (7%). Annual incidence is estimated to be 2,5-3 cases/100.000 people.

Histologically, a fibrous capsule can be detected. Neoplastic tissue is made by epithelial cells of ductal origin, and myoepithelial cells immerse in a mesenchymal stroma.

Surgical enucleation is the first-choice treatment, which should be accurate and precise to avoid relapse. In 3-5% of cases, a malignant lesion, called carcinoma ex pleomorphic adenoma, can evolve.

ORAL KAPOSI'S SARCOMA IN AN HIV-NEGATIVE PATIENT: A CASE REPORT

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Aim: the aim of this study is to present a rare clinical case of oral Kaposi's sarcoma as opportunistic infection in an HIV-negative patient treated chronically *per os* with Metilprednisone.

Methods: an 80-year-old male affected by moderate psoriasis vulgaris treated chronically *per os* with Metilprednisone, underwent tooth extraction of 2.7. Three months later he came to our attention due to an asymptomatic palatal neof ormation. Incisional biopsy of the lesion was performed, prior local anesthesia. Histopathological exam showed localization of Kaposi's Sarcoma. Patient underwent HIV blood testing with negative results. Afterwards, the patient was hospitalized and excisional biopsy of the whole lesion and latero-cervical lymphectomy was performed, under general anesthesia.

Results: the gold standard to diagnose Kaposi's sarcoma is histopathological exam, which in this case showed left palatal involvement and lymphonodal metastasis.

Nowadays, no signs of recurrence are shown.

Tapering and following suspension of corticosteroid therapy was decided, as Metilprednisone is an immunosuppressive drug.

Conclusions: as other studies show, oral Kaposi's sarcoma can occur in patients treated systemically long-term with corticosteroids, even in HIV-negative or non-transplanted cases.

This study reports the first clinical case of oral Kaposi's sarcoma in a patient treated chronically *per os* with Metilprednisone, at our knowledge.

SYNCHRONOUS ORAL SQUAMOUS CELL CARCINOMA AND HIGH-GRADE DYSPLASIA: A CASE REPORT

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Aim: Field cancerization (FC) describes the increased risk of cancer development in tissues adjacent to the primary tumor after exposure to carcinogens. This concept suggests that synchronous or metachronous tumors may develop within the same epithelial tissue field due to the occurrence of genetic alterations. The aim of this paper is to describe a case of FC in a woman that developed synchronous lesions.

Methods: we report a case of a patient who was referred to our sector of Oral Medicine (AOU “Paolo Giaccone”, Palermo, Italy) for the presence of a neof ormation of alveolar lower mucosa and a lesion of upper gingiva.

Results: an 84-year-old woman came to our attention in 2022 reporting synchronous lesions in different sites. Clinical examination revealed the presence of a multifocal verrucous-exo-

phytic neof ormation localized in the V sextant on lower edentulous ridge, and a hyperkeratotic-erosive dishomogeneous lesion localized in the II sextant on masticatory mucosa. Because of the suspicion of malignancy, multiple incisional biopsies were carried out. Based on the histological and radiological findings, the diagnosis was of OSCC for the lower lesion and high-grade dysplasia for the upper lesion. The patient was referred to the Plastic Surgery Unit for management.

Conclusions: the FC emphasizes that the entire oral cavity may be at risk for cancer, which means that even areas that appear normal may undergo changes that could lead to the development of synchronous tumors. Hence, observation of areas adjacent to a primary tumor, periodic follow-up is crucial to diagnose new lesions.

ORAL INVOLVEMENT AS FIRST MANIFESTATION OF LARGE B-CELL LYMPHOMA: A CASE REPORT

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Aim: diffuse large B-cell lymphoma (DLBCL) is the most common Non-Hodgkin lymphoma. We report here a case of a DLBCL whose first manifestation was in the oral cavity.

Methods: a 58-years-old woman went to the emergency unit for pain and dental mobility present from 4 months, they prescribed antibiotic therapy and then referred her to the Oral Medicine Section, CIR Dental School of Turin.

At oral examination there was exposure of necrotic bone of the left mandibula with oral floor's ulcer.

There was mobility of 3.4, 3.2 and she referred recent loss of 3.3. There were sub-mandibular lymphadenopathies. The patient denied bisphosphonates intake.

An incisional biopsy of the ulcer was performed on the same day and a panoramic radiography was requested.

Results: radiography showed extended bone destruction and the pathologist's examination of oral biopsy revealed a diffuse large B cell lymphoma. The patient was immediately referred to the haematology department. The PET revealed an atypical and intense signal in the mandibular region, with bone remodelling. Also, parotid space and left tonsillar pillar were involved. Diagnosis of DLBCL was confirmed.

Discussion and conclusion: Some of the patient's manifestations, such as oral ulcer and dental mobility are common manifestations of LBCL. In addition, our patient presented necrotic bone exposure, which rarely was reported in literature. Dental practitioner must know NHL typical oral manifestations and when an osteonecrosis appears in a patient without history of medication or radiotherapy related, neoplasm such as DLBCL must be suspected.

IN VIVO AND EX VIVO EVALUATION OF OSCC PATTERNS BY OCT: SS-OCT VS SD-OCT

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Aim: OCT is a non-invasive imaging test that uses light waves in order to obtain images of biological tissues, depending on their optical properties, and that therefore can be valid in the screening, diagnosis and monitoring of potentially malignant disorders (OPMD) and neoplastic diseases (mainly OSCC) of the oral mucosa. The aim of this study is to evaluate the ultrastructural indicators of oral malignancy comparing *in vivo* scan by Swept Source OCT and *ex vivo* scan by Spectral Domain OCT.

Methods: a 68-year-old man showed a non-homogeneous indurated and ulcerated lesion clinically compatible with OSCC on the right lateral surface of the tongue. The lesion was evaluated through OCT and conventional histological examination. Indeed, previously to perform biopsy, it was used *in vivo* SS-OCT and, after the biopsy, the specimen was analyzed *ex vivo*

through SD-OCT. The histological examination confirmed the diagnosis of OSCC.

Results: both SS-OCT and SD-OCT images allow to observe the typical indicators of oral malignancy: superficial loss of substance, limited areas of hyperkeratosis in anatomical sites not characterized by keratinization and general disruption of tissue architecture with absence of basement membrane, so that the sharp demarcation of epithelial and subepithelial layers is not assessable.

Conclusions: the images provided *in vivo* by SS-OCT agree with the SD-OCT images obtained *ex vivo* through SD-OCT, that allows better definition due to 3D technology.

Therefore, *in vivo* scan by SS-OCT is reliable and has potential validity in the assessment of suspected OSCCs.

ENIGMATIC FORMATIONS FOUND IN ROUTINE ORTHOPANTOMOGRAPHY: A CASE REPORT

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Aim: the aim of the current paper is to present three clinical cases where rare incidental radiographic findings on OPGs were investigated to determine their significance.

Methods: the first case involved a 77-year-old patient referred to us for further investigations after incidental findings were observed on OPG. CBCT revealed spherical formations with varying dimensions and radiopacity in the left major salivary glands (excluding parotid due to FOV settings).

The second case involved a routine check OPG of a 67-year-old patient with spherical formations localized to the right parotid gland.

A subsequent low-dose CT scan revealed such masses with better resolution. The relevant anamnestic data about both patients is that they underwent a sialography many years before they came to our attention.

The third case involved a 77-year-old woman with an irregular nodular radiopacity on OPG located posteroinferiorly to the mandibular angle and hyoid bone, close to the intervertebral space C3-C4. In her medical history we found hypertension, in therapy with Olmesartan, and familial hypercholesterolemia, in therapy with Atorvastatin.

Results: in the first two cases, contrast medium retention in the parenchyma of the major salivary glands and their excretory ducts due to a prior sialography was hypothesized. The third patient was diagnosed with a left carotid artery calcification (CAC) and shortly after she underwent a left carotid artery stent surgery.

Conclusions: careful examination of OPGs obtained in clinical settings is crucial to identify enigmatic formations that can lead to important diagnoses.

CALCIFYING ODONTOGENIC CYST (COC) OF THE ANTERIOR MAXILLA: CASE REPORT

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Aim: this report is about a case of a 63 year-old female patient who presented an osteolytic lesion on the anterior maxilla in correspondence to element 2.2. Within the lesion it was possible to distinguish the presence of calcifications. The aim of this study is to present a case of calcifying odontogenic cyst (COC) and its clinical, radiological and histological characteristics.

Methods: the lesion was initially highlighted by a radiological examination. Subsequently, a histopathological examination was performed, which made the final diagnosis of calcifying odontogenic cyst.

The lesion was treated surgically in general anesthesia.

Results: at the clinical follow-up the lesion appeared completely healed, with no edema or signs of inflammation.

Conclusions: COC is a rare lesion and it is little described in the literature. The clinical and radiological characteristics are also typical of other osteolytic lesions of the upper jaw, therefore the histological examination appears to be the fundamental component for the diagnosis. The indicated treatment is surgical enucleation and long-term follow-up is recommended to prevent recurrence.

SQUAMOUS CELL CARCINOMA (SCC) OF THE TONGUE IN 24-YEAR-OLD MALE PATIENT

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Aim: Oral squamous cell carcinoma (OSCC) is among the 20 most frequent cancer worldwide. About 40% of OSCC arises on the ventral or lateral surfaces of the tongue and on the floor of the oral cavity. Tobacco smoking and alcohol abuse are the main etiologic factors. Recently, chronic mechanical irritation (CMI) to the oral mucosa has been included in this group. We report a case of OSCC of the tongue in a young male patient, related to CMI.

Methods: a 24-year-old male patient was referred to the Department of Oral Medicine and Surgery of the University of Parma in October 2021 for a painless, whitish lesion of approximately 2 x 1.5 cm, located on the left lingual margin. In the medical history, the patient referred to a previous lymphoma. Occasional smoker. On oral examination we noted that the lesion was in correspondence with the cusps of the moral teeth. We proceeded with amyloplast and with the manufac-

ture of a nocturnal bite. At a 2-month follow-up visit, the lesion decreased. In September 2022 the patient broke the bite and the lesion reappeared, as exophytic, non-homogeneous, with a hard consistency to the palpation.

We decided to perform an excisional biopsy with scalpel, maintaining 1.0 cm of resection margins, followed by histopathological examination.

Results: histological examination revealed the presence of well-differentiated squamous cell carcinoma infiltrating the muscle bundles. The resection margins were undamaged. The Magnetic Resonance did not detect nodular lesions or volume alterations in the later cervical lymph nodes. The patient was placed on a monthly follow-up program.

Conclusions: rapidly growing lesions on the lingual margin that regress eliminating the traumatic factor but recur when re-exposed should be investigated.

TRAUMA-RELATED MULTIPLE DENSE BONE ISLANDS OF THE MANDIBLE, 10-YEAR FOLLOW-UP

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Aim: Dense bone islands (DBI) are sclerosing, asymptomatic, non-malignant lesions, incidentally seen on routine X-rays wherever well delineated radiopaque bony structures with smooth or irregular borders are surrounded by normal bone. DBI are probably the result of a reactive process, related to mild and prolonged inflammatory event or occlusal trauma.

Methods: a 36 female patient, with negative medical history, was referred for the appearance of radiopaque lesions of the jaw, not evident in previous orthopantomography, dating back 10 years. Osteosclerotic symmetrical lesions were observed in right and left mandible angle sites, where third molars were previously extracted; other bone islands were detected in 3.6 periapical region, on both roots, where endodon-

tics treatments, had been performed. A bone biopsy was performed, revealing sclerotic cortical bone tissue, with depopulated osteocyte lacunae; this result was consistent with diagnosis of DBI.

Results: patient was followed-up for 10 years, the osteosclerotic lesions remained radiologically unchanged over time. In November 2021 a new bone biopsy was performed in lower right third molar site, where occasional pain was reported, with histological result consistent with the previous diagnosis.

Conclusions: the reported DBI were related to patient medical history, with their appearance following previous surgical traumas or inflammatory events. After an attentive differential diagnosis leading DBI, surgical treatment is not indicated.

STRATIFYING THE RISK OF LYMPHOMA IN SJÖGREN'S SYNDROME: PRELIMINARY EVALUATION

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Aim: Lymphoma is the most severe late complication of primary Sjögren's syndrome (pSS). It appears that a focus score (FS) ≥ 3 on histology could be a threshold prognosticating the risk of lymphoma development.

The aim of this study is to evaluate the potential role of Ultra-High frequency Ultrasonography (UHFUS) in the identification of patients with a FS ≥ 3 , in order to stratify the risk for patients affected by pSS.

Methods: patients with suspected pSS were enrolled and underwent minor salivary glands UHFUS and surgical biopsy for diagnosis confirmation and FS estimation. UHFUS images were evaluated according to the OMERACT scoring system (0 = normal glandular parenchyma to 3 = diffuse presence of hypoecho-

ic areas in the absence of normal glandular parenchyma, glandular fibrosis).

Results: out of the 168 patients included a diagnosis of pSS was confirmed in 81 patients (48.2%, mean age 55.17 ± 14.34). Seven patients presented a FS ≥ 3 . None of the patients with UHFUS score 0 presented a FS ≥ 3 ; only the 3.7% of patients with UHFUS score 1-2 displayed a FS ≥ 3 , whereas the 16.7% of the patients with a UHFUS score 3 had a FS ≥ 3 ($p < 0.05$).

Conclusions: UHFUS score 3 could support the identification of patients with a FS ≥ 3 , thus highlighting the high correspondence between the UHFUS scoring and the histology. UHFUS application could improve risk assessment and stratification for lymphoma development in pSS patients.

ROLE OF ULTRASONOGRAPHY AND HISTOLOGY OF MINOR SALIVARY GLANDS IN SJÖGREN'S SYNDROME

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Aim: the characterization of glandular involvement in primary Sjögren's syndrome (pSS) is extremely relevant for disease staging and treatment. The aim of this study is to evaluate the potential role of Ultra-High frequency Ultrasonography (UHFUS) in evaluating minor salivary glands by means of Ultra-High Frequency Ultrasound in patients with suspected pSS.

Methods: consecutive patients were enrolled and underwent a complete rheumatological diagnostic work-up, UHFUS of minor salivary glands, and surgical biopsy. UHFUS images were evaluated according to the OMERACT scoring system (0 = normal glandular parenchyma to 3 = diffuse presence of hypoechoic areas in the absence of normal glandular parenchyma, glandular fibrosis). The patients were diagnosed with either pSS or sicca syndrome depending on histology.

Results: in total, 168 patients were included. Out of them a diagnosis of pSS was confirmed in 81 patients (48.2%, mean age 55.17 ± 14.34). UHFUS scores significantly differed between pSS and sicca patients with UHFUS scores 2 and 3 being significantly more frequent in pSS than in sicca patients ($p = 0.0001$).

UHFUS score ≥ 1 was able to reliably identify patients with disease (98.9% sensitivity)

Conclusions: UHFUS showed extremely high sensitivity in detecting glandular alterations.

The possibility to redefine the indication for labial glands biopsy and the utility of UHFUS as a non-invasive screening tool may represent a valid support in the evaluation of suspected pSS patients.

LIQUID BIOPSY IN THE ASSESSMENT OF MICRORNAS IN THE MANAGEMENT OF OSCC AND OPMDS

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Aim: the aim of the study was to evaluate the expression of plasmatic and salivary miRNAs in patients with oral squamous cell carcinoma (OSCC) and oral potentially malignant disorders (OPMDs).

Methods: a total of 15 patients (8 M; 7 F) were enrolled at MoMax (Oral Medicine and Maxillofacial) project and divided into 3 groups according to pathology: 5 patients affected by OSCC (G1), 5 patients affected by OPMD (G2) and 5 healthy controls (G3). Tissue and liquid biopsy were performed at T_0 in G1 and G2; liquid biopsy was performed at T_1 (3 months after OSCC resection or OPMD treatment) in G1 and G2. In G3, liquid biopsy was performed only at T_0 .

After collecting blood and saliva samples, the expression of miRNA -21, -31, -138, -145, -424, and -184 was evaluated by real-time PCR at the department of Molecular Medicine. Sta-

tistical analysis was performed by R statistical package version 3.6.1. Wilcoxon test was used to evaluate the difference in the miRNA levels between T_0 and T_1 (statistical significance as $p < 0.05$).

Results: at T_0 , G1 and G2 patients showed overexpression of miRNA levels compared to G3. At T_1 , miRNA levels were decreased in G1 and G2, particularly in blood samples. The difference between the expression of miRNAs from T_0 to T_1 was statistically significant ($p < 0.05$) in blood samples but not in saliva samples in G1 and G2.

Conclusions: our preliminary results are promising, showing a reduction of miRNA expression in OSCC and OPMD patients between T_0 and T_1 . Further studies are required to introduce liquid biopsy in the daily practice for OSCC and OPMDs management.

ORAL HEALTH AND WOMAN IN MENOPAUSE WITH CHRONIC KIDNEY DISEASE

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Aim: the decrease of estrogen level affect negatively on the periodontium health and it could also be related to the progression of chronic kidney disease (CKD). The aim of our study is to assess the potential effects of menopause on the severity of periodontal disease in CKD patients.

Methods: we performed to an accurate pathological anamnesis and all enrolled patients underwent to the nephrological and dental examinations and to a questionnaire that evaluates the clinical history of menopause. We also monitored the inflammatory state. Finally, we collected the experience after the menopause hormone therapy (MHT). From the data obtained, a bivariate inferential analysis was performed.

Results: 28 out of 64 CKD menopausal patients examined, showed that 35% of women reported the onset/increase of

periodontal disease after menopause. Compared to the control group, there is a significative difference for the percentage of sites with PD >4 mm. Interestingly, 46% of the SG are smokers or former smokers, presenting a condition of generalized gingivitis, compared to CG with localized gingivitis, and a lower number of dental elements. There were other oral conditions, such as xerostomia, TMJ disorders and dental hypersensitivity.

Conclusions: the changes in the sex hormones level can be correlated to the health state of periodontium. Among the risk factors, there is smoking, which increases the inflammatory processes. Questionnaires showed that 70% of patients goes to visit only when they have pain. Menopausal women should receive special preventive and therapeutic care from dentist.

A FERROPTOSIS GENE SIGNATURE PREDICTS IMMUNE INFILTRATION AND PROGNOSIS IN OSCC PATIENTS

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Aim: Oral squamous cell carcinoma (OSCC) has poor prognosis and low survival rate. Here, we built a prognostic model around ferroptosis to predict the overall survival (OS) of OSCC patients.

Methods: RNA-seq data of ferroptosis-related genes (FRGs) and clinical information of OSCC (training set, n = 407) were collected from TCGA. A FRG-signature of prognosis (FPS) was established by univariate and multivariate Cox hazard analyses. The reliability of the model was validated in a testing set (n = 35). GSEA together with TIMER and CIBERSORT algorithms were compared to evaluate cellular immune responses associated with FPS.

Results: 17 FRGs were found differentially expressed in OSCC tissues vs healthy mucosa ($|\log_2FC| > 1$, $p < 0.05$). The univariate and multivariate Cox analyses showed that a signa-

ture of 6 FRGs, defined by high levels of *ALOXE3*, *TFRC*, and *ACSF2* and low levels of *GOT1* and *HSF1* correlated with a better OS both in the training set and in the testing set ($p < 0.05$) independently from the confounding factors. FPS also correlated with lower TNM stage, smoking, no chemotherapy and no tumor recurrence ($p < 0.05$). GSEA revealed that immune-related pathways, including inflammatory response and neutrophil activation, were enriched in patients with FPS. TIMER and CIBERSORT algorithms confirmed that patients with FPS showed a higher proportion of intratumoral neutrophils and monocytes.

Conclusions: we developed a FRG-based model that provides novel insights into the prediction of OSCC prognosis and identifies the relevance of the immune microenvironment for patient outcomes.

SEXUAL DYSFUNCTIONS IN PATIENTS WITH ORAL LICHEN PLANUS: A CROSS-SECTIONAL STUDY

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Aim: to evaluate sexual dysfunctions (SD) in patients with Oral Lichen Planus (OLP) compared to healthy controls (HC).

Methods: 60 OLP and 60 HC, matched by age and gender, were recruited in two different universities (Naples and Santiago de Compostela). All participants were administered the Hamilton Rating Scale for Anxiety and Depression (HAM-A/D), the Pittsburgh Sleep Quality Index (PSQI), the Epworth Sleepiness Scale (ESS), the Oral Health Impact Profile (OHPI), the Sexual Desire Inventory (SDI), the Female Sexual Function Index (FSFI) and the International Index of Erectile Function (IIEF).

Results: HADS-A, HADS-D, PSQI and ESS scores were comparable between OLP and HC and were higher in females. A significantly higher OHIP score was found in OLP (12.48±9.37

vs 5±5.66). Patients reported a lower dyadic sexual desire (35.92±17.25 vs 38.81±16.86) with a slightly lower SDI total score while solitary SDI score was marginally higher in OLP than in HC. We registered a lower IIEF score in OLP than in HC (18.25±4.64 vs 21.50±4.03) whereas a low FSFI score was reported both in patients and controls without a statistically significant difference between groups.

Conclusions: OLP significantly impacts people's QoL and interferes with dyadic sexual desire. A higher SD prevalence was found in males with OLP. Conversely, in female population, we reported the same high prevalence of SD in OLP and HC. This difference may be related to the higher levels of anxiety and depression and the poorer sleep quality reported in females. Other studies are needed to corroborate our results.

HPV INFECTION, VACCINATION AND OROPHARYNGEAL CANCER: KAP AMONG ITALIAN DENTAL STUDENTS

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Aim: HPV is a mainly sexually transmitted virus associated with cervical, anogenital, and oropharyngeal cancer (OP-C). Dentists play a key role in the primary/secondary prevention of infection and HPV+ OP-C. The study aims to assess Knowledge (K), Attitude (A) and Perception (P) on HPV infection (HPV-I), HPV+ OP-C and HPV vaccination (HPV-V) among Italian dental students.

Methods: Students received a questionnaire with 81 quizzes divided into 4 sections: i) sociodemographic data (gender/age range/year of study), ii) HPV+ OP-C/HPV-I/HPV-V K, iii) HPV+ OP-C/HPV-I/HPV-V A, iiiii) HPV+ OP-C/HPV-I/HPV-V P.

Results: 412 students were recruited. In relation to K the mean of correct answers was 64.52% ±14.53 (HPV+ OP-C), 51.26% ±14.86 (HPV-I) and 62.4% ±12.19 (HPV-V). For A, a distribution

of 81.1% and 87.1% was found in "strongly agree" / "agree" responses respectively in discussing with patients and updating on HPV-diseases. Regarding P, 82.5% and 87.9% of participants agreed/strongly agreed respectively in perceiving the role of dentist as important in HPV-disease and in promoting the vaccine. Using chi-square test, statistically significant differences were observed in relation to sociodemographic parameters ($p \leq 0,05$).

Conclusions: this is the first study aiming to assess KAP on HPV+ OP-C/HPV-I/HPV-V among students. Findings from the current study are encouraging, but students expressed the need for acquiring more information about HPV-disease and vaccine. Improving educational training programs will place future dentists in the front line of HPV-diseases primary and secondary prevention.

ORAL MUCOUS MEMBRANE PEMPHIGOID IN MARCHE REGION: A RETROSPECTIVE EPIDEMIOLOGICAL STUDY

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Aim: mucous membrane pemphigoid (MMP) is a rare autoimmune, subepithelial blistering disorder involving 2-10 cases per 100,000 individuals. The study aims to provide an epidemiological characterization of MMP in Marche region.

Methods: all cases of MMP of Marche patients, treated at Dentistry Clinic, Marche Polytechnic University, from 2016 to 2022, were included. Demographic and clinical data were collected from the archives of Dentistry Clinic and the Pathology Institute. For epidemiological analysis, the sample size was the Marche population according to the yearly population for the period 2016-2022, reported by the Italian National Institute of Statistics (ISTAT).

Results: a total of 11 patients (9 females, 2 males) with a mean age of 58.2±19.5 years were included in the study. During the

same period, the crude annual incidence of MMP in Marche region was 0.89 patients/million/year, ranging from 0.65 (2017) to 1.33 (2021) patients/million/year. MMP life prevalence in Marche region was 7.39 per million.

The involved sites were gingiva (7 cases), alveolar mucosa (2 case) and palatal mucosa (2 cases). All patients reported the presence of erythema, erosions, pseudomembrane, and sometimes clear signs of blistering disease.

No skin involvement nor apparent scarring was observed. In all patients, direct immunofluorescence showed a continuous deposit of IgG, IgA and/or C3 in the epithelial basement membrane zone.

Conclusions: the annual incidence is similar to those reported in other European countries.

MANAGEMENT OF ORAL CANDIDIASIS USING LACTOFERRIN IN PHOTODYNAMIC THERAPY: *IN VITRO* STUDY

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Aim: the aim of this work was to evaluate, through an *in vitro* study, the efficacy of lactoferrin (LF) as a photosensitizer (PS) in photodynamic therapy (PDT) against oral multidrug-resistant isolates (MDR) of *Candida* spp.

Candida species are a common cause of severe oral infections that have recently proven resistant to antifungal drugs. For this reason, novel therapeutic procedures are urgently requested. Following this aspect, among the non-pharmacological therapies, we have performed a PDT protocol by using lactoferrin, a transferrin, as PS. In fact, its chemical structure bound to its light absorption to 310-350 nm suggested the use of LF as a promising candidate in the PDT against oral candidosis.

Methods: MDR oral isolates of *C. albicans*, *C. kruseii*, and *C. glabrata* were used and inoculated in a petri dish with a suspen-

sion of 1 10⁶ cells/mL. 20 mg of bovine lactoferrin was dissolved in 1 mL of Sabouraud broth; this solution was used in four different combinations in a Kirby-Bauer test (Eucast protocol):

- (i) solution as it is
 - (ii) solution activated with 3% H₂O₂
 - (iii) solution activated by light at 310-350 nm
 - (iv) solution activated both with 3% H₂O₂ and light at 310-350 nm
- The Petri dishes were then incubated at 37 °C for 48 h.

Results: group (iv): LF, H₂O₂, and light showed the best results, with inhibition haloes ranging from 30 to 40 mm for all analyzed strains.

Conclusions: solutions based on H₂O₂ and lactoferrin can be considered a promising PS in PDT and in the eradication of *Candida* spp. MDR.

QUANTITATIVE ANALYSIS OF ZOLENDRONATE AND ALENDRONATE IN MRONJ-RELATED BONE SEQUESTRATION

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Aim: medication-related osteonecrosis of the jaw (MRONJ) is a severe complication of bisphosphonates (BPs) and anti-resorptive drugs prescribed for treatment of severe osteoporosis and bone malignancies. The purpose of this study is to assess the concentration of BPs (zoledronate and alendronate) in bone tissue and to evaluate possible correlations with the dosage, the length of the therapy or its suspension.

Methods: patients experiencing bone sequestration surgical or spontaneous removal for MRONJ were enrolled. The patients referred at the Dental Unit (Asst Santi Paolo e Carlo and Papa Giovanni XXIII Hospital). Socio-demographic and clinical data were collected. Bone specimens were sent to the toxicology laboratory.

Results: 97 patients were recruited (111 bone specimens). The mean concentration of zoledronate was 13.8 ± 24.2 ng/ng, while for alendronate was 653.2 ± 1151.2 ng/ng. No specific correlation in the amount of BPs could be found with the length of anti-resorptive therapy either the drug suspension. BPs could be detected in the bone tissue even after years from their suspension.

Conclusions: BPs accumulate in the bone tissue and can be detected in sequestered bone. Our findings support the presence of the drug even years after its suspension, suggesting a long-term risk correlated to MRONJ also in those patients who stopped the drug. The amount of BPs in the bone sequestration appeared to not be significantly dependent from the length of the therapy or its suspension.

A RARE EPITHELIOID HEMANGIOENDOTHELIOMA OF THE TONGUE: A CASE REPORT AND SYSTEMATIC REVIEW

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Aim: Epithelioid haemangioma (EHE) is a rare vascular tumour caused by the proliferation of endothelial cells. The purpose of this study was to describe a rare case of EHE of the tongue and to perform a systematic review of the literature reporting oral EHE.

Methods: a 58-year-old woman was referred to our Oral Medicine Department for evaluation of a slowly growing ulcerative lesion of the tongue. The patient's past medical history was non-contributory. Oral examination revealed a soft swelling ulcerated mass with hypertrophic margins and yellowish base, on the right lateral border of the tongue (2 x 3 cm). An incisional biopsy was performed and the histological exam revealed hyperplastic epithelium, site of proliferation of epithelioid endothelial elements. Immunohistochemistry showed positivity

for ERG. So, a final diagnosis of EHE was made. After excisional surgery, no local recurrence was reported at 8 months follow-up. A systematic review was conducted on PubMed database, following PRISMA guidelines.

Results: among 28 included study, 40 cases of EHE were identified including our case report (20 male, 18 female), with a mean age of 35 years (± 19). The most frequently site was the gingiva followed by tongue (18 and 10). After excision, the recurrence was noted in 20% of cases (8/40). Only 1 case of metastasis was described.

Conclusions: differential diagnosis of oral soft swelling should include vascular tumours. Patients with EHE diagnosis should be followed-up for prolonged periods due to the tendency of local recurrence and due to uncertain malignant nature.

COLD ATMOSPHERIC PLASMA INDIRECT TREATMENT TO TARGET ORAL CANCER CELL LINES

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Aim: Cold atmospheric plasma (CAP) is an innovative therapeutic approach, which allows the production of plasma activated media (PAM) with many biological applications. The mixture of reactive oxygen and nitrogen species is mainly responsible for the plasma activity. Since the effectiveness of CAP in human cancer was already reported, here we investigated the anti-tumoral activity of different PAMs in non-malignant oral cells (HGFs) and in oral squamous cell carcinoma (OSCC) cells (HSC-2, HSC-3, HSC-4, A 253).

Methods: PAM was obtained using a Jet plasma with air gas, provided by PBRC, Kwangwoon University Seoul. The working distance was fixed at 6 mm and the volumes of culture media activated by CAP (5, 10, 20 min) were 2 ml and 5 ml. Effects on cell viability were assessed by MTS assay at 24, 48

and 72 h and apoptosis induction was analyzed by flow cytometry at 24 h.

Results: MTS assay revealed that all the PAM treatments remarkably reduced cell viability in all OSCC cell lines, with the 2 ml samples being more effective than 5 ml ones, while barely affected HGFs viability. Flow cytometry analysis revealed that apoptosis was induced, in a comparable manner, by the 2 ml treated for 5 minutes and the 5 ml treated for 20 minutes. In the HSC-2 cells exposed to 5 ml PAM, a time-dependent trend was found in the occurrence of late apoptosis.

Conclusions: these preliminary results highlight that CAP is a promising and selective treatment for OSCC and may open a new window of opportunities for an innovative approach for the management of OSCC and beyond.

MANDIBULAR ANGLE METASTASIS FROM BREAST CANCER: A RARE CASE REPORT

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Aim: breast cancer is the most common cancer and the second cause of cancer-related death in women. We aimed to report a rare occurrence of a bony metastasis from breast cancer involving the mandibular angle.

Methods: a 32-year-old woman came to our attention with a suspected diagnosis of osteonecrosis or metastasis due to experiencing paresthesia/anesthesia in the left mandibula. She underwent a radical bi-mastectomy 3 years earlier for invasive lobular carcinoma of breasts. In addition to chemotherapy and radiotherapy, intravenous zoledronic acid was prescribed. CBCT, PET exams were performed for diagnosis confirmation.

Results: clinical examination did not reveal any mucosal ulcer or fistula, but palpable left regional submandibular lymph nodes and swelling of the lateral area of the mandibular angle.

CBCT showed small poorly diffused radiopacity in proximity to the mandibular angle, both medial and lateral surfaces. PET showed fluoro-2-deoxy-D-glucose uptake in the mandible in the left angle surface area. The patient's clinical history, signs, symptoms, and CT/PET evidence led to the diagnosis of mandibular metastasis.

Conclusions: breast cancer manifestations in head and neck are rare, mostly bony metastasis to the mandible and maxilla. Despite their rarity, metastatic tumors should be considered in the differential diagnosis of inflammatory and reactive lesions of the jaws. This case emphasizes the importance of a complete and careful workup with particular attention to detailed medical history as well as careful clinical examination and reading instrumental data.

IMMUNOHISTOCHEMICAL EVIDENCE OF SARS-COV-2 PERSISTENCY IN LONG-COVID ORAL LESIONS

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Aim: a growing evidence exists about Post-COVID conditions as sequelae of the Sars-CoV-2 infection in healed patients with up to 200 different symptoms, as reported by WHO, develop during or after infection and continue for more than 12 weeks with a pathogenesis related to virus persistency.

Methods: we selected 6 patients recovered from COVID-19 and with negative RT-PCR test affecting the oral mucosa (mainly ulcers) overlapping those occurring in the acute phase, persisting up to 20 days and thus needing an incisional biopsy with histological investigation and spike-protein evaluation by immunohistochemistry.

Results: at the histological examination epithelial ulceration, inflammatory infiltrate, vessels with increased diameter, flat-

tened endothelium but no thrombi formation were detectable along with a weak epithelial SARS-CoV-2 positivity, only limited to the basal/spinosum layers and progressively decreasing towards the periphery, and also of the intra-epithelial lymphomonocytes, endothelium and perivascular pericytes too.

Conclusions: these findings provide evidence that SARS-CoV-2 can persist also in the oral epithelium/mucosa after the healing from the acute phase and that it can be responsible for oral mucosa lesions; as for other organs/systems, the pathogenetic mechanism should be better investigated especially in term of how/when/why but certainly such occurrence represents the oral cavity counterpart of the long-COVID.

HYPOSALIVATION IN DIABETICS PATIENTS

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Aim: Hyposalivation is a reduced salivary flow, which may occur due to different conditions, such as drug intake (anti-hypertensives, anti-cholinergics, chemotherapy), head and neck radiotherapy and systemic disorders including Sjögren syndrome and diabetes. The aim of this study was to evaluate the correlation between diabetes and hyposalivation.

Methods: salivary flow was measured by means of spitting method, which consists in spitting in a graduated test tube the saliva produced in 60 seconds, repeating the procedure 5 times (basal sialometry). The stimulated salivary flow was obtained using the same procedure, but asking each individual to

chew a pellet of wax. 10 diabetic patients (2 of them with poor glycemic control) and 20 non-diabetic patients, as control group, were recruited.

Results: both groups presented a reduced salivary flow, due to patients' systemic disorders and drug intake. Hyposalivation resulted higher in diabetics.

Conclusions: it is important for the dentist to monitor the patients' salivary flow, especially in case of patients affected by diabetes, in order to early diagnose and manage hyposalivation and related oral complications, such as caries, periodontal diseases and oral candidiasis.

NECROTIZING SIALOMETAPLASIA TREATED WITH CONCENTRATED GROWTH FACTOR FOR FAST HEALING

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Aim: necrotizing sialometaplasia is a rare and self-limiting disorder affecting the minor salivary glands of the hard palate in 80% of cases. It is a diagnostic challenge since it may mimic malignancies such as oral cancer. This study analyzes the benefit of using concentrated growth factor (CGF) in the treatment of aseptic ulcers of the hard palate.

Methods: seven patients (4 males and 3 females, mean age 48.6 years) were referred to Maxillo-facial surgery Department, Ospedali Riuniti (Ancona) between 2020 and 2022 for necrotizing sialometaplasia of hard palate mucosa. Therapeutic protocol consisted in a peripheral blood sample from a large-caliber vessel. Within 2 minutes of collection the tubes were placed in the centrifuge/phase separator. The separation cycle lasts

about 13 minutes, followed by 20-30 minutes of rest. Later, the fibrin block with CGF was washed with physiological solution and thinned depending on the defect to be filled. Finally, the block was transferred to the site and sutured with resorbable sutures.

Results: none of the patients experienced discomfort. Check-up were carried out after 7 days; thereafter, patients were re-evaluated every 3 days until complete recovery. After 7 days, 4 patients showed total remucosization and 3 patients, whit the greater size defects, displayed partial remucosization.

Conclusions: CFG is a preparation with excellent potential, whose clinical use is promising in the healing of ulcers of soft tissue caused by necrotizing sialometaplasia.

TRAUMATIC ULCERATIVE GRANULOMA WITH STROMAL EOSINOPHILIA OF THE HARD PALATE

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Background: traumatic ulcerative granuloma with stromal eosinophilia (TUGSE) is a rare and benign condition affecting the oral cavity. It is usually localized on the tongue but can involve other areas of the oral mucosa.

It is a self-limiting and self-regenerating lesion; due to its rapid onset and clinical appearance, it can mimic a malignant lesion (squamous cell carcinoma or oral lymphoma), but has a complete healing after surgical trauma.

Case report: We report a case of a palatal lesion in an 86-year-old diabetic, non-smoking patient urgently referred by her family doctor for odontogenic abscess refractory to antibiotics.

At dental examination, there was a swelling of the anterolateral mucosa of the hard palate approximately 3 cm in diameter, non-painful, with ulcerated surface, non-fluctuant, and taut-elast-

tic consistency. According to the patient the lesion had grown over 20 days; oral trauma were not reported, dental elements responded positively to vitality tests and patient didn't wearing a prosthesis.

The clinical history and the appearance of the lesion justified immediate biopsy. Hemostasis was achieved by compression. Histologically, the lesion was predominantly composed of a lympho-granulocytic infiltrate of the chorion with numerous eosinophils. The epithelium showed acanthosis and absence of dysplastic or malignant cells. Immunohistochemical analysis of the lymphocyte tumor panel confirmed the normal expression of CD3, CD20, ki67. Analysis for HHV8, HPV, CKMNF116, p16, ERG, S100 were negative.

At the clinical follow-up, the lesion was almost completely healed.

ORAL HEALTH STATUS IN TWO COHORTS OF CANCER PATIENTS: A CASE-CONTROL STUDY

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Aim: Bone Metastatic Cancer (BMC) patients and Head and Neck Cancer (HNC) patients require specific dental care in order to prevent and manage the adverse effects of radiotherapy (RT) and bone antiresorptive (AR) drugs. The aim of this observational case-control study was to compare the oral health (OH) status between HNC patients (case group) and BMC patients (control group). Moreover, secondary outcome was to identify any risk factors associated with poor OH status.

Methods: fifty patients were enrolled in the case group and 50 patients in the control group, matched by age and sex. All patients were evaluated at Fondazione Policlinico A. Gemelli, Rome. The OH status was clinically and radiographically evaluated using a DMFT index, a full periodontal charting and radiological examination (orthopantomographs). The OH status

was defined as “poor” in cases of DMFT¹³ and/or stage III or IV periodontitis.

Results: among 100 patients included in this study (mean age 59.4, SD: 12.9), 56 patients (56%) had a poor OH. Among the HNC patients, 34 (68%) were affected by poor OH; compared to 22 (44%) among the BMC patients (χ^2 -test: $p < 0.05$), with a RR = 2.6, $p = 0.05$. The following risk factors were independently associated with poor OH status: age (RR: 0.5, $p < 0.05$); smoking (RR: 3.4; $p < 0.05$).

Conclusions: this is the first study to examine the OH status in two different cohorts of cancer patients. HNC patients have a poorer OH compared to BMC patients at first dental visit. Nevertheless, smoking habit and age remain the most important risk factors for poor OH.

MRONJ AND ORAL HEALTH-RELATED QUALITY OF LIFE: A CASE-CONTROL PILOT STUDY

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Aim: the objective of the present study was to evaluate the oral health-related quality of life (OHRQoL), the quality of life (QoL), and the psychological profile in patients affected by medication-related osteonecrosis of the jaws.

Methods: a case-control pilot study was conducted by enrolling MRONJ patients and an equal number of controls matched for age and gender. All the participants were clinically evaluated and completed a predefined set of questionnaires. The Oral Health Impact Profile-14 (OHIP-14), the Short Form 36 Health Survey Questionnaire (SF-36) and the Hospital Anxiety and Depression Scale (HADS) were administered.

Results: a total of 50 participants, 25 MRONJ patients and 25 controls were included. MRONJ patients presented a poorer OHRQoL compared to the controls (OHIP-14 total score p -value: 0.003). Also, the general QoL of MRONJ patients was significantly impacted, especially in the “physical functioning”,

“physical role”, “body pain”, “general health”, “vitality” SF-36 items (p -values: 0.001, 0.001, 0.013, 0.001, 0.020 respectively). While the SF-36 items “social functioning”, “emotional role” and “mental health”, failed to detect any difference between the groups, the mean sub-scores of the HADS, both the anxiety and depression scores (HADS-A, HADS-D) were significantly higher in the MRONJ patients compared to the controls (p -values: 0.002, 0.009 respectively). However, the “mental health” SF-36 item showed to be correlated with both HADS-A and HADS-D scores (p -value: 0.003, 0.031).

Conclusions: a comprehensive clinical examination of MRONJ patients should take into account the assessment of the OHRQoL, QoL and of the psychological status with different questionnaires, in order to gather detailed information on patients’ physical and psychological status and better tailor treatments.

USE OF INTEGRA® DERMAL REGENERATION TEMPLATE FOR MUCOSAL DEFECTS AFTER ORAL CANCER SURGERY

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Aim: reconstructive options for mucosal defects of the oral cavity resulting from the resection of tumors, consist of primary closure, mucosal and split thickness skin grafts, pedicle flaps, and microvascular free transfer of tissues. To preserve the oral cavity functions, the maintenance of oral mucosa lining and tongue mobility is necessary. Dermal matrix such as Integra® is an alternative approach for the reconstructive surgery of small intraoral mucosa defect, particularly indicated in the cheek mucosae because allows the re-epithelialization of the wound.

Methods: between 2020 and 2022, 47 patients treated for early oral squamous cell carcinoma at the Maxillo-facial surgery Department, Ospedali Riuniti (Ancona) were subjected to oral mucosa reconstruction with bilayer Integra®. In all cases, the

oral defect was site at the cheek mucosae with greatness in size about 3 × 4 cm.

Results: as emerges from the results obtained in our study, the dermal matrix such as Integra® represents a valid alternative in oncologic reconstructive surgery for small/medium intraoral mucosa defect because it allows re-epithelialization of the wound.

Conclusions: the simplicity of the reconstructive act by positioning Integra®, the reduced duration of the reconstructive phase, the good restoration of functionality and the low percentage of complications are the strengths of this reconstructive option which will be implemented in the future and always applied more widely for the reconstruction of oral cavity defects.

NEW DIAGNOSTIC SURVEY IN HYPOSALIVATION DIAGNOSIS: A COHORT PROSPECTIVE CLINICAL STUDY

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Aim: develop a new diagnostic questionnaire called Real Hyposalivation Survey (RHS) designed to screen xerostomia patients with real hyposalivation.

Methods: for this study, 30 adult patients presenting a subjective sensation of dry mouth were included. The development of RHS required the previous performance of a systematic literature review using PubMed, Web of Science, and SCOPUS electronic databases to identify suitable questions for screening real hyposalivation patients (4 major criteria and 6 minor criteria). RHS was administered to patients and, in two distinct medical examinations (T₀ and T₁), basal and stimulated salivary flows were measured through the spitting method.

Statistical analysis was carried out with R software, and linear regressions were performed to assess whether the results of the sialometry regressed significantly on the RHS scores ($P < 0.05$).

Results: all tested parameters had a significant effect on RHS score: T₀ ($P = 0.000406$, $P = 0.000801$), T₁ ($P = 0.000616$, $P < 0.0001$), and mean basal and stimulated salivary flow ($P = 0.000496$, $P < 0.0001$).

Moreover, mean basal and stimulated salivary flow values were significant effects on the number of major criteria of RHS ($P = 0.00143$, $P < 0.0001$).

Conclusions: the results of this study suggest the usefulness of RHS as a screening tool for xerostomic patients with real hyposalivation.

Future multicenter case-control studies are needed to confirm the results of this study on a larger sample of patients in different populations, including evaluating the sensitivity and specificity of the survey in a population of non-xerostomic patients.

BRAFV600E MUTATION IN PERIPHERAL AMELOBLASTOMA: A RETROSPECTIVE STUDY ON 12 CASES

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Aim: peripheral ameloblastomas are benign, rare odontogenic tumors that are clinically like several other diseases. According to the WHO, the mutation of the BRAF gene is one of the causes of these tumors. The aim of this retrospective study is to check the presence of this mutation by reviewing the cases of peripheral ameloblastoma referred to the Unit of Odontostomatology of the Aldo Moro University of Bari from 2002 to 2022.

Methods: all patients underwent panoramic radiograms, nuclear magnetic resonance imaging, and computed axial tomography. After a minimally invasive preoperative diagnosis by fine needle aspiration biopsy and cytology, the patients underwent surgical excision. Patients underwent clinical and ra-

diographic follow-up panoramic radiogram on the 7th postoperative day, and every three months for one year. Whenever possible, immunohistochemistry for the BRAFpV600E mutation was performed on histological sections.

Results: 12 peripheral ameloblastomas occurred among the 73 odontogenic tumors considered in this study. Healing was complete and no recurrences were observed in all cases. Immunohistochemistry was performed in only 5 cases and 4 showed the BRAF gene mutation.

Conclusions: the BRAFpV600E mutation is an additional method useful for the differential diagnosis of peripheral ameloblastomas. Further investigations will be necessary to establish a targeted therapy in cases showing this mutation.

COST CALCULATION OF OSCC TREATMENT: THE VALUE OF AN EARLY DIAGNOSIS

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Aim: clinical and epidemiological aspects of Oral Squamous Cell Carcinoma (OSCC) are well-documented in literature, but the economic burden of OSCC still lacks evidence. The aim of the present study is to retrospectively evaluate the direct costs of OSCC treatment and post-surgical surveillance in a tertiary Italian hospital.

Methods: the study population consisted of 63 consecutive patients surgically treated for a primitive OSCC at S. Orsola Hospital in Bologna (Italy) between January 2018 and January 2020. We used billing records of Emilia Romagna healthcare system and institutional costs to derive specific costs of the following clinical categories: operating theatre costs, intensive and ordinary hospitalization, radiotherapy, chemotherapy, post-surgical complications, visits and exams during follow up period.

Results: 17 patients were classified at stage I OSCC, 14 at stage II, 8 patients at stage III and 24 at stage IV. The estimated mean total direct cost for OSCC treatment and post-surgical surveillance is € 26338.48 per patient (stage I average cost: € 10733, stage II: € 19642.9, stage III: € 30361.4, stage IV: € 39957.2).

One way ANOVA with multiple range test revealed that diagnosis at stage I is a variable significantly related to a lower cost of OSCC treatment and post-surgical surveillance.

Conclusions: data suggest a direct correlation between early diagnosis and costs of treatment. Redirection of funds used for OSCC treatment to screening measures may be a good strategy to improve overall health outcomes and optimize national health resources.

A SINGLE-CENTER RETROSPECTIVE SURVEY ON ORAL BIOPSIES: ANALYSIS OF 1,397 SPECIMENS

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Aim: a correct diagnosis is the most important step in the treatment of oral lesions and each oral lesion has specific clinical features that provide clinical diagnosis. However, some of these features are common among different lesions. In these situations like a gold standard, biopsy and histopathological examination are indicated. The aim of this study was to evaluate the correlation between raters' expertise and histological diagnosis of oral lesions in patients undergoing oral biopsy from 2017 to 2022.

Methods: in this retrospective survey, patients referred during a 6- year period were collected through archives files and clinical findings and compared with histopathological reports. The recorded information in files included age, gender, lesion's lo-

cation, clinical and histopathological diagnoses, biopsy methods and raters' expertise.

Results: a total of 1,397 biopsies were included and analyzed. In regard to location, the highest concordance of clinical and histopathologic diagnoses was observed in the alveolar mucosa (20,5%). Scalpel method was the most frequent biopsy method executed in 42,3% of cases. The NBI endoscopy was applied to observed lesion sites according to the intraepithelial papillary capillary loop pattern. A greater concordance was found between raters' expertise and final diagnosis.

Conclusions: NBI endoscopy-correlated rater expertise improved diagnostic accuracy and the ability to detect high-grade dysplasia/carcinoma.

EFFECTIVENESS OF VEA FILME OS IN THE REDUCTION OF VAS-D ON THE BIOPTIC SAMPLE SITE

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Aim: the purpose of this study is to evaluate the effectiveness of topical applications of Vea filme os (Tocopherol Acetate) in reducing pain in patients undergoing oral biopsy.

Methods: it is considered as primary variable the pain-related visual analogue scale (VAS-D) on the first and sixth post-operative day in patients who applied topical Vea filme os three times a day for seven days on single or multiple oral mucosal biopsy samples.

Concomitant intake of painkillers was recorded and evaluated. The statistical analysis was done with a Student's t-test, and it was carried out with R 4.1 (R Foundation for Statistical Computing, Vienna, Austria). A p-value of less than 0.05 was con-

sidered statistically significant. The postoperative discomfort assessment was conducted by telephone on the sixth day.

Results: the test was conducted on 17 patients, 7 women and 10 men, the gender was irrelevant in the difference in reduction of VAS-D. The final VAS-D (1.15) was significantly lower than the initial VAS-D (2.88) (p-value 0.01) with 95% confidence interval.

The intake of painkillers did not entail a significant decrease in pain on the sixth day, 10 patients took painkillers while 7 did not (p-value 0.84).

Conclusions: the use of Vea filme os has proved to be effective in reducing VAS-D at the bioptic sample site.

DENTAL PANORAMIC RADIOGRAPHY MARKERS FOR MONITORING OF ANTI-RESORPTIVE THERAPY

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Aim: studies have shown that it is possible to correlate different radiographic markers measured on Dental Panoramic Radiography (DPR) with Bone Mineral Density (BMD).

The aim of our retrospective study is to evaluate changes in DPR radiographic markers in patients undergoing antiresorptive therapy with denosumab.

Methods: we evaluated two morphometric indexes: Mandibular Cortical Width (MCW) and Panoramic Mandibular Index (PMI), in patients undergoing antiresorptive therapy with denosumab at T_0 (before starting the therapy) and at T_1 (after 12 months) comparing results with a control group (CTRL) of healthy patients who performed two DPRs at a one-year time distance.

Results: the study included 18 patients (DEN) and 26 controls (CTRL) according to specific inclusion and exclusion criteria.

The groups were homogeneous regarding gender and age. MCW index didn't show significant changes between time points and between the two groups. Instead, PMI index increased significantly in the DEN group ($p < 0.0001$) from T_0 to T_1 . At T_0 , PMI was significantly lower in the DEN group ($p = 0.036$), consistently with lower BMD. One year after therapy (T_1), there weren't any differences ($p = NS$). In addition, we observed a significant decrease in the PMI of the CTRL group from T_0 to T_1 ($p = 0.0013$).

Conclusions: our results show how PMI can be used as a radiographic marker to assess the efficacy of antiresorptive therapy with denosumab. Further studies are warranted to increase sample size and to assess possible correlations with MRONJ risk.

CANALICULAR ADENOMA: LITERATURE REVIEW AND A CASE REPORT

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Aim: canalicular adenoma is a sporadic benign lesion of intraoral salivary glands. It mainly affects the upper lip (around 80%), the latter is then followed by buccal mucosa and hard palate. This kind of tumor never concerns the major salivary glands.

The purpose of the current paper is to present a literature review about canalicular adenomas and to show diagnostic features, clinical management and surgical treatment with non-invasive approach of a truly unique case.

Methods: patient, sent by his trusted dentist, comes to the Dentistry Department of San Raffaele Hospital asking for a specialized opinion about an evident swelling of the left upper labial mucosa. The lesion appears movable in palpation, well circumscribed and covered by mucosa in normal conditions. Patient does not complain about any painful symptoms and there were no swollen cervical lymph nodes. An early potential diagnosis of canalicular adenoma has been suggested, however taking into account that only the histological exami-

nation could have confirmed that hypothesis. Tumor was surgically removed under locoregional anesthesia; it was about 1 cm in diameter.

Results: clinical follow-ups were conducted 1 month and 1,5 months after the surgery. The first one showed total disappearance of the swelling and excellent wound closure by primary intention. Likewise, second follow-up revealed a perfect disposal of pathological features and a remarkable rehabilitation.

Conclusions: complete surgical excision represents the gold standard in managing cases of canalicular adenoma, therefore diagnosis confirmation through histological investigation is necessary in order to achieve unmistakable results. Histopathologic analysis is crucial to avoid misdiagnosing canalicular adenomas with other benign or malign tumors or, as frequently happens when diagnosis is just based on intraoral examination, with mucocele.

TREATMENT OF PRIMARY HERPETIC GINGIVOSTOMATITIS: A SYSTEMATIC REVIEW

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Aim: Herpes simplex virus 1 (HSV-1) is the main pathogen responsible for herpes infections. In 13-30% of the cases primary HSV-1 leads to the primary herpetic gingivostomatitis (PHGS), often a self-limiting infection; however, it can limit the ability to drink/eat with sometimes the need for hospitalization. Multiple therapeutic methods were proposed. This systematic review aims to collect and critically appraise the available evidence about the clinical management of PHGS.

Methods: literature search, study design, and data analysis were performed following PRISMA guidelines according to SPIDER and the PICO tools (PROSPERO n° CRD42023391386).

Results: 5 studies on a total of 364 patients (average age: 7.6 y) were identified. The treatment regimens were summarized in: acyclovir (24.5%); acyclovir+honey (13.7%); maalox+di-

phenidpamine (9.6%); CHX+mucosyte (8.2%); CHX+ialuronic acid (8%); topical antiviral+ antimicrobial photodynamic therapy (aPDT) (4.4%); aPDT (4.1%); CHX (4.1%); topical antiviral (3.8%); fluids and analgesic (3%); lidocaine (1.9%); others (14.3%).

Conclusions: PHGS is a disease with a high worldwide prevalence, the lack of consensus about therapeutic management indicates gaps in existing evidence. Most of the proposed treatment consist in symptomatic drugs with empiric regimens which are ineffectiveness for the viral replication. The main limit to realize randomized clinical trial is due to the rapid onset and remission of the disease. In fact, the diagnostic delay, estimated in 72 hours, decreases the effectiveness of the antiviral drugs.

LOCATION AND GENDER DIFFERENCES IN MRONJ: A META-ANALYSIS AND TRIAL SEQUENTIAL ANALYSIS

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Aim: the objective of this systematic review is to identify and quantify whether there is a proportionally greater risk of MRONJ in male or female subjects and whether there is evidence of greater involvement of osteonecrosis at the various extraction sites, differentiating them into mandibular or maxilla and in the anterior or posterior sector.

Methods: the revision protocol followed the indications of the Cochrane Handbook and was recorded in Prospero while the drafting of the manuscript was based on PRISMA.

All prospective and retrospective studies and RCTs reporting data on location and gender of BRONJ, MRONJ, or ARONJ in patients who underwent dentoalveolar surgery were considered potentially eligible.

The risk of bias was calculate using the ROBINS-I tool.

Results: the results of the systematic review after the study identification and selection process included 24 studies. The results of the meta-analysis report: Odd Ratio (Random-Effects Model): 1.476 (0.684 3.184) between male and female; Odd Ratio (Random-Effects Model): 1.390 (0.801, 2.412) between mandible and maxillary and Odd Ratio value of 0.730 (0.250 2.137) between anterior and posterior extraction sites.

Conclusions: in conclusion, we can evaluate that there is a trend in the onset of MRONJ as a complication of dentoalveolar surgical procedures which proportionally mostly involves the male sex and the posterior mandibular sectors, however, further studies are needed to confirm this trend.

ORAL PROBIOTIC ADMINISTRATION IN PERI-IMPLANT MUCOSITIS: A SYSTEMATIC REVIEW

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Aim: assess the efficacy of oral probiotic administration in patients with peri-implant mucositis (PiM), both individually and in association with non-surgical debridement therapy (NSDT).

Methods: the research was performed through the electronic databases PubMed, Scopus, and Web on Science, using the following combinations of MeSH terms “oral cavity AND probiotics AND mucositis”, and “probiotics AND dental implants AND mucositis”. We considered the studies published between January 2015 and February 2023. Starting from 91 studies and after the application of the inclusion and exclusion criteria, we selected 11 studies.

Results: three studies assess the efficacy of probiotic treatment (PT) individually. It's been encountered an improvement in the inflammatory clinical signs, a reduction in pro-inflamma-

tory cytokines and cariogenic microorganisms' levels, and an increase in IgA levels.

Six studies assess the efficacy of PT in association with NSDT. It's been found a general clinical signs improvement both in the test and in the control group, which was bigger in the test group. Two studies encountered also a reduction in *P. gingivalis* and pro-inflammatory cytokine levels. The last two studies didn't find any relevant variation between the test (NSDT+PT) and control (PT) groups.

Conclusions: nine studies found relevant variations following the administration of PT. It emerged that it is an effective instrument in preventing and treating PiM. Further studies are needed to standardize the used microorganisms, the pharmaceutical form, and the dosage of the PT.

THE MOST COMMON GENERA DETECTED IN SALIVARY MICROBIOTA OF PATIENTS AFFECTED BY ORAL CANCER

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Aim: oral squamous cell carcinoma (OSCC) is one of the most prevalent cancers worldwide. Despite advances in diagnostic and surgical techniques, in the last years, the incidence of OSCC increased and the survival rate is still low. The causal correlation between oral microbiota and carcinogenesis has not yet been demonstrated representing a real challenge.

The aim of this review is to investigate the most common genera in the salivary microbiota of OSCC patients.

Methods: PRISMA guidelines have been followed to perform this systematic review. Observational studies about the composition analysis of salivary microbiota in human subjects with histological diagnosis of OSCC were selected.

Results: searching through the various databases yielded 558 articles; a total of 5 articles were included. The salivary micro-

biota of 373 patients was analyzed. There were 273 patients affected by OSCC, and there were 100 healthy patients. Despite the great heterogeneity of the included articles, the most common genera detected in the OSCC patients were *Fusobacterium*, *Prevotella*, and *Capnocytophaga*. Interestingly, these three bacteria are periodontal pathogens. Therefore, a potential implication of periodontal pathogenesis mechanisms in oral carcinogenesis was evaluated.

Conclusions: identifying a specific microbiota pattern involved in oral carcinogenesis could be useful for improving early diagnosis and focused therapy of patients affected by OSCC. Further studies are necessary to determine a causal association between salivary microbiota composition and oral carcinogenesis.

TREATMENT OPTIONS FOR ORAL LEUKOPLAKIA: A REVIEW

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Aim: the aim of this work was to highlight the most important findings regarding treatment options for oral leukoplakia, a white lesion with a potentially malignant evolution. There are several forms of oral leukoplakia with a various rate of malignant transformation, related to alcohol and tobacco consumption, gender, population, lesion size and type and level of dysplasia.

Methods: two databases (Medline via PubMed, Web of Science) were searched up to July 2022 and the most relevant papers on the topic were selected. Hand search was carried out too focusing on new and promising techniques regarding oral leukoplakia management options. Only papers written in English or Spanish were included in the research.

Results: the management options for oral leukoplakia are varied and diverse, they may involve a regime of observation even

with use of new and promising salivary biomarkers, a topical or systemic use of drugs, a surgical approach including laser ablation or a non-surgical approach using photodynamic therapy (PDT). There is a rising interest in PDT, which proved to be an interesting minimally invasive approach for oral leukoplakia, reducing lesions size or removing the lesion in its totality, depending on the histopathological stage of the lesions and other variables linked to the type of PDT and the number of sessions. PDT works through the interaction between a light source and a chemical dye or photosensitizer in the presence of oxygen resulting in the formation of reactive oxygen species (ROS), which cause oxidative damage.

Conclusions: despite promising results, longer clinical trials are required in order to define a protocol, evaluate potential side effects of PDT and demonstrate its effectiveness.

