ADVANCES IN ORAL MEDICINE from Bench to Bedside to Bench
AAOM 2018

Poster Abstracts
Thursday, 04/12/2018, 5:30-7:30pm

= Poster Number, *Presenting author

To conserve space, we list only the institution and the country submitted as 1st organization.

Abstracts Committee:
Chair: Kentaro Ikeda, DDS, MPH
Co-Chair: Bhavik Desai, DMD, PhD

#1: Assessment of Pain Drawings and Risk of Altered Sleep in Orofacial Pain Patients

*Sri Sai Jaahnavi Kodali, Yuanming Xu, Saeed Arem, Buthaniah Jadallah, Wei Liu, Ali Z Syed, Andres Pinto
Case Western Reserve University School of Dental Medicine, USA

Objectives:

Subjects living with chronic pain are at risk for developing sleep disordered breathing (SDB). The utility of pain drawings in the orofacial pain area may be associated to disability and risk for altered sleep. This study evaluates retrospectively pain drawing characteristics (number of sites, area) of subjects presenting to an orofacial pain service and their association with risk for SDB.

Methods:

Data from records from subjects presenting between November 2013 and March 2017, was extracted describing pain characteristics (intensity, description, frequency, pattern, and type), demographics, and clinical diagnosis. All subjects completed SDB screening tools including the Epworth Scale, Stop Bang, Berlin questionnaires. Pain drawings were scanned and digitally standardized using Image J software (shaded proportion of total area). Measurements were done electronically on a group of five calibrated computers/screens. Analyses included descriptive statistics, frequency distributions, student t-test and ANOVA or nonparametric alternatives. Investigators were calibrated with 40 drawings until acceptable reliability (inter/intra examiner) was reached.

Results:

Total sample was 345. Female (n=272), mean age 48.2, 25% had constant pain, mean pain in the past six months was moderate 6.2 (5.9:6.5), 95%CI. 47.8% reported no specific daily pattern to their pain. Clinical diagnoses were 56.5% muscular diagnosis, 19.1% articular, 15.4% inflammatory, 8.4% odontogenic, 23.2% neuropathic, 6.7% primary headache, 5.5% burning mouth syndrome. 160 subjects were at risk for SDB. The prevalence of suspected OSA was 40.8%. Reported painful sites, were a mean of 6.43 (5.8:7) 95%CI. Painful muscles were a mean of 6.44 (5.7:7.1). There was a significant association between self-reported lack of quality sleep (dichotomous) and risk for SBD (p=0.01). There was a statistically significant trend between total pain surface and risk for SBD (p=0.07 test of trend), a marginal significant association between total pain surface and risk for daytime sleepiness (p=0.05), and a significant association between total pain surface and OSA (p=0.03: Berlin).

Conclusions:

Pain drawings in head and neck pain models may characterize subjects at risk for OSA and detect daytime sleepiness. Screening for SBD should be part of pain clinical practice.

#2: Diagnosis of a Keratocystic Odontogenic Tumor in a Pediatric Patient

*Angelica Cruañas, Roxanna Delgado, Viviana Acevedo, Uzkelia Uzcategui, Carla Rodriguez
University of Puerto Rico, Puerto Rico

Background:

The keratocystic odontogenic tumor (KCOT) is a benign odontogenic cystic neoplasia characterized by its thin, squamous epithelium with superficial parakeratosis. The lesion has the potential for infiltration and local aggressiveness and has a high rate of recurrence. This neoplasia is predominantly found in males and people of white origin. The mandible is the most frequently involved site, in particular the third molar region, mandibular angle, and ramus. It has a mandible-maxilla ratio of 2:1.

Case Summary:

This case report presents a Keratocystic Odontogenic Tumor localized in the anterior region of the maxilla, in a nine year old male afroamerican, on the vestibular side of the upper left canine. Patient referred to University of Puerto Rico GPR Dental Clinic due to extensive multiple caries and odontogenic abscess. Routine panoramic xray revealed the pathological lesion, CT scan confirmed its size and extension and fine needle aspiration its cytopathology. Biopsy report stated appearance of mature squamous cells, keratin deposits, proteinaceous material and debris. Sample and procedures, as based on the literature, are also discussed.

Conclusions:

Patient's first appointment at the clinic was a referral to perform extraction of an unrestorable tooth and just a periapical xray was taken. During the follow up a Panoramic permitted visualization of the lesion. It can not be stressed enough how important it is to perform a comprehensive evaluation of the patient so aggressive lesions can be treated on time.

#3: Gender and Smoking Correlations among Dental Patients

*Shawn Adibi, Joseph Alcorn, Kaori Ono, Lenard Lichtenberger
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Objectives:

Saliva contains surfactant phospholipids and surfactant-associated proteins, which gives saliva the ability to spread efficiently over the mucous membranes lining the oral cavity providing protection against a variety of insults. Smoking leads to oral mucositis, which can be responsible for progress to oral cancer. Oral mucositis consists of painful inflammation and ulceration of the oral cavity resulting from reduced production and altered composition of saliva. We sought to determine the effects of smoking on surfactant lipids and proteins in saliva to address the hypothesis that these activities reduce the composition of saliva of these critical and probable protective factors, leading to altered saliva composition that may lack the protective properties necessary in the oral cavity.

Methods:

Saliva samples were collected from smoking and non-smoking subjects. Levels of sphingomyelin (Sph) phosphatidylcholine (PC) and lyso-PC (LPC) was determined by thin layer chromatography. Levels of surfactant protein A (SP-A) was determined by western analysis using antibodies specific for SP-A. Significance of the results was determined by the student's t-test.

Results:

While changes in levels of LPC, Sph and PC differed very little between non-smokers and smokers, the LPC/PC ratio had a tendency to be much higher in smokers compared to non-smokers. When the data was stratified by gender, there was no difference in levels of Sph and PC in saliva between male and female smokers, however, LPC levels were significantly higher in females smokers compared to male smokers, leading to a significant increased LPC/PC ratio in female smokers. In addition, levels of SP-A were significantly reduced in females smokers compared to non-smokers.

Conclusions:

Smoking alters surfactant protein and LPC/PC ratios in saliva, and interesting, there is a significant difference in the effects in females compared to males. These results suggest that smoking alters the composition of saliva in a manner that may reduce protection of the oral cavity, which may explain why women smokers are at greater risk of developing oral mucositis.

#4: Rapid Progressive Oral Submucous Fibrosis: A Case Report

*Parvaneh Badri, Pallavi Parashar
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Background:

Oral Submucous Fibrosis (OSF) is a high-risk, precancerous condition characterized by chronic, progressive and irreversible fibrosis of oral and oropharyngeal soft tissue. OSF is associated with areca nut chewing and is predominantly seen among people of Indian and South Asian origin. Betel quid chewers have 19 times more chance of developing cancer. There are various classification systems for OSF, based on the number of years of betel quid use and clinical signs. We report a case of rapid onset of stage 3 OSF within 3 years of moderate use of betel nut.

Case Summary:

A 35-year-old Indian male was referred to our clinic for evaluation of diffuse changes involving the oral mucosa. He reported a three-year history of chewing betel nut along with weekly alcohol consumption. He was otherwise healthy. He complained of an intolerance to spices, oral burning sensation, and difficulty in swallowing. Clinical examination revealed a maximum mouth opening of 27 mm. He presented with severe and generalized white-gray leathery changes of all oral mucosal surfaces. Dense, tight vertical fibrous bands were present bilaterally on the posterior buccal mucosa, which caused stiffness and limited mouth opening. A tentative diagnosis of OSF was rendered based on the history of betel nut and alcohol consumption, and examination findings. A biopsy from the right buccal mucosa confirmed the clinical diagnosis of the OSF.

Conclusions:

There are various classification systems for OSF. Based on clinical and histopathologic features, our patient was categorized as a Stage 3 (presence of pan-oral palpable fibrous bands affecting the buccal mucosa, labial mucosa, floor of mouth, tongue, oropharynx with stomatitis) and functional staging of M2 (inter-incisal opening between 25 and 35 mm). Taking into account the years of addiction, most patients categorized as Stage III have been addicted for more than 8 -10 years. Our patients' clinical findings are consistent with stage III (advanced OSF), while he reported only 3 years of betel nut use. This rapid progressive case of OSF deserves special attention. Limited information is available regarding malignant transformation in patients with rapid progressive OSF, warranting a close follow-up.

#5: Non-Invasive Diagnosis of Persistent Caliber Labial Artery, an Under-Recognized Entity

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Background:

Caliber-persistent labial artery (CPLA) is a vascular anomaly manifesting as a raised labial papule with normal or bluish color. It can be mistaken for vascular and non- vascular entities such as hemangioma, varix, mucocele, fibroma and, when ulcerated, SCC. CPLA occurs when a large diameter vessel penetrates labial submucosa without loss of caliber. Lateral pulsation is common and lesion may become symptomatic when ulcerated or traumatized. Brisk hemorrhage and unesthetic scarring are potential complications of surgical biopsy for definitive diagnosis. We report a patient with unusual finding of two CPLAs in whom thorough clinical evaluation together with appropriate imaging led to definitive diagnosis.

Case Summary:

A 30 year old white male presented for evaluation of asymptomatic pulsatile lip papules which appeared within one month of each other and did not change size. Except allergy to multiple antibiotics and a traumatic fall, PMH was non-contributory. Extraoral exam was WNL. Two mucosal papules were evident, just beyond vermilion, on the left lower and upper lips. They were soft, pink and non-ulcerated. Careful tactile palpation detected lateral pulsation but no blanching and papule became less evident when stretched. With provisional diagnosis of CPLA and to avoid complications of surgical biopsy, diagnostic imaging was recommended. Non-invasive ultrasound showed an increase in diameter, velocity and turbulence of left inferior and superior labial arteries compared to right superior counterpart. The unusual presentation of two vascular anomalies prompted computed tomographic angiography (CTA) to exclude arteriovenous malformations. CTA revealed a prominent vascular loop within left upper lip and further supported CPLA diagnosis. Labial trauma is among the various etiologies proposed and onset of CPLAs in this patient may be related to his traumatic fall.

Conclusions:

Lack of recognition of CPLA and clinical impression of a non-vascular entity such as mucocele or fibroma often prompts its surgical evaluation with unexpected brisk bleeding. Utilization of non-invasive ultrasound in diagnosis of CPLA has been reported in a few recent publications. We propose that clinicians should include CPLA in the differential diagnosis of raised labial papules, carefully inspect and palpate the lesion and utilize high resolution ultrasound in diagnostic work up.

#6: Oral Lichenoid Lesions and Resistant Candidiasis After Frequent Antibiotic Therapy: Illustrating the Burden of Antimicrobial Resistance

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Background:

Antimicrobial resistance is a challenge that is increasing in prevalence and severity in all healthcare settings. Resistance occurs when bacteria, viruses, parasites, and fungi evolve or acquire new genetic material resulting in decreased susceptibility to available medications. The spread of resistance is thought to be associated with overuse of medications, inappropriate prescriptions, extensive use of antimicrobial substances in agricultural settings, and lack of new drug development.

Case Summary:

A 78-year-old female presented to the Oral Medicine practice at Penn Medicine for management of oral lichenoid drug reactions and chronic drug-resistant candidiasis. The patient had a history of an iatrogenic foreign body (surgical tape) left in her abdomen during diverticulitis surgery in 1999. Numerous follow-up surgeries aimed at correcting complications of the initial surgery were required. These efforts led to recurring urinary tract infections with bacteria that showed increasing resistance to a wide range of antibiotics. Courses of antibiotic therapy were temporally associated with development of progressive erosive oral lichenoid lesions that were treated initially with topical corticosteroids. The patient also developed recurring oral candidiasis as a result of many systemic antibiotic courses and frequent use of topical immunosuppressive medications. Candida infections were initially treated effectively with nystatin solution 100,000 units/mL and clotrimazole 10 mg troches, but the chronicity of her antibiotic use led to resistance in the predominant Candida strain, as evidenced by fungal culture. More recently, the patient was prophylactically prescribed fluconazole 100 mg three times weekly, and active Candida infections were treated with fluconazole 200 mg daily. The lichenoid mucositis is currently treated with intralesional injections of triamcinolone acetonide 10 mg/mL as needed, rather than with topical preparations. Despite thorough and timely management by multiple providers, this patient continues to develop life-threatening bacterial urinary tract infections and resistant oral fungal infections that exhibit incomplete response to treatment.

Conclusions:

This case illustrates how the burden of antimicrobial resistance can have significant impact in the oral cavity. This case also highlights the role of oral medicine specialists in managing complications of antimicrobial therapy and fungal resistance, as well as the importance of careful surveillance for complications of therapy.

#7: An Uncommon Oral Manifestation of Arsenic Toxicity

*Long Long, Thomas Fry, Kentaro Ikeda
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Background:

Arsenic toxicity and its symptomatology have been well-documented. Along with dermal keratosis, oral mucosal pigmentations have been reported as a minor feature. However, documented cases of oral ulcerations are rare.

Case Summary:

A 76-year-old male presented with an eight-month history of multiple erosive lesions involving the tongue and labial mucosa. The lower lip lesion was constantly painful, but the other lesions were asymptomatic. His past medical history included hypertension, diabetes, and depression. His medications included Pravastatin, Irbesartan, HCTZ, Glyburide, Metformin, Canagliflozin, Exenatide, Fluoxetine, Aripiprazole, Calcium, Vitamin C, multi-vitamin, fish oil, and multiple Chinese herbal medicines. A review of systems revealed several signs and symptoms that arose alongside the oral lesions: painful urination and skin lesions on left trunk, hip, hands, and feet. No concomitant changes in diet or medications were reported. The oral lesions had been treated with triamcinolone with minimal success. Upon examination, multiple ulcerations of various size presented on the tongue and lower labial mucosa. The lesion on the lower labial mucosa, at 10x40 mm, was the largest and only symptomatic lesion. None of the lesions displayed an erythematous halo. Some of them were slightly indurated. Yellow, non-tender, nodular lesions presented on the palms and soles. Microscopic examination of the oral lesions revealed non-specific chronic ulcers with granulation tissue and chronic inflammation. Due to the characteristic appearance of arsenic keratosis on the skin, the oral ulcerations being mostly non-tender, the simultaneous appearance of these lesions, and the patient's long-term use of Chinese herbal medicines, we diagnosed the patient with arsenic oral lesions. Two weeks after cessation of Chinese herbal medicine use, together with a topical steroid, the oral lesions showed remarkable improvement. Over the next four weeks, both the oral and skin lesions had improved dramatically.

Conclusions:

This case highlights a lesser-documented manifestation of arsenic toxicity, and emphasizes the need for awareness among oral health care providers. Prevalence of this type of oral complication may increase due to current trends of emerging recognition and appreciation of homeopathic medicine. Awareness is the key to properly diagnosing and managing such cases.

#8: Value-Based Healthcare in Oral Medicine

*Richeal Ni Riordain, Tim Hodgson
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Objectives:

Value based healthcare is focused on the impact of healthcare interventions on the patient and is therefore defined as health outcomes that matter to patients per pound spent. To determine whether value is being delivered we must record outcomes in a clinical setting along with a detailed calculation of cost using a method such as Time Driven Activity-Based Costing (TDABC). Ideally a core set of outcomes, determined with patient and expert input would be recorded, along with a calculation of the actual cost of patient care. The aim of this pilot study was to assess the feasibility of implementing TDABC in Oral Medicine, thereby facilitating the calculation of the value of care delivered to patents with Oral Lichen Planus (OLP) in a UK Oral Medicine Unit.

Methods:

With a lack of defined core outcomes in Oral Medicine we used an Oral Medicine specific patient reported outcomes measure, along with a patient reported experience measures and a clinical record of the extent of disease to record health outcomes. Following the generation of a resource utilization map, cost was derived using TDABC.

Results:

Preliminary TDABC calculations for the standard 1-year period in the life course of a chronic illness were calculated based on 2 clinical scenarios. Scenario A, based on the initial stage of diagnosis and management of OLP, during which time patients may undergo a biopsy to aid diagnosis and the establishment of symptomatic relief may require multiple review appointments. The approximately cost in Scenario A per annum was £357.47 ($476.99). In Scenario B, the diagnosis has already been established and the patient is being reviewed on a 6-monthly basis. The approximately cost in Scenario B per annum was £162.46 ($216.87) per annum.

Conclusions:

The implementation of TDABC is possible in an Oral Medicine setting but can be made more complex due to the incorporation of clinical training along side health service delivery. The generation of a core set of outcomes as adopted in many allied medical conditions will allow the determination of the value of the care delivered to the patients.

#9: Drug Holiday for the Prevention of Medication Related Osteonecrosis of the Jaw (MRONJ) in Cancer Patients; Case Reports

*Ahd Mohammed Alsaif, Waad Mohammed Alsaif, Joseph Katz
University of Florida, USA

Background:

Medication related osteonecrosis of the jaw (MRONJ) is a condition defined as exposed bone that has been present for 8 weeks without a history of radiation to the area, associated with administration of various groups of medications including bisphosphonate, antiangiogenic drugs, RANKL antagonist, chemotherapy agents and immunomodulatory drugs. Although not fully supported by the literature, some guidelines recommend a drug holiday before dental procedures, specifically discontinuation of intravenous bisphosphonates prior to invasive treatments. We present three cases of MRONJ that had developed in patient that were switched of their anti resorptive medication prior to the dental extraction.

Case Summary:

Two patients diagnosed with multiple myeloma and one diagnosed with metastatic breast cancer stage 4 have developed MRONJ in spite of being placed on a drug holiday. In the first case, a 54-year-old female patient with stage 1A IgG KLC multiple myeloma was treated with a monthly doses of Zolendronic acid 4 mg for 10 months. She was off the drug for 5 months and had a dental extraction of #19. Four months later, she developed MRONJ in the lingual aspect of the extracted tooth. The second multiple myeloma post autologous HSCT 52-year-old male patient treated with IV Zolendronic acid 4 mg for 24 months, he was off the drug for 7 months and had extraction of all his teeth in the maxilla and the mandible. One year later, he had developed MRONJ in his upper and lower jaw. The third 49-year-old female patient diagnosed with metastatic breast cancer post double mastectomy and chemotherapy was treated with denosumab 120 mg every month for 9 months. She stopped the drug one month for a dental extraction of #19. Eight months later, she developed MRONJ in the region.

Conclusions:

There is relative lack of scientific evidence for the drug holiday indications and duration in the various groups of medication associated with MRONJ. Drug pharmacology, dosage, route of administration, pharmacokinetics, terminal half-life and alveolar bone accumulation seem to be important factors in the determining whether a drug holiday may be affective and practical in a clinical setup.

#10: TMD-Mimicking Phenomenon Caused By Malignant Tumor: 2 Cases

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Background:

Temporomandibular disorders (TMD)-mimicking phenomenon is a rare condition which displays dysfunctional symptoms of orofacial pain similar to genuine TMD, but is caused by other kinds of diseases. In spite of low prevalence, TMD-mimicking phenomenon in the advanced stage may cause serious clinical consequences. Therefore, diagnosis of TMD-mimicking phenomenon is a real challenge to clinicians, and early detection of TMD-mimicking phenomenon is essential for better prognosis of patients.

Case Summary:

The first case is for a 72-year-old man who presented with a 1-month history of mouth opening limitation with the left TMJ pain and dizziness. The limitation of mouth opening and jaw pain had started suddenly and remained similar after that. Magnetic resonance imaging (MRI) was done without delay at the first visit, and the traces of stroke and myositis of the left temporal muscle were observed and treated with ibuprofen. However, mouth opening distance was gradually decreased, and the patient complained of severe dizziness again. According to enhanced brain MRI taken by referred neurology, metastatic malignant tumors were found in the cerebellum, cerebrum, and left temporal muscle, and the primary malignant tumor was found in the right lung. This case was diagnosed with metastasis of lung cancer to the brain and left temporal muscle. The second case is for a 38-year-old woman who reported a 6-month history of pain on the lower left teeth and left ear. She received endodontic treatment on the lower left second premolar and otologic treatment. She presented pain on the left pre-auricular area with mouth opening limitation, swelling sensation on the left side of the face, paresthesia of the left mentum, dizziness, and blurred vision. The MRI revealed rhabdomyosarcoma of the left masticator and pharyngeal space. Since the location of the lesion, despite its huge size, no sign of facial swelling was found on clinical examination.

Conclusions:

The alarming signs of TMD-mimicking phenomenon include severe degree of mouth opening limitation, swelling sensation and/or neurological symptoms such as paresthesia. Among the various causes, unnoticed tumors can induce the most serious consequences. Understanding these alarming signs help clinicians decrease the possibility of misdiagnosing these life-threatening conditions.

#11: Assessment of Radiographic Changes Following Radiation Therapy for Oropharyngeal Cancer

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Objectives:

Osteoradionecrosis (ORN) is a significant and well-described complication following head and neck radiotherapy (HNRT). Our group had previously reported described radiographic ORN (rORN) in nine patients previously treated with intensity-modulated therapy (IMRT) for head and neck cancer. rORN was characterized as radiographic lytic lesion on panoramic images with no clinical evidence of exposed bone. Previous studies have reported greater periodontal attachment loss of teeth (PDAL) and widened periodontal ligament space (WPL) after HNRT. The factors that contribute to rORN, PDAL and WPL after HNRT have not been fully characterized. The objectives of this study are: (1) To assess the mandibular radiographic changes on pre and post-HNRT panoramic imagining in patients treated for oropharyngeal cancer; (2) Determine association between radiographic changes with subsequent development of ORN.

Methods:

After receiving approval from the IRB board at Memorial Sloan Kettering Cancer Center, the panoramic radiographs of patients with oropharyngeal cancer (n =97) treated with IMRT between 1/30/2004 to 9/27/2017 were reviewed among two investigators concurrently. In analyzing the mandible, the presence of radiographic furcation involvement, trabeculation changes, periodontal bone loss, and presence of periapical radiolucency, bone sclerosis and widened periodontal ligament of the mandible were assessed on pre-RT panoramic radiograph and subsequent post-HNRT panoramic radiographs. Other clinical factors such as primary tumor laterality (right vs. left), presence of opposing dentition and dental restorations were also collected.

Results:

To date, the panoramic radiographs of 37 (38%) of 97 patients were analyzed. An average of 2.9 panoramic radiographs per patient were reviewed. The following post-HNRT mandibular radiographic findings were noted: periodontal bone loss (n=5); furcation involvement (n=5); WPL (n=15); bone sclerosis (n=0); periapical radiolucency (n=9); and trabecular (radiolucent) changes (n=13).

Conclusions:

Over time, there is a trend toward an increase in radiographic changes seen on panoramic radiographs. The preliminary data from this study also suggests a possible correlation between pre-existing periodontal disease and restorations placed after HNRT on subsequent mandibular radiographic changes. Data collection is ongoing to better confirm this association and assess the role of these factors in the development of ORN.

#12: Oral Lichen Planus in Children and Adolescents: Nine Cases

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Background:

Lichen planus (LP) is a common chronic mucocutaneous inflammatory disorder. Adult prevalence data for oral lichen planus (OLP) ranges between 0-5%. Childhood and adolescent lichen planus is rarely encountered and represent only 1–4% of patients with LP. Studies have suggested a frequency of 0.56% of OLP in children. The clinical presentation of OLP is often atypical. We present nine cases, the largest case series described.

Case summary:

We retrospectively selected and analysed the clinical data of OLP patients under the age of 18 from two dental institutions in the UK where the diagnosis had been confirmed clinically and/or by histopathological analysis. The case series showed nine patients, five males and four females. The mean age at the time of diagnosis was 12.89 years, range 10-16 years. Seven patients were of Asian descent, one of African descent and one Caucasian. Eight patients were symptomatic at the time of presentation. Reticular lichen planus was the most common manifestation. The buccal mucosa was the most commonly affected site, with the next most common site being the tongue. Five of the cases were histologically proven. One patient had a history of hypothyroidism and another was ANA positive and Ro positive on serology. A positive family history was noted in one case. No extraoral manifestations of lichen planus were documented. Topical corticosteroids were required in seven cases for control of symptoms.

Conclusions:

We report the largest case series of paediatric OLP cases in a UK population. The present case series is in accordance with epidemiological, clinical and therapeutic data previously reported in the literature. Differences in the disease presentation and response to therapy between adults and paediatric patients have also been confirmed in this study. OLP should be considered in the differential diagnosis of mucosal white patches in childhood, particularly in those of Asian descent.

#13: A Case of Non-HIV-Associated Oral Kaposi's Sarcoma of the Tongue

*Barbara Carey, Aveen Connolly, Stephen Morris, Jane Setterfield
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Background:

Kaposi's sarcoma is a well-known AIDS-related malignant vascular neoplasm in the head and neck region but is rarely described in HIV-negative and non-immunocompromised individuals. Here we report the case of a 46-year-old HIV negative, non-immunocompromised woman with an unusual case of Kaposi's sarcoma affecting the tongue.

Case Summary:

A 46-year-old black female of Ugandan descent was referred to our department with a two-month history of an asymptomatic slow-growing nodular lesion on the right dorsum of tongue. No B symptoms were reported. The patient had a history of Turner's syndrome and non-HIV classical Kaposi's sarcoma involving the left foot, tip of nose and right hand two years prior to presentation, treated with local radiotherapy. Her father had a history of non-HIV classical Kaposi's sarcoma. Oral examination demonstrated a 5mm purple/pink non-tender submucosal nodular lesion involving the right dorsum of tongue. There was no cervical lymphadenopathy. Haematological investigations demonstrated she was HIV and HTLV-1 and -2 negative.

Ultrasound showed a 7 x 4mm hypoechoic lesion on surface of right dorsum tongue with an irregular margin and a blood vessel at the base. Histology from an incisional biopsy demonstrated an ill-defined nodule formed by tightly packed mildly atypical spindle cells with multiple split-like vascular spaces consistent with Kaposi's sarcoma.Immunohistochemical staining for HHV8 is awaited. MRI head and CT thorax, abdomen and pelvis were performed to investigate systemic disease. Treatment options included surgery, isolated radiotherapy or chemotherapy if evidence of systemic involvement.

Conclusions:

Three cases of non-HIV Kaposi's sarcoma involving the tongue have been reported in the literature. It may mimic a number of benign (e.g. haemangioma, pyogenic granuloma) and malignant (e.g. lymphoma, angiosarcoma, bacillary angiomatosis, haemangioendothelioma) tumours of the oral cavity. Patients with localised forms have an excellent prognosis. Therapeutic options for localised disease include observation, surgery, radiotherapy and chemotherapy. Excision and radiotherapy are usually curative in cases of solitary lesions in the head and neck, however, recurrence can occur. Given the rarity of this disease, it is essential to thoroughly exclude underlying immunosuppression and systemic involvement in patients with Kaposi's sarcoma involving the oral cavity.

#14: Association Between Risk of Obstructive Sleep Apnea and Medical Comorbidities in Orofacial Pain Patients

*Yuanming Xu, Sri Sai Jaahnavi Kodali, Saeed Arem, Buthainah Jadallah, Wei Liu, Ali Syed, Andres Pinto
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Objectives:

Sleep disorders have a bidirectional relationship with acute and chronic pain. Obstructive Sleep Apnea (OSA) is a common sleep-related breathing disorder (SBD) that leads to excessive daytime sleepiness and is linked to comorbid medical conditions. This study retrospectively explored the relationship between the medical history, clinical diagnosis and the risk for OSA in orofacial pain patients.

Methods:

This study was approved by CWRU Institutional Review Board (IRB-2017-1920). Records from subjects presenting to an orofacial pain service between November 2013 and August 2017, were reviewed for pain characteristics (intensity, description, frequency, pattern, and type), demographics, clinical diagnosis, and past medical history. All subjects completed OSA screening tools including the Epworth Scale, STOP-Bang®, Berlin® questionnaires. Analyses included descriptive statistics, student t-test, ANOVA or nonparametric alternatives. Univariate logistic regression was used to evaluate the association between medical conditions and the risk of OSA.

Results:

A total of 364 subjects with complete data were included with a mean age of 48.6±18.7 years. 78.6% were female. The most common clinical diagnoses were Muscular pain (56.9%), Neuropathic (23.3%) and Articular (19.7%). Rheumatic disorders were the most common medical condition with a prevalence of 25.6%, followed by Blood pressure disorders (21.4%) and Endocrine disorders (19.0%). 40.1% of subjects were at risk for OSA based on Stop-bang and 33.8% on Berlin. The prevalence of suspected OSA (high risk per STOP-bang /Berlin/both) was 48.4%. 19.5 % of subjects experienced daytime sleepiness. Subjects with medical conditions tend to have a higher risk for OSA: Rheumatic (OR=1.87, [95% CI=1.16, 3.02]), Endocrine (OR=3.08, [95% CI=1.80, 5.36]), Blood pressure (OR=7.09, [95% CI=4.06, 12.91]), Neurologic (OR=2.17, [95% CI=1.23, 3.87]), or psychiatric disorders (OR=2.29, [95% CI=1.34, 3.95]). Subjects with Rheumatic disorders were at higher risk for excessive daytime sleepiness (p=0.07).

Conclusions:

Orofacial pain subjects with systemic conditions were at a higher risk for OSA, compared to healthy subjects. The high prevalence of subjects at risk for OSA in this sample makes the case for SBD screening in orofacial pain practice.

#15: Salivary Gland Agenesis: A Case Series of Two Families

*Emma Hayes, Barbara Carey, Shani Mehta, Ana Poveda, John Hamburger, Andrea Richards, Tim Hodgson
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Background:

Salivary gland agenesis (SGA) is a rare congenital anomaly; the precise prevalence is not well described, although the literature suggests a male:female ratio of 2:1. Rare cases of familial SGA have previously been described; transmitted as complex autosomal dominant traits with variable expressivity. It may present alone or as a part of other ectodermal defects such as LADD and ALSG. The underlying cause of SGA has been linked to mutations in the FGF-10 gene. We present two families with SGA in the siblings.

Case Summary:

Family 1: Sibling 1: 18month male referred with xerostomia, and failure to thrive. There was absence of saliva pooling, dental caries and hypoplasia. Ultrasound revealed no salivary tissue in the parotid or the submandibular regions. Sibling 2: 2-year-old with oral dryness, dental caries and absent pooling of saliva. Ultrasound revealed an absence of the submandibular glands.

Mother: 33-year-old, referred for oral dryness, and intermittent swelling of the parotid glands. Ultrasound revealed the major salivary glands were all abnormal, atrophic, heterogeneous and hypoechoic; consistent with Sjogren's syndrome. Family 2: Sibling 1: 3-year-old with recurrent ocular soreness and conjunctivitis. Ultrasound revealed an absence of the parotid glands, submandibular glands, lacrimal glands. Sibling 2: 9-year-old presented with recurrent swelling of the parotid glands. There was fullness at the lower pole of the right parotid gland and evidence of decay. Ultrasound revealed hypoechoic foci and sialectasis in the parotid glands with normal submandibular, sublingual and lacrimal glands. Sibling 3: 9-year-old presented with webbing of toes and intraoral dryness. Ultrasound revealed an absence of the parotid, submandibular and lacrimal glands.

Conclusions:

Supportive measures were advised for all patients: saliva substitutes, sialagogues, low cariogenic diet, and topical fluoride application; reduced salivary flow can predispose to dental caries, ascending sialadenitis and candidosis. Oral dryness is often a low priority in these children who have never experienced a normal salivary flow and may not perceive the severity of their condition. The familial cases demonstrate the importance of a family history as although autosomal dominant, there is variability in expression.

#16: A Global Health Approach to Chronic Orofacial Pain

*Dalal Alhajji, Rui Amaral Mendes, Andres Pinto
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Background:

Health inequalities are a known Global trend. The task set before Healthcare providers is highly demanding, in the sense that Health-related Sustainable Development Goals are regarded as crucial streamers, requiring us to incorporate Global Health as a pivotal lead as we seek to address the patients' Social Determinants of Health. Furthermore, it is often forgot that the WHO defines Health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity".

Case Summary:

A 76-year old female patient presented to our clinic in November 2013 with a chief complaint of a prolonged history of burning sensation in her mouth. Her past medical history is significant for depression, migraine, osteoporosis, hypertension, and GERD, for which she is taking Nortriptylline, Klonopin, Ranitidine, Evista, Axert, Oil, and a Stool Softener. She underwent Cataract surgery in 2007. She has no known drug allergies. Furthermore, she denies tobacco use and alcohol consumption. She has been experiencing these symptoms for 7 years at that point, post-extraction of an upper left molar tooth. Initially, the pain started as an "icy-cold wind" sensation around her left mandibular molars that slowly extended to her tongue and other parts of her mouth. On the VAS scale, her pain levels were 4/10 at rest on the tip of the tongue and 10/10 upon activity. Citrus and spicy foods make the pain worse, while applying ice cubes on the tongue and the motion of chewing makes it better. She has tried multiple medications, detachedly prescribed by various providers such as pain management specialists, anesthesiologists, and neurologists. She has also tried more invasive treatment, such as botox, and other alternative management such as acupuncture, with no signs of improvement.

Conclusions:

This case exemplifies how global health and interprofessionalism are important in the field of Oral Medicine. In order to achieve the successful management of orofacial pain it is deemed important to engage in a paradigm change that encapsulates a holistic approach of these patients, based on sound principles of Interprofessional Collaborative Care (IPCC) and by further encapsulating factors related to our patient's values, expectations, and perceptions.

#17: An Unusual Presentation of Primary Squamous Cell Carcinoma

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Background:

Squamous cell carcinoma is the most common malignant neoplasm of the Oral Cavity. Yet, it is so rare that when cases occur they are often misdiagnosed and inappropriately treated leading to delay in definitive treatment.

Case Summary:

A 72 year old Caucasian male patient presented to Oral Medicine with a chief complaint of "upper lip burning, tingling and pain." His past medical history includes arthritis, coronary artery disease, and hypertension. He was on Metoprolol, Amiodarone, Klor-Con, Warfarin, and Plavix. He has no known drug allergies. He denies tobacco and alcohol use. On general examination, he was moderately built and well-nourished. His vital signs were within normal limits. Intra-oral examination revealed two leukoplakic areas measuring around 3mm on the left and right maxillary gingiva, with a central puncture-like appearance, and no evidence of purulence. He initially complained of "upper lip itching" in 2015 to his general dentist. A biopsy was performed, and results were non-specific. He was then referred to an oral surgeon for consultation of the suspicious area. A second biopsy was performed, and the results revealed that there were no signs of dysplasia. On July 2017, the oral surgeon consulted with Oral Medicine after an increase in burning and itching sensation on the lips and gingiva. Diagnostic imaging including a CT scan, and Periapicals were obtained. CT scan was significant for minor asymmetry of the left trigeminal nerve (V2). The periapical was significant for an incidental finding of a nasopalatine duct cyst. On clinical examination, the left gingival area appeared similar to a viral infection and a trial of Valacyclovir 500mg was administered. Patient reported no improvement in pain. A biopsy was then performed, and results revealed evidence of dysplasia.

Conclusions:

Given these findings, the patient was referred to ENT for a wider gingival excision. Biopsy results came back positive for Squamous Cell Carcinoma on all 3 sites: Left upper lip, and left and right maxillary gingiva. Treatment recommendations consist of radiation therapy. The most significant finding in this case is the diagnosis of SCCA with diffuse soft tissue involvement and possible perineural invasion, without evidence of mucosal primary.

#18: Diagnostically Challenging Case of Osteoradionecrosis of the Jaw with External Root Resorption

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Background:

Osteoradionecrosis of the jaw (ORNJ) is a serious complication following radiation therapy (RT) for head and neck squamous cell carcinoma (HNSCC). External tooth resorption usually follows trauma to the periodontal ligament. Here, we report a case of ORNJ presenting with external root resorption.

Case Summary:

A 53-year-old male was referred for evaluation of tooth 31. The tooth was asymptomatic without predisposing factors for root resorption. Upon examination, the tooth was vital with a composite restoration and no caries. There was no clinical sign of bone exposure. Radiographs showed an ill-defined radiolucency around tooth 31 with root resorption. His oncologic history consisted of stage IV HNSCC originating in the base of tongue treated with chemoradiation completed 10 years prior. Based on the RT plan, the right posterior mandible received at least 80 Gy. He subsequently developed distant metastatic disease (lung and rib) which was successfully treated. Due to the findings, our differential included HNSCC recurrence therefore a PET/CT scan was planned. However, the patient soon presented with pain around tooth 31with a tender submandibular lymph node. The PET scan was postponed and antibiotic therapy was initiated for presumed infection. After 4-weeks of clindamycin, the pain resolved. A PET scan subsequently revealed uptake in the area of tooth 31 (SUV 3.9) without additional findings. Together with clinical findings, this was indicative of infection. Based on the history, presentation, and resolution with clindamycin, this was consistent with ORNJ rather than recurrent disease. We elected to periodically monitor the area with radiographs without a biopsy given concern for potential complications related to surgical intervention in ORNJ. Radiographs at 3 and 6 months showed slight reduction in size of the radiolucency consistent with ORNJ.

Conclusions:

This case highlights the diagnostically challenging manifestations of ORNJ versus HNSCC recurrence after definitive chemoradiation. SCC causing external root resorption is uncommon. However, diminished blood supply after RT may slow recurrent SCC growth causing delayed tooth resorption. Therefore, it is reasonable to attempt minimally-invasive diagnostic tests in this setting to rule out malignancy. An interdisciplinary approach is essential to properly diagnose and manage this type of case.

#19: Periodontal Disease Is Associated with Incident Chronic Liver Disease

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Objectives:

Periodontal disease, an often silent chronic bacterial inflammation of tooth supporting tissues and alveolar bone, is associated with oral and gut dysbiosis, endotoxemia and systemic inflammation. Endotoxemia and systemic inflammation can aggravate liver damage. We hypothesized that periodontitis could affect the risk for liver disease and analyzed whether an epidemiologic association exists between periodontal disease and incident liver morbidity and mortality in a large population-based cohort.

Methods:

Design of this study is a longitudinal follow-up of a nationally representative cohort. Study comprised 6165 subjects with available baseline oral health data, without baseline liver disease, participating in the population-based Health 2000 Survey (BRIF8901). Follow-up data until 2013 for liver-related admissions, liver cancer, and mortality were from National Hospital Discharge, Finnish Cancer Registry, and from Causes-of-Death Register, Statistics Finland. Mild to moderate periodontal disease was defined as ≥1 tooth with periodontal pocket ≥4 mm deep, and advanced periodontitis as ≥5 teeth with such pockets. Multiple confounders were considered. The primary outcome of this study was first hospitalization due to liver disease or a diagnosis of liver cancer, or liver-related death, whichever came first. For comparing groups, chi-square, Mann-Whitney, or Kruskall-Wallis tests were used. The impact of periodontal health was tested on the risk of liver disease by Cox regression models with various levels of adjustment.

Results:

By Cox regression analysis adjusted for age, sex and number of teeth, hazards ratios regarding incident liver disease were, for mild to moderate periodontitis, 2.12 (95%CI 0.98-4.58), and, for advanced periodontitis, 3.69 (95%CI 1.79-7.60). These risk estimates remained stable after additionally adjusting for alcohol use, smoking, metabolic risk, serum gamma-glutamyltransferase, dental-care habits, lifestyle, and socioeconomic status. Periodontal disease-associated liver risk was accentuated among subjects with non-alcoholic fatty liver disease or heavy alcohol use at baseline. Edentulous subjects, although heavily burdened by baseline risk factors, showed lower liver-disease risk than those with active periodontal disease.

Conclusions:

Periodontal disease was associated with incident liver disease in the general population independently of various confounding factors. Therefore, periodontal disease might be a modifiable risk factor for liver disease and subjects with early liver disease might benefit from dental care.

#20: Incidental Imaging Finding in the Practice of Oral Diagnosis/Oral Medicine. A Case Report: Detection of Carotid Artery Calcifications in Panoramic Radiography

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Background:

The most important risk factor in stroke is arterial stenosis due to atheromas of the carotid arteries. This case emphasizes the importance of the panoramic radiographic exam in detecting atheromas of the carotid arteries, further confirmed by an ultrasound study.

Case Summary:

A 57-year-old Caucasian male presented to the Department of Diagnostic Sciences & Oral Medicine, University of Tennessee Health Science Center for comprehensive dental examination. His chief complaint was to have regular dental care. His medical history included diabetes type 2, hypertension, and sleep apnea. His medications were Aspirin, Metformin, Lisinopril, Novolog, and Toujeo. Past medical history included bilateral knee replacement and bypass gastric surgery. Patient reported no allergies. Family history was remarkable for cardiovascular disease, and patient denied current use of tobacco, alcohol and recreational drugs. Review of systems was within normal limits. Physical examination revealed a well-developed, well-nourished man in no apparent distress. Extraoral examination showed no facial skin lesions, lymphadenopathy or salivary gland enlargement. Gross cranial nerve exam was normal. Intraoral exam revealed normal oral soft tissues, partially edentulous jaws, multiple dental restorations, recurrent caries and generalized moderate periodontal disease. Bitewing, periapical, and panoramic radiographs were taken. Panoramic radiograph disclosed multiple irregular, circular or heterogeneous radiopaque masses, some of them with linear appearance, located inferiorly to the right mandibular angle; adjacent to the cervical spine at the level of third cervical vertebra (between C3 and C4) Patient was referred to PCP for further evaluation, and a subsequent ultrasound revealed moderately diffuse bilateral atherosclerotic plaque formations resulting in approximate 50% diameter stenosis of the right internal carotid artery and approximately 40% diameter stenosis of the left internal carotid artery. Although left carotid did not demonstrate calcifications, the plaques were evident on ultrasound. The patient's cardiologist prescribed Atorvastatin and suggested lifestyle changes. Surgical treatment was deferred.

Conclusions:

Calcified atherosclerotic plaques in the carotid arteries and risk factors such as cardiovascular diseases, type 2 diabetes and sleep apnea have been associated with a high risk of cerebral emboli, therefore, early diagnosis is crucial. Dentists may have an important responsibility in this process, in the prevention of potential cerebrovascular events.

#21: Levomepromazine Induced Tardive Dyskinesia Managed with Botulinum Injections

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Background:

Tardive dyskinesia (TD) is a type of movement disorder, secondary to the long term use of antipsychotic treatment. TD dyskinesia may affect the tongue, jaw, trunk and extremities. Currently, there are no clinical guidelines on how to treat TD. We report a patient in whom oral tardive dyskinesia due to levomepromazine usage was successfully managed with botulinum injections.

Case Summary:

A 51-year-old patient presented with a 25-year history of temporomandibular joint symptoms and bruxism. She reported a recent onset of increased jaw muscle activity. During the clinical interview, continuous stereotyped movement of her jaw was observed, which she interpreted as bruxing episodes. She was asked to discontinue the movement of her jaw, but she admitted she was unable to. This was subsequently attributed to her 10-year recurrent use of levomepromazine, a neuroleptic medication. Discontinuation of this medication was not an option for this patient. PMH: anxiety, sleeping problems, tension-type headaches and constipation. She was taking levomepromazine, lithium, zopiclone and quetiapine. Extraoral examination revealed moderate tenderness to palpation of the sternocleidomastoids, trapezius and posterior temporalis bilaterally. There was severe tenderness to palpation of the superficial and deep masseters, and posterior cervical musculature bilaterally. There was a significant increase in the jaw elevator musculature on static clenching. Intraoral examination revealed severe generalized attrition. The patient had used splints for several years, but she felt these were no longer effective in palliating her symptoms. Subsequently, two series of botulinum injections were performed, 3 months apart. Her treating psychiatrist was informed about the clinical presentation and proposed treatment. Each individual masseter was given 36 units of Botox® divided over 4 injection sites. 14 units were injected into each temporalis, for a total of 100 units. The patient reported decreased myalgia symptoms as well as complete cessation of uncontrollable daytime movement of her musculature 2 weeks of the initial injections. Photographs obtained at follow-up revealed an objective reduction of the tonicity of the masseters.

Conclusions:

Botulinum injections may prove to be an effective treatment in the management of medication induced tardive dyskinesia, especially when discontinuation of the offending medication is not an option.

#22: Conservative Management of Osteoradionecrosis of the Jaw in Patients with Head and Neck Cancer

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Objectives:

This single center retrospective study aimed to evaluate the efficacy of a conservative approach in management of patients with jaw osteoradionecrosis (ORN).

Methods:

Demographic information, tobacco and alcohol consumption, head and neck cancer (HNC) diagnosis, dental history (including exodontia), ORN staging and site, and management approaches were recorded from electronic medical records from 2007 through 2017. Conservative management of ORN was defined as watchful monitoring, daily chlorhexidine rinses, and sequestrectomy/debridement and/or systemic antibiotic therapy. Treatment outcomes were measured as number of days receiving antibiotics, number of urgent visits, and hospitalization for ORN. Statistical analysis was performed using R.

Results:

Among 361 HNC patients who underwent pre-radiation dental clearance at our institution, 30 patients (20 males) with a median age at diagnosis of 58.5 years (range: 24 – 72) presented with ORN (76.7% of the posterior mandible). Patients were followed for a median of 19 months (range: 5-136). Eighteen patients were treated with systemic antibiotics (median number of episodes: 2; median duration of episode: 2 weeks) and 15 patients underwent sequestrectomy/debridement. There was a significant correlation between risk of worse treatment outcomes (> 4 weeks of antibiotics therapy, ≥1 urgent visit, and hospitalization) and history of dental extractions in the mandible immediately prior (≤ 14 days) to radiation therapy, diabetes mellitus type 2, and active tobacco consumption ($p < 0.05$). Patients with area of exposed bone ≥ 1 cm2 or more than 1 site of active ORN, were more likely to present for urgent appointments and required systemic antibiotics for longer periods of time (median: 28 days vs. 14 days). Two patients were hospitalized due to complications of ORN and one patient was seen at the emergency department for incision and drainage.

Conclusions:

We found conservative approach to be more effective in management of smaller and less extensive ORN lesions in patients with no history of smoking or diabetes and those without recent dental extraction prior to radiation therapy. Complications were largely related to infections. Prospective trials are needed to determine best practices in jaw ORN.

#23: "It's a Pinkus."

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Background:

Many diseases that occur in the oral mucosa can manifest exclusively or preferably on the lips. Since the lips are constantly exposed to the sun, trauma, food, oral hygiene, and cosmetic products; they are susceptible to develop a variety of conditions that can range from reactive inflammation to malignancies. The labial vermillion border represents a unique structure due to the distinctive histological characteristics of a transitional epithelium. These features also contribute the possible development of pathology not commonly found in our area of expertise as an oral medicine specialist.

Case Summary:

A 42-year-old Hispanic male was referred to the Oral Medicine clinic for evaluation of asymptomatic lower lip lesions of unknown duration. The patient denied sensitivity to food or oral hygiene products, history of excessive sun exposure, trauma or parafunctional habits. Medical history was non-contributory. Social history was positive for alcohol use on a weekly basis. Family history was significant for cirrhosis (mother). Review of systems was unremarkable. Extra and intraoral examination revealed lower lip vermillion with diffused erythema and a midline linear white plaque. Differential diagnosis included actinic cheilitis, lichenoid contact reaction, and lichen planus. The patient underwent incisional biopsy, and microscopic examination demonstrated focal atypical plexiform fibroepithelial proliferation and mild nonspecific chronic inflammation. These findings were suggestive of Fibroepithelioma of Pinkus (FeP) in the context of chronic inflammation.

Conclusions:

FeP is an uncommon skin lesion, traditionally considered to be a rare variant of basal cell carcinoma. Although the etiology is not fully understood, it is thought to be derived from the stem cells of the hair follicle. FeP presents as an indolent, skin-colored, firm, sessile, papule or plaque on the lumbosacral area, abdomen, groin, plantar foot and head. The treatment consists of complete excision with good prognosis.The high prevalence and the complexity of inflammatory conditions affecting the lips can influence the judgment of the clinician. With this case, we want to emphasize that if a lesion doesn't have a classic clinical presentation, or signs and symptoms; a biopsy is warranted as the gold standard method of establishing a definitive diagnosis. Also, no other cases of labial vermilion FeP have been reported to our knowledge.

#24: Oral Myofibroma: A Case Report

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Background:
Mesenchymal neoplasms derived from myofibroblasts can have solitary (myofibroma) or multicentric (myofibromatosis) presentations. They contain nodules of spindle cells that appear to be related to smooth muscle and less differentiated cells that are small, round and basophilic. The lesions can grow rapidly and ulcerate, suggesting the possibility of a sarcoma. However, they typically have a limited growth potential. Although about 90% of cases are diagnosed before age 2 years, oral lesions generally occur later during childhood or adolescence. All oral mucosal sites can be involved with a predilection for tongue.

Case Summary:
A 7-year-old healthy Caucasian boy presented with an asymptomatic, erythematous gingival mass circumscribing the right mandibular first molar from the distal to lingual aspects. The mass was noted a week prior to referral and developed without any obvious eliciting factors, including trauma. Radiographic imaging obtained to assess osseous involvement confirmed the mass was restricted to soft tissues. The differential diagnosis included an unspecified sarcoma or lymphoma or an unusually aggressive presentation of a pyogenic granuloma, peripheral giant cell granuloma or peripheral ossifying fibroma. Histopathologic assessment following incisional biopsy indicated the diagnosis of a myofibroma, a mesenchymal tumor. Immunohistochemistry was positive for vimentin and smooth muscle actin. Subsequent complete local excision with removal of the associated right mandibular first molar was accomplished 1 month later. Although the tumor approximated one deep excision margin, there has been no recurrence after 7 years.

Conclusions:
An unusual case of oral myofibroma is described, which presented as an enlarging gingival mass. In spite of the aggressive presentation, there has been stable resolution following conservative excision. This tumor should be included in the differential diagnosis of oral soft tissue masses, particularly in pediatric patients.

#25: Breast Implant Induced Myofascial Pain

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Background:

Silicone breast implants have been associated with fibromyalgia, but are not commonly associated with chronic myofascial pain. We present a case of chronic myofascial pain induced by silicone breast implants.

Case Summary:

A 42-year-old female presented with jaw, neck, and shoulder pain. She had suffered debilitating muscle and joint pain throughout the body for several years, and was diagnosed with fibromyalgia. She had received various fibromyalgia and orofacial pain treatments: occlusal appliances, anti-inflammatory medications, muscle relaxants, and trigger point injections. None of these treatments provided significant relief. After consults with numerous pain specialists, she realized the pain arose shortly after she had silicone breast implants placed. Although most consulting pain specialists disagreed, she had her breast implants removed, which lead significant improvement of many of her symptoms. She reported that her head/neck/jaw pain had improved since the removal of the breast implants, but remained excruciating. The initial evaluation revealed severe tenderness to palpation of the masseter, deep masseter, medial pterygoid, trapezius, splenius capitis and sternocleidomastoid muscles with multiple trigger points. Due to the characteristic pain profile and history, a diagnosis of myofascial pain induced by silicone breast implants was made. We recommended physical self-regulation and trigger point injections. After several cycles of trigger point injections, her symptoms improved drastically.

Conclusions:

One possible explanation for the patient's residual myofascial pain is that the constant use of head and neck muscles during daily activities prevented them from healing. This patient was chronically misdiagnosed and mistreated by various specialists, including orofacial pain specialists. Although myofascial pain may be an uncommon manifestation of breast implant-induced pain, clinicians must remain vigilant as medical materials and the reactions they induce multiply. This case demonstrates the importance of a thorough medical history that predates the present illness. Furthermore, oral health care providers should include foreign body reactions in their differential diagnoses when patients present with orofacial pain and a history of foreign body implantation.

#26: Recurrent Severe Oral Ulceration on a 16-year Old Male: Case Report of Recurrent Erythema Multiform

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Background:

Oral lesions can often be difficult to diagnose even with proper biopsy techniques, excellent histopathological reporting, intensive history taking and oral examinations by multiple experts. Erythema multiforme (EM) is a mucocutaneous disorder. No specific diagnostic tests are available for EM, often making a definitive diagnosis difficult. EM results from a cell-mediated immune reaction against a precipitating factor. Early recognition and prompt management can greatly benefit these patients.

Case Summary:

A healthy 16-year-old male presented with an 18 month history of recurrent episodes of lower lip swelling and severe mouth ulcerations. The patient related the onset of his condition to the extraction of third molars and bone graft placement in place of impacted supernumerary tooth #70 prior to orthodontic treatment. Following orthodontic bracket placement, he immediately started experiencing severe swelling and bleeding of his lower lip and developed ulcerations of various sizes throughout his oral cavity. Despite removal of the brackets, the swelling and ulceration would last up to 3 weeks and recurrence with the same presentation every three months. In each episode, he would get a sore throat, [scare?] sensation in the mouth and lymphadenopathy prior to the oral manifestations. To control the severe symptoms, the patient was prescribed oxycodone and lost 15 Ibs. due to this painful condition. On exam, patient states that his lesions were in a healing phase. After extra-oral examination, lower lips showed ulcerations, cracking and fissuring with blood encrustation. Intra-oral examination showed extensive, irregular ulcerations with sloughing and erythematous borders on buccal mucosa, labial mucosa and lateral border of the tongue. No skin surface involvement was present. Biopsy from the lesions on histopathological examination revealed ulcerated lichenoid mucositis and ulcerated parakeratosis with epithelial atypia. On the next episode, patient began a trial of Medrol dose pack as prescribed during the first signs of lower lip swelling. Within 2 days, all the swollen regions healed and no ulcerations formed.

Conclusions:

The most important step in the management of EM or similar cutaneous lesions is proper history taking. Treatment is aimed based on the presumptive diagnosis and corticosteroids are the most common medical management strategy in cases of EM.

#27: Investigation of Medication-Related Osteonecrosis of the Jaw (MRONJ) by Real-Time in vitro Assay and Wound Healing Assay

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Objectives:
The role of soft tissue in the pathogenesis of medication-related osteonecrosis of the jaw (MRONJ) is not well defined. This study aimed to investigate the role of bisphosphonates and denosumab to induce or inhibit cell death and inflammation in human gingival fibroblasts (HGF) that may influence wound healing and angiogenesis in response to antiresorptive therapy.

Methods:
A real-time in vitro assay was performed on HGF to observe the effect of various antiresorptives (zoledronate, ibandronate, alendronate, clodronate, denosumab, and combinations of zoledronate and denosumab) at estimated low, middle, and high concentrations using the xCelligence system. A wound healing assay confirmed these findings. Cell culture medium was collected for the analysis of the production of interleukin 1 beta (IL-1β), interleukin 6 (IL-6), and vascular endothelial growth factor (VEGF), and gene expression was quantified for tumor necrosis factor (TNF) and interleukin 8 (IL-8).

Results:
High and medium concentrations of antiresorptives resulted in impaired wound healing and HGF cell death, which also occurred in cell layers without mechanical damage. These effects were increased by the introduction of bacterial lipopolysaccharide and additionally in co-culture with a macrophagic cell line. Increased levels of IL-8, TNF, and IL-1β was observed, while an IL-6 response was missing for high concentrations of nitrogen-containing bisphosphonates. No differences were noted in values of VEGF.

Conclusions:
Antiresorptive exposure was associated with fibroblast cell death and delayed wound healing, which could be attributed to an elevated immune response and potential immune dysfunction contributing to the development of MRONJ. We observed no evidence of an anti-angiogenic effect. Our experiments present some of the first results regarding the effect of denosumab on human gingival fibroblasts.

#28: Non-HIV Associated Oral Hairy Leukoplakia in an Octogenarian with Mycosis Fungoides

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Background:

Epstein-Barr virus (EBV) is associated with disorders ranging from infectious diseases to malignancies. A causal link appears to exist between EBV and oral hairy leukoplakia (OHL) while EBV's role in the etiopathogenesis of mycosis fungoides (MF) / cutaneous T-cell lymphoma (CTCL) remains controversial. OHL may be an initial manifestation and / or sign of disease progression in patients with human immunodeficiency virus (HIV). Non-HIV associated OHL resulting from local immunosuppression due to steroid inhalers has been described; however, reports of this condition associated with chronic topical corticosteroid therapy are scarce.

Case Summary:

An 80-year-old Caucasian female presented with an asymptomatic leukoplakia affecting the tongue of one months' duration. The patient was diagnosed with oral lichen planus (OLP) fifteen years prior to onset of tongue lesion and had been managed with high and ultra-high potency topical corticosteroids. Currently, the patient was using betamethasone dipropionate 0.05% gel twice daily and clotrimazole troches 10 mg three times daily as needed for symptomatic OLP flares. Medical history was significant for Stage 1A MF / CTCL affecting the right calf and left thigh currently managed with topical corticosteroids by a Dermatologist. Latest laboratory studies did not reveal evidence of immunosuppression. An approximately 1.5 cm x 1.0 cm non-removable white, plaque-like lesion was observed on the left lateral tongue border. Incisional biopsies were performed at three different lesional sites and all specimens demonstrated hyperkeratosis and acanthosis with a band of cells characterized by lightly-stained cytoplasm (balloon cells). The superficial cells contained nuclei with peripheral chromatin margination or nuclear beading typical of EBV-infected oral keratinocytes and consistent with OHL. The patient was prescribed valacyclovir one gram three times daily which she discontinued after three days due to medication side effects. Upon re-examination, the tongue lesion completely resolved. The patient was pursuing serological evaluation for EBV and consultation with an immunologist to rule out systemic immunosuppressive disorders.

Conclusions:

Non-HIV associated OHL can mimic other oral mucosal disorders and should be included in the differential diagnosis of leukoplakia. In this case, the role of EBV in etiopathogenesis of OHL and / or MF/CTCL is unknown at this time.

#29: Dental Management Dilemma in a Patient with Churg-Strauss Syndrome

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Background:

Eosinophilic granulomatosis with polyangiitis (EGPA), formerly known as Churg-strauss syndrome, is a systemic condition that affects multiple organs including lungs, skin, gastrointestinal tract, heart, and nervous system. It is characterized by necrotizing vasculitis of blood vessels with hypereosinophilia in people with history of asthma. Almost 10 per 1 million adults are diagnosed with CSS with no gender predominance or ethnic predisposition with a mean age at onset of 50. Dental treatment of a patient with EGPA could present a dilemma to dentists.

Case Summary:

A 52-year-old white female presented to Penn dental medically complex clinic with a chief complaint of generalized sharp facial pain and esthetic concerns regarding decayed anterior teeth. Her medical history was significant for EGPA, tricuspid regurgitation, pernicious anemia, osteopenia, hypothyroidism and polyneuropathy. She was on high dose prednisone, mepolizumab, amitriptyline, pregabalin and oral bisphosphonate. The patient also had a history of anaphylactic reactions from medications as well as an acrylic-containing dental material. Comprehensive intraoral examination revealed unremarkable oral mucosa with multiple carious teeth. Initial treatment plan included multiple restorations, extraction, periodontal surgeries and fixed and removable prosthesis. Given the history of EGPA and prolonged high-dose steroid therapy, healing after oral surgery was a concern. In addition, the patient was referred to consult with a dermatologist for a patch test because of past history of allergic reaction to dental material. However, the patch test was deemed unsuitable due to high risk of life-threatening allergic reaction. We decided to eliminate sources of odontogenic infections by extracting infected non-restorable teeth as well as consult with various prosthodontists and dental material specialists on possible alternatives to acrylic base dentures.

Conclusions:

Precaution measures should be taken when treating patients with EPGA due to their medical complexity and side effects of medications used to manage their conditions. A team approach with other physicians including rheumatologists, allergists, cardiologists, and pulmonologists might be essential while managing these patients. A multidisciplinary approach to dental treatment is also important to accomplish comprehensive and appropriate treatment planning and patient care in this unique patient population.

#30: Oral Adverse Events Associated with PD-1 Inhibitor Therapy

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Objectives:

Checkpoint inhibitors such as programmed death-1 (PD-1) monoclonal antibodies are approved for the treatment of metastatic melanoma, non-small cell lung cancer, head and neck cancer, Hodgkin lymphoma, urothelial cancer, and gastric cancer. The aim of this retrospective study was to characterize clinical, histopathological, and management outcomes of patients with oral and extra-oral immunotherapy related adverse events (irAEs) secondary to PD-1 inhibitors.

Methods:

Demographic information and clinical history including oncologic diagnosis, pain score, time and cumulative dose to oral and extra-oral irAE were collected from electronic medical records. Histopathology of oral and skin biopsies was reviewed. Management of oral and extra-oral irAEs and modification of PD-1 inhibitor therapy were recorded.

Results:

There were 8 patients (5 males) with a median age of 69 years (range: 43-82). Five patients received pembrolizumab and three nivolumab. Time and number of cycles to first oral irAE ranged from 7 to 625 days and 1 to 23 cycles, respectively. Five patients developed red and white changes with ulcerations (median diameter: 2 cm; range: 0-4), 2 patients developed ulcers with hemorrhagic crusting of the lip vermillion and 1 patient developed red and white changes without ulcers. One patient developed only oral irAE. Median reported pain score was 5 out of 10. Five patients developed a maculopapular rash and two patients developed targetoid skin lesions. Skin biopsies showed interface dermatitis with eosinophils in 4 patients, and 2 oral biopsies showed a lichenoid drug reaction with eosinophils and plasma cells. Seven patients received dexamethasone rinses three times a day with greater than 50% improvement in pain scores after a median of 14 days (range: 14-150 days). Three patients received prednisone with >50% improvement in pain scores after a median of 15 days (range: 7-30). Three patients discontinued PD-1 inhibitor therapy due to oral irAEs and 2 patients due to extra-oral irAE.

Conclusions:

Patients receiving PD-1 inhibitors may develop oral irAE and extra-oral irAE with clinical and histopathological features consistent with lichenoid mucositis and/or erythema multiforme with favorable response to topical and systemic steroid therapy.

#31: Diagnostically Challenging Case of Post-Extraction Bone Exposure

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Background:

Patients with head and neck cancer receiving radiation therapy (RT) are frequently referred to oral health care practitioners for pre-RT clearance and receive extractions of teeth with predicted poor prognosis. When the patients present with exposed bone of the extraction site after RT, they are often diagnosed as osteoradionecrosis of the jaw (ORNJ). We present a diagnostically challenging case of post-extraction bone exposure.

Case Summary:

A 67-year-old male was referred by radiation oncology department for evaluation of possible ORNJ on right maxilla. He was diagnosed with nasopharyngeal cancer, which had metastasized to brain, lung and spine in 2015. He received chemotherapy and subsequent RT in 2016. Two months prior to RT, tooth #2 was extracted due to large caries. He reported that the extraction site had never healed completely since the extraction. Twelve months after the extraction, he presented with exposed bone and yellow exudates with erythema on surrounding tissue around tooth #2 area. Periapical radiograph showed ill-defined radiolucency. After further investigation, RT dose on right maxilla was reported to be less than 20Gy. Due to the timing of the extraction and RT, incomplete healing after the extraction and the minimum RT dosage, we questioned the diagnosis of ORNJ. Consequently, we discussed with his medical oncologist and discovered that he was on research chemotherapy, OMP-305B83, at the time of the extraction. This agent is called Navicixizumab that belongs to anti-angiogenic. A diagnosis of medication-related osteonecrosis of the jaw (MRONJ) associated with Navicizumab was made. Four months follow up with radiograph showed diminishing radiolucency that further supported the diagnosis.

Conclusions:

This case highlights the diagnostically challenging manifestation of ORNJ and MRONJ. This patient's MRONJ could have been prevented if the tooth was extracted prior to the chemotherapy. Use of anti-angiogenic medications for cancer therapy is increasing. However, unlike ORNJ, possibility of MRONJ associated with anti-angiogenic may not be well recognized. Through PubMed search, we could identify several case reports of MRONJ associated with anti-angiogenics, but none were associated with Navicizumab. Oral health care providers should advocate the importance of pre-chemotherapy screening to all clinicians involving cancer therapy.

#32: Effect of Smoking and Smoking Cessation in the Oral Mucosa Epithelium Maturation

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Objectives:
The aim of this study is evaluate the effect of smoking and smoking cessation in the epithelium maturation of oral mucosa.

Methods:
Three groups of cytological material collected from patients participating in the Outpatient Tobacco Cessation Program from INCOR-HCFMUSP and ICT-UNESP Oral Medicine were formed. Group 1: 30 smokers, prior to initiation of smoking cessation; Group 2: 30 ex-smokers, at least one year a maximum of two years; Group 3: 30 nonsmokers. Patients were evaluated for carbon monoxide level, and exfoliative cytology was taken from the lateral border of the tongue and mouth floor. Inflammatory and epithelial components were evaluated in a semi-quantitative scale.

Results:
The Kruskal-Wallis test revealed significant differences between inflammatory components ($p = <0.0001$), intermediate cells ($p = <0.0001$) and keratohyalin ($p = <0.0001$) between the groups.

Conclusions:
The increase in intermediate cells in smokers and ex-smokers may indicate an epithelium maturation delay. Smoking leads to inflammatory changes that can be eliminated by cigarette smoking cessation, however the delay in the process of maturation and keratinization may persist up to 2 years after stop smoking.

#33: Botulinum Toxin in the Treatment of Posttraumatic Trigeminal Neuropathy in a Young Patient

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Background:

Post-traumatic trigeminal neuropathic (PTTN) pain can be devastating and challenging to manage. While tricyclic antidepressants, anticonvulsants, and norepinephrine reuptake inhibitors have been effectively used to manage PTTN pain, the effectiveness of Botulinum toxin (BoNT) has not been evaluated extensively.

Case Summary:

A 15-year-old male presented at the University of Washington Oral Medicine Clinic (UWOMC) with a 6-month history of severe constant stabbing intraoral pain in his left maxillary region which was previously treated by 15 different providers without significant reduction in pain. The pain started after multiple procedures (including laser surgery) done on the slowly erupting tooth #15 to remove an operculum and prior tissue altered from a procedure, and was a daily constant ache at an average intensity of 7 on a scale of 0-10, adversely impacting his life, even forcing him to take leave from school. Our clinical examinations and imaging ruled out any odontogenic/periodontal causes for his symptoms and further qualitative sensory testing revealed mechanical allodynia in his left posterior superior alveolar and greater palatine nerve. After initial unsuccessful trials of multiple pain medications, the patient reported memory-loss and fatigue. With the peripheral component of his pain supporting further exploration with BoNT, we injected 20 units of toxin in the left posterior vestibular sulcus at two intraoral sites (total 40 units). To prepare toxin, 100 units of incobotulinum-toxin-A were diluted into 1.0 ml normal saline. At the 3-month follow-up, the patient reported a reduction in pain after 2 to 2.5 weeks of BoNT injections, with pain intensity dropping from 7 to 2 on a 0-10-point scale and remained at that level for approximately 10 weeks with the only side-effect of mild “drooping of his smile” on the ipsilateral side of injections. With a significant reduction in pain, the patient and his family requested repeat procedures at 3 and 6 months follow up which provided similar results in magnitude and duration.

Conclusions:

The analgesic benefits of BoNT may be utilized to manage intraoral neuropathic pain in young individuals having minimal side effects with further studies needed to confirm safety and effectiveness in larger samples.

#34: Changes of Salivary Immune System by Alcohol in Mice

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Objectives:

Ethanol and its derivatives are known as representative immune modulator of the body. Ethanol and its derivatives is also distributed immediately to the salivary gland and maintained until its elimination from the body. However, the role of ethanol and its derivatives are not actively investigated so far. Salivary gland play pivotal role in maintaining the homeostasis of oral immunity by producing various immunoglobulines (Ig) such as IgA. The purpose of this study was to investigate the effects of chronic alcohol administration on submandibular gland focusing on immune cells of oral lymph node and salivary gland using experimental alcohol mice model.

Methods:

C57BL6/J mice were divided into 3 groups; Normal chow, Pair-fed diet, Liquid EtOH diet. After 5 weeks, total immune cells of oral lymph node and submandibular gland were isolated from each groups. Flow cytometry analysis was performed with antibodies of CD3, CD4, CD8, CD25, B220, FoxP3.

Results:

There are various immune cells in salivarygland, such as B, T lymphocytes, even NK cells, macrophages and granulocytes. The alcohol-treated group showed significantly increased population of CD4, CD8, B lymphocytes and decreased regulatory T lymphocytes without change of lymphocyte on oral lymph node.

Conclusions:

Of many hypothesize we explored, we confirmed that chronic ethanol administration could induce the proportional change of CD4, CD8, regulatory T, and B cells of salivary gland. In addition, we confirmed the presence of macrophage, granulocytes and even natural killer cells. The function and interaction of various immune cells could be explored investigated investigation.

#35: Squamous Cell Carcinoma of the Tongue Misdiagnosed as Myofascial Pain

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Background:

The incidence of head and neck squamous cell carcinoma (HNSCC) is amongst the highest of cancers worldwide. Early detection followed by appropriate management is critical for patient survival. However, a recent study has shown delay in the diagnosis and/or treatment in one out of four patients with HNSCC in the US.

Case Summary:

An 88-year-old male was referred to an oral medicine clinic for evaluation of severe left-sided jaw pain of 2 years duration, which had been unresponsive to several treatments by multiple health care providers. His previous treatments included occlusal appliances, trigger point / Botox injections and physical therapy. Due to difficulty in chewing and even drinking, he had lost 20 pounds over the past 16 months. His medical history was significant for hypertension and hypercholesterolemia. His family/social history were unremarkable. Clinical examination revealed a 1.5 cm non-tender firm fixed lymphadenopathy on the left cervical region. Intraorally, a large (2-3 cm) firm submucosal mass was palpated on the left posterior lateral side of the tongue extending to its base. The lesion was tender to palpation and its overlying mucosa was smooth and slightly erythematous. The patient's jaw function was limited due to the pain; however, masticatory muscles were non-tender to palpation. Our assessment was pain originating from the submucosal mass of the tongue, which was highly suspicious for malignancy. Due to communication barriers with the patient, it was only then revealed that he has been seeing a local otorhinolaryngologist for dysphagia for the last 4 years without conclusive diagnosis. We contacted the otorhinolaryngologist to clarify the patient's status. Following a tongue biopsy, which revealed poorly differentiated SCC, he was referred to our hospital clinic for further management. A CT of the neck showed ill-defined hypodensity in the left sublingual, geniohyoid and genioglossal areas. Currently the patient's treatment plan is still being developed.

Conclusions:

Jaw pain can be subjective and secondary to multiple conditions including HNSCC. In a complex case, inter-professional communication and thorough evaluation are necessary to minimize the delay of diagnosis and initiation of appropriate care.

#36: An Unusual Case of Palatal and Tongue Ulcerations

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Background:

Oral ulcerations develop due to many possible reasons. It is pertinent to obtain a complete medical history and correlate clinical oral findings to obtain an accurate diagnosis.

Case Summary:

81 year old male was referred to the oral medicine clinic for evaluation and management of diffuse ulcerations on the hard palate and dorsum of tongue. The patient's medical history is significant for Alzheimer's dementia, Parkinson disease, hypertension, osteoporosis, chronic constipation, hepatitis B carrier and urinary tract infection. He attends geriatric daycare center with his son as his primary caregiver at home. His medications included medications for dementia, parkinson, aspirin, oral alendronate, amlodipine. He is completely edentulous with slight difficulty in swallowing. Intraorally, there is a single large palatal ulcer involving the hard palate extending across the midline. Dorsum tongue ulcer extends from the tip to the base of the tongue. Ulcers are covered by thick fibrinous pseudomembrane which detaches, usually after eating, leading to bleeding of the ulcers. Clinical impression included oral blistering disorders, oral erythema multiforme, chemical burn as a result of prolonged contact time of medication on the tongue and hard palate. Incisional biopsy performed on the tongue, revealed non-specific ulceration. In view of his hepatitis B carrier state, topical clobetasol and dexamethasone rinse were started instead of systemic predinisone. Instructions to crush all tablets, especially alendronate and aspirin, and dissolve in water instead of having him swallow the tablets. Slow but gradual improvement of the oral ulcers was noted after 3 weeks of therapy.

Conclusions:

Some patients with difficulty in swallowing tablets instantly may suck or dissolve them in the mouth, resulting in prolonged contact of the drug with the oral mucosa, promoting chemical induced mucosal irritation, erosion and ulcerations.

In this case, an improper intake of bisphosphonates was thought to have led to these oral ulcerations. It is important that adequate patient advice in terms of correct use of oral bisphosphonates is crucial in order to prevent oral mucosal damage.

#37: Early Oral Manifestations of the Central Nervous System Demyelinating Disease

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Background:

Among chronic orofacial pain conditions, neuropathic pain is one of the most debilitating disorders. Etiologies include peripheral or central trigeminal nerve compression associated with mechanical, neoplastic, or vascular pressure on the nerve; local nerve injury; infections, including HIV; and demyelinating central nervous system (CNS) diseases.

Case Summary:

A 65-year-old female with a month history of sudden onset, progressive, severe paroxysmal right-sided facial pain, predominantly in the mandible, presented to the University of Washington's Oral Medicine Service. At the time of her visit, her health history was only significant for obesity and hypercholesterolemia. Since onset, the patient reported persistent episodes of excruciating pain involving all divisions of the right trigeminal nerve. Wearing her lower denture also triggered the pain. Severe alveolar resorption led her dentist to diagnose mental nerve impingement as the cause. Despite lower denture adjustments and a reline in the area of the mental foramen, her symptoms increased and led to an emergency visit. Their differential diagnosis included neuropathy, and Carbamazepine was prescribed at 200mg every 12 hours. Symptoms were not reduced resulting in referral to Oral Medicine. While the alveolar ridge demonstrated significant resorption, and stimulation of the region over the mental nerve triggered paroxysmal pain, neurosensory testing also detected severe mechanical allodynia of the posterior mandibular ridge. These findings lead to a differential diagnosis that included primary or secondary Trigeminal Neuralgia (TN). MRI assessment revealed extensive widespread demyelination of the brain, including a non-enhanced area adjacent to the trigeminal root entry zone, essentially confirming the presence of Multiple Sclerosis (MS) or another demyelinating disease. The patient was referred to Neurology Clinic at University of Washington Medical Center for further assessment and management.

Conclusions:

MS is associated with approximately 5% of TN cases. The incidence of TN is 4.3 cases per 100,000 persons per year. Diagnosis involves both clinical assessment and CNS imaging to establish the presence or absence of central etiologies. TN precedes the diagnosis of MS in 15% of affected cases and the clinical presentation, although various, often mimics classical TN. Delayed or misdiagnosis of MS-related to TN is common and can delay treatments shown to slow progression of the disease.

#38: Risk of Radiation-Induced Dysgeusia in Smoking and Non-Smoking Head and Neck Cancer Patients

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Objectives:

Smoking is known to have a negative effect on taste perception. In head and neck cancer (HNC) patients, dysgeusia is among the most commonly reported adverse side effects following radiation therapy (XRT), which can diminish patient quality of life and survival. This retrospective study aimed to assess the effect of past and current smoking on the onset and resolution of dysgeusia in patients receiving XRT for treatment of HNC.

Methods:

Electronic health records of adult HNC patients, treated at the Tufts Medical Center between January 1, 2000 and April 1, 2017, were reviewed. Collected data included patient demographics, primary cancer diagnosis (location, stage, and metastasis), XRT (initiation, cumulative dose, and duration), chemotherapy, surgery, smoking status, as well as dates of onset and resolution of dysgeusia. Kaplan-Meier with Log-Rank Test and Cox proportional hazards models were used to analyze the relationship between smoking status and the onset and resolution of dysgeusia.

Results:

Among 171 patients, 102 met inclusion criteria, of which 61.8% developed dysgeusia. Mean age at the time of XRT initiation was 58.3 (SD=12.9). Sixty-six percent of the patients were either former or current smokers at the time of initiation of XRT, and 34% were never-smokers. Never-smokers were found to be at higher risk for developing dysgeusia than smokers (hazard ratio 1.75, p=0.0304), and to develop the disease more rapidly after starting XRT (median survival time= 24 vs. 44 days, p=0.0256). However, no significant association was found between smoking status and the resolution of dysgeusia (P=0.3923). Combining XRT with chemotherapy and/or surgical tumor resection failed to show significant association with faster onset and/or delayed resolution of dysgeusia (p=0.4755 and 0.8861, and p=0.1371 and 0.2675, respectively).

Conclusions:

In HNC patients receiving XRT, non-smokers seem more prone to dysgeusia than smokers. This can be explained by the compromised baseline taste perception in the smokers that may eliminate the significance of any further taste deterioration. Thus far, there is no definitive preventive strategy or treatment available for dysgeusia, and further investigations are needed. Results on combining chemotherapy and/or tumor resection with XRT should be interpreted with caution due to the retrospective nature of the study.

#39: Mycoplasma Pneumoniae Infection Associated Mucositis with Severe Stomatitis as Well as Pneumonia Successfully Treated with Antibiotics and Infusion Therapy, Not Corticosteroids

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Background:

Mycoplasma pneumoniae might cause Stevens-Johnson syndrome. Recently, Mycoplasma pneumonia infectionassociated mucositis (MPAM) has been also known as a distinct entity. The treatment of MPAM including systemic corticosteroids and high dose of intravenous immunoglobulin (IVIG) has not been established. We herein report a case of MPAM successfully treated without systemic corticosteroids but with antibiotics and infusion therapy.

Case summary:

A 34-year-old female visited us with painful eruption on the oral mucosa as well as vulva. She had suffered from common cold symptoms for the last 6 days. She took medicine then and had severe bullous and erosive stomatitis the next day. On admission, she was febrile (39℃). Physical examination revealed numerous vesicles and bullae on the oral cavity and lips. Conjunctiva showed mild hyperemia. Redness and erosion were also seen on the genital area. Skin eruption such as erythema and vesicobullous lesions could not be seen on the entire skin surface. Ophthalmologic examination, however, revealed no evidence of Stevens-Johnson syndrome. Histology of the oral mucosa revealed scattered necrotic epithelial epithelial cells and lymphocytes on the roof of the blister. MPAM, Stevens-Johnson syndrome, herpes simplex infection, cytomegalovirus infection, hand foot mouth disease, and mucous membrane pemphigoid were listed up in differential diagnoses. Chest roentogenogram demonstrated characteristic finding consistent with Mycoplasma pneumonia on the right middle lobe. IgG antibody titer against Mycoplasma pneumonia (PA) increased from x160 to x1280. Drug-lymphocyte stimulation test revealed tranexamic acid and dextromethorphan were positive results. Systemic fluid therapy and antibiotics including ceftriaxone (CTRX) and azithromycin (AZT) caused improvement of pulmonary symptoms as well as all mucosal lesion. The oral mucosal lesion cleared up within about 2 weeks without systemic corticosteroid therapy. Finally, the patient was diagnosed as MPAM.

Conclusions:

Our case demonstrated severe stomatitis consisting of numerous vesicles, bulla and erosions on the entire oral mucosa, however, had mild conjunctivitis and genital symptoms. In Stevens-Johnson syndrome, corticosteroid therapy is the first choice. We suggested that systemic corticosteroid therapy or IVIG is not necessarily if the patient had mild ocular and genital symptoms in the patient with MPAM.

#40: Economic and Practical Considerations in the Treatment of Oral Mucosal Chronic Graft-versus-Host Disease

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Objectives:

Chronic graft-versus-host disease (cGVHD) frequently affects the oral mucosa and is generally responsive to topical immunomodulatory therapies. Clinicians may benefit from guidance in choosing the most appropriate therapy with respect to practicality and cost. To assess the economic considerations related to topical immunomodulatory treatments for management of oral mucosal cGVHD and their practical implications.

Methods:

Topical treatments used for management of oral cGVHD were obtained from the NIH Consensus document for ancillary and supportive care. Cost data for a standard one month prescription was obtained from national databases for commercially available formulations and from compounding pharmacies for formulations requiring compounding.

Results:

There are numerous topical preparations used for the management of oral cGVHD, many of which require compounding. The average wholesale price of the commercially available agents ranges from $5-277 /month, and the cost of the compounded preparations ranges from $43-499/month. Costs can be influenced by drug, patient, and pharmacy-related factors.

Conclusions:

The costs associated with topical treatment of oral cGVHD are substantial, particularly since the disease is chronic and expenses accumulate over time. Rational prescribing according to a proposed algorithm, including de-escalation of therapy when indicated, can help to minimize associated costs. This has practical implications for patients, physicians, pharmacies and insurance providers.

#41: Epidemic Parotitis in Arkansas

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Background:

Epidemic parotitis or mumps is caused by a paramyxovirus well known for affecting the salivary glands and gonads. The signature feature of this disease is bilateral parotid enlargement. While subclinical infections occur, the classic presentation has become so rare that many experienced clinicians have never seen a case.

Case Summary:

The development of the MMR vaccine in 1971 along with a booster recommendation in the 1990s had essentially eliminated mumps in the U.S. More recently however, along with other communicable diseases, epidemic parotitis appears to be making a comeback; perhaps most publicized in the 2014 National Hockey League affair. Recent outbreaks in the nation's heartland have affected schools in significant numbers, and Arkansas in particular has been hardest hit with 2802 reported cases as of February, 2017. Although all racial and socioeconomic groups have been impacted, Marshallese migrants living in Northwest Arkansas have been disproportionally affected, constituting 57% of all cases. While under-vaccination initially was presumed to be the major reason behind the outbreak, it appears that the surge in cases is more driven by poverty and intense exposures afforded by crowded housing.

Conclusions:

We present a brief history of epidemic parotitis in Northwest Arkansas with emphasis on the unique Marshallese population.

#42: Understanding the Relationship of Patients Seeking Treatment at Hospital and Dental School Emergency Clinics

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Objectives:

Increasing utilization of the hospital emergency department (ED) for primary care has been raised as a concern in the literature, however, little is known from the dental perspective. Dental care at the ED is usually palliative, which potentially leads to excessive and/or inaccurate prescription writing. Antibiotic/antimicrobial resistance as well as the opioid epidemic is currently a serious threat in the US. This study aims to investigate: 1) the prevalence of ED utilization for dental problems prior to visiting a dental school emergency clinic, 2) predictors of factors for ED visits, and 3) treatment at ED for dental problems.

Methods:

All adult patients who sought treatment at the University of Pennsylvania School of Dental Medicine's Emergency Clinic during a period of 140 days were presented with a survey. The information analyzed included demographics, dental insurance status, reasons for ED visits, and treatments at ED.

Results:

Out of 111 valid survey responses, 20% of patients (22) had been to ED prior to visiting the dental school emergency clinic for the same reason. Most patients visited ED due to tooth pain. The primary treatment at the ED was prescription of both antibiotic and pain medication (9, 40%), followed by antibiotic only (8, 36%) and pain medication only (1, 5%). Reasons for visiting ED over the dental clinic were financial/dental insurance issues, and less likely due to lack of knowledge or access.

Conclusions:

Our data suggest that antibiotics (either alone or combined with pain medication) are more frequently given to patients visiting the ED for toothache, indicating that ED utilization for dental problems may contribute to antibiotic-related health issues. The main reason for obtaining care in the ED was financial/insurance-related. Further research is important to examine the appropriateness of drug prescriptions for patients visiting ED for dental problems to better understand its impact on the health system.

#43: Oral Mucosal Involvement by Linear Epidermal Nevus

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Background:

Linear epidermal nevus (LEN) is a hamartoma derived from embryonic ectoderm. LEN is included in the classification of epidermal nevi (EN). Cutaneous lesions of LEN present as tan-colored verrucous papules following skin tension lines (Blaschko's lines). Oral mucosal involvement by LEN is rare. Review of the literature reveals a total of 57 reported cases. In three of these reported cases, the oral mucosal lesions occurred in the absence any of cutaneous lesions. Oral mucosal involvement typically presents as multifocal verrucopapillary lesions. Lesions of LEN can arise in the context of Epidermal Nevus Syndrome (ENS). In ENS, the cutaneous or mucosal lesions present in the context of variable combinations of CNS abnormalities, skeletal defects, ocular defects, dental defects and other anomalies. The CNS abnormalities can include epilepsy or mental retardation.

Case summary:

A 9-year-old boy presented with a well demarcated tan colored linear verrucous plaque on the right upper lip and right cheek. Intraoral examination demonstrated verruco-papillary lesions on the right palate, right maxillary gingiva and right buccal mucosa. He had mild cognitive delay and an exaggerated startle response. However, formal assessment by pediatrician and pediatric neurologist suggested that he did not meet the criteria of ENS and his final diagnosis was LEN. The oral mucosal lesions were managed by surgical excision and laser ablation.

Conclusions:

The boy did not show any extra cutaneous disorder other than the exaggerated startle response to sudden touch or loud noises. This startle response is interesting as it might suggest an untapped mental behavior that could be induced by latent neurological involvement in ENS. Therefore, routine assessment is required to rule out epidermal nevus syndrome manifestations. Dental health practitioners and clinicians should be aware that even small epidermal nevi, especially on the head, could signal structural nervous system impairment.

#44: Possible Unusual Oral Manifestations of Crohn's Disease

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Background:

Oral manifestations are prevalent in 20-50% of Crohn's Disease (CD) cases. Specific oral lesions of CD include indurated tag-like lesions, cobblestoning, mucogingivitis, lip swelling with vertical fissures, and deep linear ulceration. Non-specific oral lesions of CD include aphthous stomatitis, pyostomatitis vegetans, angular chelitis, glossitis, and persistent submandibular lymphadenopathy. We present a case of CD diagnosed subsequent to history of oral blisters and ulcers.

Case Summary:

A 55-year-old male presented with history of white lesions on palate. The lesions were asymptomatic and noticed by his dentist 8 months before and subsequently treated with nystatin without success. The lesions became symptomatic 2 months later. At the time of the initial evaluation, his main symptom was burning sensation on the palate. His past medical history was non-contributory and his only medication was nystatin. He did not have any remarkable review of system. Intra-oral examination revealed multiple small ulcerations on left buccal mucosal and 3 small blisters on soft palate. Biopsy was obtained. The H&E histology result was non-specific showing acanthotic squamous epithelium with subjacent chronically inflamed collagen and direct immunofluorescence (DIF) was negative. Approximately 4 weeks following the initial evaluation, he developed gastrointestinal (GI) symptoms and was diagnosed with CD. Oral symptoms improved after treatment of CD and well maintained with dexamethasone rinse. Five months later, he presented with cobblestone appearance on buccal mucosa and hyperplastic tissue on palate that are commonly seen as oral manifestations of CD. At 9 months after the initial evaluation, he also presented with hyperplastic tissue on upper anterior facial gingiva.

Conclusions:

Through PubMed search, we could not identify any case report of oral blisters as manifestations of CD. Non-specific biopsy results in this case limited our ability to state that blisters were true manifestations of CD. However, the eventual granuloumatous appearance of the oral lesions combined with the positive response to CD treatment suggested that the blisters might be unusual preceding manifestation of CD. Given that oral symptoms could precede GI symptoms in CD, clinicians should consider the possibility of CD in a differential diagnosis when patients present with blisters.

#45: Assessment of Patient-Oriented Online Information of Oral Epithelial Dysplasia

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Objectives:

To assess the content of available English language web-based information concerning oral epithelial dysplasia (OED) written for patients/public.

Methods:

Web searches were conducted for 'oral dysplasia', 'treatment of oral dysplasia' and 'treatment of precancer of the mouth' using 3 commonly available search engines (Google.com, Yahoo.com and Bing.com). Excluded websites include those directed to health care professionals, requiring membership or subscription, commercially promoted, community forums with no professional discretion and those limited to video/audio content. Content, quality (DISCERN, JAMA benchmarks and Health on Net seal) and readability (Flesch Reading Ease Score and Flesch Kincaid Grade Level) were determined for the included websites. Intra-rater and inter-rater agreements of DISCERN scores were calculated using intraclass correlation coefficient.

Results:

Google was determined to be the most reliable search engine for this information. Content specific to OED was rare (3 of 36 analysed websites). Audio-visual materials were minimally present (image=52%, video=2% and audio=2%). A quality assessment using DISCERN found low scores (e.g. for questions related to sources and dates of the presented information, risks of each treatment, the effect of treatment choice on quality of life and support for shared decision-making). Intra- and inter-rater agreements of DISCERN scores were 0.789]95% C.I. = 0.419, 0.925 (P<0.001) [and 0.789]95% C.I. = 0.403, 0.926 (P<0.001)[, respectively. Disclosure was provided in 71% of sites although only one third of these sites achieved other JAMA benchmarks (authorship, attribution and currency). 27% of the identified sites displayed the Health on Net seal. The majority of content of identified sites was difficult to read, with individuals with reading abilities at or higher than 10th-grade level (US schools) being likely to easily comprehend the presented information.

Conclusions:

Patients and public may encounter difficulties to find relevant, reliable and readable online content related to OED and its effect on physical and psychological well-being. There is a need to develop a web-based resource that conveniently and accurately fulfils the information needs of patients and the public as regards OED.

#46: Oral Manifestations in a Patient with Multiple Hamartoma Syndrome

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Background:

Mutations in the phosphatase and tensin homolog (PTEN) gene have been described in many conditions that are generally referred to as PTEN hamartoma tumor syndromes. Among these is Multiple Hamartoma Syndrome (MHS), also known as Cowden Syndrome (CS), a rare autosomal dominant disorder. MHS is characterized by the presence of multiple mucocutaneous hamartomas, mainly affecting the skin and oral mucosa, and an increased risk of malignancy of the breast, thyroid, or endometrium. Facial papules may be seen in more than 80% of patients with MHS, with involvement of the gingiva, buccal mucosa, or palatal mucosa. These papules may coalesce and give rise to a cobblestone appearance of the oral mucosa (Chippagiri et al 2013). Other oral manifestations can include gingival hyperplasia, a high palatal arch, or fissuring and lobulation of the tongue (Scheper M et al, 2006; Woo V et al, 2008).

Case Summary:

A 41-year-old female patient with a diagnosis of MHS presented to Tufts University School of Dental Medicine for comprehensive dental care. Her past medical history was significant for asthma, thyroid and renal disease, and cancers of the ovary and endometrium. Her surgical history included a hysterectomy (2011), thyroidectomy (2012), double mastectomy (2013), bladder resection (2015), and gastric sleeve surgery (2015). Extraoral examination was within normal limits. Intraoral examination revealed multiple small pink papules and nodules on the left buccal mucosa and maxillary left attached and alveolar gingiva. The patient also had fissuring of the tongue with multiple lobulations; these oral findings were collectively deemed consistent with her diagnosis of MHS.

Conclusions:

MHS is uncommon mucocutaneous disorder associated with multiple malignancies. Although this patient already carried a diagnosis, oral manifestations may represent the initial presentation of this condition and enable the patient's oral health care provider to contribute to the initial diagnosis. A thorough and detailed medical history of the patient and detection of oral manifestations with appropriate follow-up and referral may lead to early diagnosis of the disease before the development of associated neoplasms.

#47: Methotrexate-Associated Lymphoproliferative Disorders in The Oral Cavity: Three Cases and a Clinicopathological Review of the Japanese Literature

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Background:
The incidence of methotrexate-associated lymphoproliferative disorders (MTX-LPD) has recently increased. We herein describe three patients with MTX-LPD in the oral cavity and evaluate Japanese reports of clinical and pathological features to clarify the clinical characteristics of MTX-LPD in the oral cavity.

Case Summary:
Case 1: A 64-year-old female who had been treated with MTX for polymyositis presented with a loose lower front tooth and a gingival ulcer. Histopathological findings indicated MTX-LPD. Therefore, MTX was stopped and the gingival ulcer healed within three months. Case 2: A 62-year-old female who had been treated for rheumatoid arthritis (RA) with MTX for 19 years presented with swelling and ulcer of the lower gingiva. Histopathologically, T-cell lymphoma positive for Epstein-Barr virus (EBV)-encoded RNA was suspected and MTX was withdrawn. The gingival ulcer healed within three months. Case 3: A 76-year-old male who had been treated with MTX for RA for 1.5 years presented with tongue ulceration. Histopathological findings indicated EBV-associated lymphoproliferative disease and MTX-LPD was suspected. The tongue ulcer healed within one month after withdrawing MTX. Among 41 patients (male, 12; female, 29; average age, 69.1 years; range, 40-87 years) with MTX-LPD in the oral cavity described in the Japanese literature, the most frequent site was the gingiva in 31 (75.6%) and the most frequent symptom was ulceration. The most frequent reason for MTX treatment was systemic RA.

Conclusions:
We described three patients under MTX treatment who developed MTX-LPD in the oral cavity. Their oral symptoms healed after MTX withdrawal. The number of reported patients with MTX-LPD has recently increased, but the mechanism of MTX-LPD has remained unclear. A literature search revealed that the occurrence of MTX-LPD in the oral cavity is associated with gingival ulceration, a high rate of EBV positivity, and a good response to MTX withdrawal. Although the occurrence of MTX-LPD in the oral cavity is rare, awareness of the condition and appropriate responses are necessary.

#48: Efficacy of Intralesional Triamcinolone Acetonide Therapy for Inflammatory Oral Ulcers

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Objectives:

To evaluate the efficacy of intralesional steroid therapy for management of topical steroid-refractory, non-infectious, inflammatory oral ulcers.

Methods:

Demographic data including age, gender, medical and drug history, location and size of oral ulcers and symptoms (11-point pain scale), and clinical diagnoses were abstracted from electronic medical records of patients evaluated from January 2016 to October 2017 in one oral medicine center. Differences in point numerical rating scale for pain and in size (in cm) of the largest diameter of the ulcer were evaluated using the Wilcoxon signed-rank test.

Results:

A total of 71 patients (36 males) with a median age of 65 years [range: 19-88] with oral ulcerations from trauma (46.5%), OLP (25.4%), cGVHD (25.4%), DLE (1.4%) and Crohn disease (1.4%) were included. Ulcers were located on the buccal mucosa (54.9%), ventrolateral tongue (40.8%), hard palate (2.8%) and floor of the mouth (1.4%). The median ulcer diameter was 0.5 cm [range: 0.2-2.5]. Patients received a median of 12.3 mg [range: 4-36] of triamcinolone acetonide at the initial visit with a median of 1.8 [range: 1-3] injections in total over a median of 6.3 weeks [range: 0-42.3]. Additional topical and systemic steroid therapy was used in 94.4% and 9.9% of patients, respectively. The mean pain score reduced from 3.4 to 1.8 after the first therapy ($p<0.01$) and mean size of the ulcer reduced from 0.5 cm [range: 0.2-2.5] to 0.3 cm [range: 0-1.5]; ($p<0.01$).

Conclusions:

Intralesional triamcinolone, in combination with topical and systemic therapy, was effective in reducing the signs and symptoms of oral ulcerations. Future controlled trials are necessary to better define the role of this therapy.

#49: A Case Report on Progressive Hemifacial Atrophy

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Background:

Progressive hemifacial atrophy (PHA) is a rare disease commonly referred to as Parry-Romberg syndrome, with a prevalence of 1 in 70,000 of the general population. It was first reported by Caleb Parry in 1815 followed by Moritz Romberg in 1846. PHA is a well-known disease characterized by progressive atrophy on one side of the face. However, its etiology is unclear, and the diagnostic criteria have not been established.

Case Summary:

A 43-years-old Japanese woman visited our hospital in 2015. Her chief complaint was that the left side of her face had gradually deformed. In 2012, she had been hospitalized for phlegmone of the left cheek in another hospital. The cause of the phlegmone could not be established, but it was cured by antibiotic intravenous drips. However, the left side of her face gradually deformed three years later. We performed clinical examinations (blood test and electromyography), computed tomography, magnetic resonance imaging (MRI), and biopsy. In the MRI, only the fat layer of the left cheek was atrophied. There was no muscle and bone atrophy, recognizable fat cell atrophy in the histology, and no abnormality in the other examinations. The right side of the abdomen was also atrophied, the onset of which went unnoticed by her. She was diagnosed with PHA. We followed her up for two years to ascertain whether the atrophy was progressive. We calculated the difference in volume between the atrophied area and the normal cheek in 3D images. The volume did not change in the two years. We judged that PHA had not progressed. We grafted fat and muscle tissues from her abdomen to the left cheek in September, 2017.

Conclusions:

Although the cause of the etiology of PHA is unclear, there are articles suggesting that PHA is caused by inflammation, and IgG deposition in tissues. In our case, PHA onset was after the phlegmone, without IgG deposition in tissues. Many articles have reported a diagnosis of PHA because there were no findings other than atrophy. However, its diagnosis is uncertain, and establishing the diagnostic criteria is the future task.

#50: Lichen Planus - Challenging Case

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Background:

Lichen Planus is cell-mediated immune response. Management of oral Lichen Planus and Lichenoid reactions poses a challenge due to a lack of full understanding of the etiology. Treatment options include systemic and topical steroids, immunosuppressant's and low-level laser therapy.

Case Summary:

An 82-year-old Caucasian female presented to East Carolina School of Dental Medicine in 2013 to establish comprehensive dental care.

Patient's medical history was significant for: Arthritis, Paget's Disease, Asthma, Hypertension, Diabetes Mellitus, and Heart disease. Two Reclast infusions had been administered for Paget's disease, first dose was administered in 2007 and second infusion was administered March 2017. Patient also had history of symptomatic lichen planus which was initially diagnosed approximately 40 years ago both clinically and through biopsy. Patient reported constant pain which worsen with certain foods; therefore, she was on a restricted diet. Patient's previous treatments included: Dexamethasone rinse, Lidex, alcohol-free Chlorhexidine, Clobestasol Gel, Kenalog Cream, Orabase, Imuran, Folic Acid, and IV Prednisone. None of these treatments were effective. Patient's initial treatment at ECU School of Dental Medicine included topical triamcinolone, which was ineffective. Patient was recommended to see an Oral Medicine specialist at ECU by her hygienist. During this evaluation, ulcerations surrounded by areas of erythema and reticular pattern were noted bilaterally in buccal mucosa, which aligned with existing gold crowns. Clinical presentation was characteristic of a lichenoid reaction. Total of 4mg of Kenalog was injected directly into the affected areas, 2 mg on each side and it was coupled with Clobestasol gel for home use. At the 2-week follow-up appointment, patient reported she experienced the maximum amount of relief she had in 40 years. Patient also informed that Kenalog did not adversely impact her diabetes. After initial kenalog injection patient continued to improve with only clobetasol gel. At the last follow-up appointment, full resolution of lesions and symptoms were noted. Patient reported she was able to eat foods without restrictions.

Conclusions:

Treating lichen planus may be challenging at times for clinicians. Persistent lichen planus lesions which are resistant to other treatment modalities may be effectively resolved with Kenalog injections followed by topical steroids.

#51: Bisphosphonate Associated Temporomandibular Joint Disorders

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Objectives:

The side effects of bisphosphonate (BP) therapy on both mandible and maxilla have been well studied; however, no direct TMJ subclinical or clinical symptoms have been well investigated (1). A study done in rabbits' TMJs shows that BP injection resulted in a significant increase in the mineralization of mandibular condyle (2). In another study, case report, BP has been reported to be associated with enlarged mandibular condyles with osteophytes, osteoarthritis and ankylosis (3). To the best of our knowledge, this is the first study to determine the effects of BP therapy on the TMJ.

Methods:

Study design: Retrospective cross sectional study. Inclusion criteria: All patients who had received at least one year of oral BP or one dose of intravenous BP for osteoporosis and equal gender and age group as control. Exclusion criteria: Patients with a history of radiation therapy to the head and neck region. Dependent variables: 1- Pain 2- Sounds 3- Movement 4- Radiographic Findings Independent variables: 1- Dose of BP 2- Age 3-Gender

Results:

The mean age of the BP and control groups were 69 and 64 years old respectively. TMJs' osteoarthritis was confirmed in 23% of the BP users in comparing to 17% in the control group; also, TMJ Pain was 4% higher in the BP group. Other TMJ variables such as mouth opening and lateral movement were very similar in both groups.

Conclusions:

As stated above, this primitive data might supports the theory of the association between antiresorptives medication and TMJ disorders. Possible pathogenesis that TMJ loading will cause micro injury for the cortex of the condyle and the remodeling will be affected by such medication.

#52: Sarcoidosis Presenting with Salivary Gland Ultrasound Characteristics Mimicking Sjögren's Syndrome

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Background:

B-mode ultrasound of the major salivary glands (SGUS) has a sensitivity and specificity of 69% and 92%, respectively, to diagnose Sjögren's syndrome (SS) in the major salivary glands (K. Delli et al. Oral Dis 2015; 21: 792-800). SGUS is currently explored as a possible addition to the classification criteria for SS. However, none of the studies published so far has tested the accuracy of SGUS in patients with sarcoidosis, amyloidosis, human immunodeficiency virus (HIV) or hepatitis C virus (HCV) infection. These are diseases affecting the major salivary glands, causing dry mouth or having similar histopathological features with SS. We report here a unique case of patient with sarcoidosis who presented with salivary gland ultrasound characteristics mimicking Sjögren's syndrome.

Case Summary:

A 26-year-old woman was referred to our tertiary referral center with a persistent swelling of both parotid glands since approximately 3 months in combination with symptoms of oral, ocular and vaginal dryness. Furthermore, the patient experienced frequent episodes of urinary tract infections, painful joints and fatigue. The past medical history was not contributing. Ultrasonographic examination of the parotid glands revealed grossly inhomogeneous parenchyma, numerous hypoechogenic areas in combination with a few hyperechogenic reflections, and partly defined borders. The submandibular salivary glands were affected to a lesser extent. The patient achieved a total ultrasonographic score of 27/48 according to Hocevar scoring system. The ultrasonographic findings in combination with the clinical characteristics of the patient raised a high suspicion for SS. However, the patient proved to be SSA negative, the Schirmer test in both eyes was >5mm/5min and the Ocular Staining score of the right and left eye was 5 and 3. An incisional parotid gland biopsy was taken, which did not show any features of SS, but was characteristic for sarcoidosis; the biopsy exhibited the classic picture of granulomas, epithelioid histiocytes occurring in clusters, and multinucleate giant cells.

Conclusions:

Sarcoidosis might present with ultrasound findings in the major salivary glands mimicking SS. We would like to accentuate that SGUS is a promising imaging method to diagnose SS, but more research in necessary before implementing SGUS in the everyday clinical practice.

#53: Incidental-Imaging Finding in the Practice of Oral Diagnosis/Oral Medicine. A Case Report: Post Endodontic Aspergillosis in the Maxillary Sinus, a Preliminary Diagnosis

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Background:

Aspergillosis of the maxillary sinus may occur in association with overextension of root canal material. We report a case, which could be a rare occurrence of Aspergillosis in an immunocompetent person as a complication of endodontic therapy.

Case Summary:

A 64-year-old Caucasian female presented to the Department of Diagnostic Sciences & Oral Medicine, University of Tennessee Health Science Center for comprehensive dental examination. Her chief complaints were pain in the left maxillary/mandibular teeth, and dry mouth. Medical history included hypertension, congestive heart failure, osteoporosis, hypercholesterolemia, depression, and hyperparathyroidism. She has had episodes of sinusitis, treated with steroids. Her medications included Metoprolol, Atorvastatin, Bupropion, Furosemide, Lisinopril, Omeprazole, Alendronate, and Aspirin. She reported no allergies. Family history was unremarkable. She smokes but denied use of alcohol and recreational drugs. Review of systems was normal. Physical examination revealed a well-nourished woman in no apparent distress. Extraoral examination showed no facial skin lesions, lymphadenopathy or salivary gland enlargement. Gross cranial nerve exam was normal. Intraoral exam revealed normal oral soft tissues, missing teeth, multiple dental restorations, recurrent caries and generalized periodontal disease. Bitewing, periapical, and panoramic radiographs were taken. Panoramic radiograph revealed tooth 14 with root canal treatment and extrusion of endodontic filling material adjacent to the disto-buccal root, and into the left maxillary sinus. Three dense, well-defined, irregular radiopaque masses, approximately 16-18 mm x 10-12 mm in size were located on the floor of the left maxillary sinus. A cone beam CT scan confirmed the presence of hyperdense masses close the left maxillary sinus floor that were radiographically consistent with mycetoma/fungal balls. Differential diagnosis included antroliths. Surgical removal of sinus foreign bodies and histopathological analysis would be the appropriate treatment plan.

Conclusions:

Asymptomatic maxillary sinus aspergillosis could be incidentally found during radiographic investigation of sinuses. Although in most cases, the affected sinuses may show exuberant mucous thickening with dense calcifications of fungal debri within the mucous, there may be uncommon clinical and radiographic presentations as in our case. Clinicians should follow-up endodontic cases with extrusions closely, especially in immunocompromised patients to avoid inappropriate or delayed therapy in cases affected by this uncommon fungal infection.

#54: Topical Steroid Therapy Combined with Antifungal Oral Rinse Against Oral Lichen Planus

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Objectives:

Topical steroid is the mainstay of the treatment for oral lichen planus (OLP). However, long-term application of steroid to oral lesions is problematic, because it might cause oral candidiasis. The purpose of this study was to evaluate efficacy of the combination therapy by topical steroid application and antifungal oral rinse for OLP patients.Subjectives and

Methods:

OLP patients with marked oral symptoms underwent the combination therapy of topical steroid and antifungal oral rinse. The diagnosis of OLP was confirmed by biopsy. First, simultaneous infection of candida was checked by direct microscopic examination. If candida infection was detected, oral rinse with amphotericin B suspension was carried out for 2 weeks ahead to steroid therapy. If not, steroid therapy and antifungal oral rinse started simultaneously. Following antifingal oral rinse, 50 microgram of beclomethasone propionate powder (Salcoat®) was applied to oral lesions 1 or 2 times a day. This treatment was continued up to the maximum of 8 weeks. Efficacy of the therapy was retrospectively assessed by the reduction of erosive/erythematous lesions.

Results:

We assessed 16 oral lesions of 13 OLP patients. Nine lesions of the erosive type, 6 of the atrophic type, and 1 of the reticular type were included. Duration of the treatment was 2 ~ 8 weeks. Follow-up period was 1 month ~ 2 years 1 month. Seven erosive type lesions and 4 atrophic type lesions and 1 reticular type lesion showed the complete remission (CR) or partial remission (PR) where erosive and atrophic areas disappeared or reduced, and only white areas remained. Two atrophic lesions were assessed as the stable disease (SD) and 2 erosive lesions as the progressive disease (PD). The rate of CR/PR was 75%. Out of 12 lesions of CR/PR, 5 lesions (42%) showed relapse 2.5 months ~ 2 years 1 month after cessation of the treatment. Systemic adverse effects were not experienced in any patients treated by this therapy.

Conclusions:

The combination therapy by topical steroid (Salcoat®) and amphotericin B oral rinse is effective for the control of erosive/atrophic lesions in OLP patients. Limit and local side effects of the therapy will be discussed.

#55: Dental Management of a Patient with Marfan Syndrome

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Background:

Marfan syndrome is an autosomal-dominant inherited connective tissue disorder that may affect heart, blood vessels, brain, lungs, eyes, and bone. A number of orofacial abnormalities have been reported in patients with Marfan syndrome including dolichocephaly (long, narrow face), Mandibular and maxillary retrognathia, highly arched palate, recurrent temporomandibular joints (TMJ) dislocations, root deformity, and susceptibility to periodontal disease and dental caries.

Case Summary:

A 45-year-old female presented with a chief complaint "I want my top teeth to be pulled and replaced with a denture". The patient's medical history was significant for Marfan syndrome with associated medical conditions including valvular heart diseases (mitral and aortic valves replacement), history of stroke (8 years ago), thoracic aortic aneurysm repair, anoxic brain damage, memory loss, depression, cerebellar ataxia, dystonia, dysarthria, sciatica, chronic pain syndrome, migraines, asthma, bronchitis, and iron deficiency anemia. Patient current medications included; anticoagulants (warfarin 4mg), pain medications (diclofenac, oxycodone) as needed), migraine medications (rizatriptan10 mg, topiramate 25mg, sumatriptan 50 mg), antispasmodic drug (trihexyphenidyl hydrochloride 2mg), antidepressants (fluoxetine 60 mg, aaripiprazole 2.5mg), asthma medications (albuterol, aeroChamber), and dietary supplements (iron, multivitamins, potassium, magnesium). Patient was categorized by the American Society of Anesthesiologists (ASA) as ASA III Class for dental treatment. Clinical examination showed that patient is tall with an elongated face. Intra-oral examination revealed narrow and high maxillary arch with a deep palatal vault, multiple missing teeth, and severely decayed maxillary anterior teeth. Patient was planned for multiple extractions, deep scaling and root planning, restorations, and fabrication of removable prosthesis. Dental treatment modifications included prior consultation with her cardiologist, premedication with amoxicillin 2 gm one hour before dental procedures. In addition, updated patient's PT/INR levels were obtained and assessed before delivery of any invasive dental procedures. Other lab values such as CBC, kidney and liver function tests were periodically monitored

Conclusions:

This case highlights the importance of recognizing orofacial and systemic features of Marfan syndrome patients. Dentist may be the first health care provider to identify this health problem in its early stages, and this could be a significant step towards the final diagnosis.

#56: Oral Lesions in Kidney Transplanted Patients: A Literature Review

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Objectives:
A progressive and severe loss of renal function may result in kidney transplantation that may lead to verity of oral complications To highlight the various oral lesions that can arise in renal transplant patients, and suggesting a general managing protocol.

Methods:
Data was obtained from the relevant English literature on kidney transplantation between 1977 and 2014.

Results:
Six hundred ninety five of 2348 (29.6%) had oral involvement of undesirable secondary effect. The most common oral lesion was gingival overgrowth (13%) followed by oral malignancy (8%). Furthermore, immunosuppressed organ transplant patients are susceptible to variety of oral infections, such as opportunistic fungal, bacterial and viral infections. At least part of the side effects was associated to the immunosuppressive drugs used in those patients.

Conclusions:
Dentists should be aware, in renal transplant patients, while using medications which may involve the kidney's functioning. The possible additional use of immunosuppressant in those patients should be carefully monitored. A symptomatic management of oral lesions including prophylactic use of antiviral and anti-bacterial or/and antifungal medications should be considered. In summary, the need of diagnosis and care of oral lesions, as well as preventing variety of infections that can be life threatening in immunosuppressed patients is obligatory.

#57: A Study of How Vital Signs are Taught and Implemented in Five New York State Dental Schools

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Objectives:

To determine educational parameters that five New York State (NYS) Dental Schools use in order to educate pre-doctoral students in vital sign (VS) assessments.

Methods:

We developed a survey consisting of 15 questions which asked how pre-doctoral dental students are taught VS assessments at five NYS dental schools (Columbia, New York University, Buffalo, Stony Brook, and Touro). The survey was addressed to one faculty member at each school who was familiar with their school's educational policies concerning vital sign assessment and implementation in school clinics. Examples of survey questions included which departments teach VS assessment, when in the curriculum are VS are taught, grading parameters for students, and how vital sign assessments are used within each of the schools' clinics. Other questions queried benefits and barriers towards VS assessments. VS included blood pressure (BP), pulse (P), respiratory rate (RR), temperature (T), pain level (PL), height (H), weight (WT) and capillary blood sugar levels (CBS).

Results:

The survey response was 100%. All five schools include BP, P, RR, T, and CBS as components of VS assessment within the first 2 years of their curriculum. VS were taught by Oral and Maxillofacial Surgery (OMS) departments at all 5 schools, and by other departments at three of the schools. All five schools graded students on their ability to assess VS. One school assessed BP, P, and CBS on diabetic patients at every patient appointment. Two schools assessed PL at every appointment. All 5 schools do assess VS in their clinics, but under patient parameters unique to each school. Four schools cite benefits to the patient which include an increase satisfaction with their dental care, and a better perception of their systemic health. Two schools cited time issues as barriers towards VS assessment. None of the respondents favored mandatory VS assessment by dentists who practice in NYS.

Conclusions:

All five NYS dental schools teach VS assessment in their pre-doctoral curricula and grade students accordingly. There are no uniform parameters that the five schools follow when implementing VS assessment in their respective clinics.

#58: Prevalence of Oral Manifestations in Patients with Rheumatic Diseases – A Cross-Sectional Study

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Objectives:
The purpose of this study was to evaluate the prevalence of oral disorders and the Decayed Missing Filled Teeth index (DMFT) for permanent teeth of patients with various rheumatic disease. The hypothesis tested is that patients with some type of rheumatic disease present alteration in the soft and / or hard tissue of the oral cavity as repercussion of the disease.

Methods:
A cross-sectional study was conducted with analytical and descriptive evaluation of soft tissue and DMFT measurement. The information of 127 rheumatic patients and healthy people (controls) were collected. The findings were divided by area of involvement. Data were analyzed by chi-square test, Fisher exact test and Pearson correlation test to correlate the DMFT with sex, age, medication use and xerostomia. All hypotheses were tested at the 95% significance level.

Results:
The DMFT was very high for rheumatic patients and positively correlated with the use of medication and age.

Conclusions:
Rheumatoid arthritis is the most prevalent condition, with most occurrences in women. Patients with rheumatic diseases, irrespective of specific diagnosis, present manifestations in various sites of the oral cavity, especially the lips and tongue, and consequently they have poor oral health and a very high DMFT.

#59: Unusual Presentation of Chronic Ulcerative Stomatitis

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Background:

Chronic Ulcerative Stomatitis (CUS) is an immunopathological disease characterized by having oral ulcerative lesions. Through PubMed search, we identified approximatly 50 reported cases. Based on these publications, CUS without ulcerations is extremely rare. We present a CUS case that presented without ulcerations.

Case Report:

A 34-year-old female presented with 16-months history of painful oral erosive lesions. It was painful to eat or speak. No known alleviating factors. Past management included salt water rinse that was ineffective. Her past medical history included hypothyroidism, anemia, constant headache, and ear infection. Her current medications included levothyroxine and iron. No reported change in the medication or oral products in the past 24-months. Examinations revealed generalized linear white lesions with reticular pattern on buccal mucosa, labial mucosa, ventral tongue, floor of the mouth and facial gingiva. There was 4x6mm ulceration present on left lower vestibule. She denied any skin or genital lesions. Due to clinically characteristic appearance of oral lichen planus (OLP), topical steroid was initiated. After failure of topical steroid, biopsy was performed. The H&E histology result was suggestive of lichen planus and direct immunofluorescence (DIF) showed speckled IgG deposition in numerous basal epithelial cells that was suggestive of CUS. Hydroxychloroquine was initiated and her oral lesions improved within 2 months. She returned 15 months later and reported that she had not taken any medication (including hydroxychloroquine and topical steroid) for the past 15 months. Her mouth was still irritated but not severe. Clinically, diffuse generalized white lesions with reticular pattern that resembled OLP presented on all the areas previously affected. Interestingly, she did not have any ulcerations in her mouth.

Conclusions:

This case highlights an unusual manifestation of CUS. The CUS was named based on clinical character of “oral chronic ulcerations”. This case presented without any ulceration at the follow up after 15 months of no treatment. Although most CUS reported cases presented with oral ulcerations, clinicians should be aware that patients with CUS may present without oral ulceration, and therefore, further diagnostic tests particularly DIF is reasonable especially when the patient does not respond well to steroid therapy.

#60: Clinical and Statistical Analysis of Patients Who Underwent Hospitalization for Severe Orofacial Cellulitis

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Objectives:
Orofacial cellulitis is an acute suppurative inflammation mainly caused by odontogenic infection that extends from the jawbone to the floor of the mouth, submandibular, and neck regions. Importantly, aggravated cellulitis can lead to fatal sepsis. Here, we analyzed clinical characteristics of patients hospitalized for severe cellulitis.

Methods:
We analyzed clinical features of 63 patients (males: 30, females: 33) who were hospitalized for severe cellulitis from November 9, 2015 to October 29, 2017. Evaluation items included sex, age, length of stay, site of cellulitis, cause, blood examination (WBC, CRP), surgical treatment (local anesthesia or general anesthesia), antimicrobial therapy, systemic disease, and smoking history.

Results:
The patients' mean age was 52.2 years. The mean days of hospitalization were 9.6 days. The site of cellulitis was the buccal region (n=36), submandibular region (n=21), floor of the mouth (n=3), and neck (n=3). Causes of cellulitis included periapical periodontitis (n=33), pericoronitis of wisdom tooth (n=7), SSI (n=7), residual root (n=6), osteomyelitis (n=3), and other (n=7). The mean WBC was $12.54 \times 10^3/\mu L$, and mean CRP concentration was 10.53 mg/dL. Incisional drainage was performed in 59 cases (local anesthesia: 50, general anesthesia: 9). Antimicrobial therapy included CTRX (n=46), SBT/ABPC (n=6), TAZ/PIPC (n=5), SBTPC (n=3), and other (n=3). Patients had systemic diseases such as hypertension (n=11), heart disease (n=7), diabetes mellitus (n=7), and cases without basal disease (n=14). Lastly, 23 patients were smokers.

Conclusions:
Approximately half of the patients with cellulitis were middle-aged and older adults. Forty-nine patients (78%) had some type of systemic disease. Therefore, routine daily checkups are necessary for middle-aged and older patients, especially if they have a systemic disease, to prevent severe odontogenic infection.

#61: The Detrimental Manifestations Surrounding Betel Quid Use: A Narrative Review

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Objectives:
This review presents the literature on betel quid/areca nut chewing and a conglomerate of evidence relating to the product's negative effects. It demonstrates necessity for the initiation of purchasing regulations for betel quid/areca nut(s) as well as the placing of health-related warning labels on the packaging of these substances. Despite an observed decrease in overall cancer death rates within the U.S. population, immigrant minorities continue to experience disproportionately higher incidences of cancer as well as mortality rates for many cancers4. This phenomenon is thought to be caused by lack of attention to these products4.

Methods:
An electronic search was performed with publication dates restricted to years 1996 through 2016 and written in the English language. A database search of keywords betel quid, areca nut, gutka, humans, betel quid cancer, betel quid health effects, betel quid health risks, betel quid oral cavity, betel quid exposure, areca nut oral health, areca nut chewing, and oral submucous fibrosis returned a combined 5,562 hits. The relevant studies were selected by three independent reviewers, bringing the narrative review to include 40 research articles.

Results:
Betel Quid use has been linked to both oral and systemic detrimental health manifestations. Oral squamous cell carcinoma18, 25, various assorted oral cancers5, 6, 10, 11, 24, 28, 30, histologic epithelial changes17, 32, oral submucous fibrosis6, 17, and periodontal diseases2, 18 are amongst those most predominate. In addition, betel quid utilization has been linked to major organ distant site carcinogenic activity. These metastatic cancer sites include, but are not limited to: hepatocellular36, pancreas38, breast20, lung27, 38, larynx38 and esophageal27, 38 cancers.

Conclusions:
This review implicates the need for federal due diligence for the institution of legal regulations on the minimum legal age required for the purchase of these products, as well as the placing of a warning label on the product's packaging. Ramifications of the major carcinogenic manifestations discussed will impact both public health and well-being and health care expenditures. Through appropriate federal regulations, and initiatives to educate consumers about the dangers of betel quid/areca nut chewing, both public health outcomes and healthcare costs will be positively affected.

#62: Characteristics of Oral Mucosal Pathologies in Children and Adolescents Attending the Oral Diseases Clinic

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Objectives:

Awareness and referral of oral mucosal pathologies are essentials in the good clinical practice provided by physicians and dental clinicians, and allow prompt and appropriate diagnosis and treatment. Studies of clinical characteristics of oral pathologies among children and adolescents referred to oral diseases clinics are few. Our objectives were to examine the characteristics of children and adolescents with oral mucosal pathologies and to analyze the referrals from the community.

Methods:

A retrospective chart study of 0-18-year-old patients attending the oral diseases clinic was performed. Clinical data, demographics, and referral sources were recorded. The Institutional Review Board of the Hadassah Medical Center approved the study protocol. The analysis was based on a zero hypothesis of no connection and the test was two- sided. The significance level for all tests was set on $p < 0.05$.

Results:

137 patients (72 boys, 65 girls) with average age of 7.6 years were included. 81% were generally healthy. 43% of patients were symptomatic and 86% of them had pain. We found significant ($p<0.05$) association between certain average ages of patients and (a) symptoms, 8yr olds had pain; b)signs, 8yr olds had ulcers; c)lesion site, in 6 yr olds the tongue and in 11.5 yr olds the lips d)etiology, 3yr olds were mouth breathers, 14yr olds had orthodontic brackets. Ulcers, white lesions and red lesions were found in 36%, 25% and 19% of patients, respectively. Main etilogic groups of the lesions were reactive, infectious and developmental (23%, 21%, and 19 %, respectively). Referral sources were dentists (48%), physicians (38%) or self-referral (14%); no patients were referred by dental hygienists or nurses.

Conclusions:

Oral mucosal pathologies among the young are variable and may require diagnosis and treatment by oral medicine specialists. Health care providers who treat children and adolescents should be aware to the main etiologies and pathologies for the age groups which will be encountered in the community and refer these patients appropriately.

#63: Importance of Oral Hygiene in the Diagnosis and Management of Oral Lichen Planus: A Case Report

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Background:

Lichen planus is a mucocutaneous disease with an unknown etiology that can affect any mucosal site and the skin. The diagnosis can at time be challenging to make in the presence of severe inflammation. The condition is managed with corticosteroids but control is variable.

Case Summary:

A 52 year old woman presented to the UCSF Oral Medicine clinic for evaluation of an 8 month history of severe pain and swelling in her right cheek, upper and lower gingiva. The patient reported spontaneous bleeding from the right cheek, and gingiva. The patient was referred by an otolaryngologist who had collected a biopsy that was diagnosed as non-specific ulceration. Medical history was unremarkable, and patient reported no history of smoking or alcohol intake. On clinical examination, there was intense erythema with large pseudomembrane-covered shallow ulcerations and spontaneous bleeding unilaterally on the right buccal mucosa. The erythema extended to the upper and lower gingiva and on hard palate, and mild swelling was noted on the right buccal mucosa. She had pronounced halitosis. The differential diagnosis included erosive lichen planus (LP), pemphigoid, or pemphigus with candidiasis and secondary bacterial infection. Erythroplakia was also considered given the unilateral presentation, and could not be ruled out from the prior biopsy because no epithelium was reported to be present on the specimen. We prescribed fluconazole 100 mg, and chlorhexidine gluconate 0.12%, deferred the biopsy by one week, at which time the clinical appearance of the lesions seemed more consistent with LP. We collected 3 incisional biopsy specimens, including one for direct immunofluorescence that confirmed a diagnosis of erosive LP, and dysplasia was ruled out.

Conclusions:

The unilateral presentation of intense erythema and ulceration, and the secondary bacterial infection may have confounded the clinical impression of the referring provider who collected a biopsy within the ulceration that thus was non diagnostic. This case highlights the importance of managing secondary infection prior to collecting a biopsy to diagnose LP.

#64: Head and Neck Clear Cell Carcinoma (CCC): What is the Real One?

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Objectives:

CCC within the oral cavity is a rare diagnosis and can be classified as odontogenic, salivary or metastatic in origin. True CCC is a rare diagnosis and histologically manifest as clear cells or clear cell differentiation, presenting with a clear eosinophilic cytoplasm, well defined borders and centrally placed nucleus. Cells are often separated by mature, fibrous connective tissue stroma. Clear cell artefacts includecytoplasmic accumulation of water, glycogen, intermediate filaments, zymogen granules and cellular organelles as well as squamous proliferation with neoplastic goblet cells; a histological variation of Squamous cell carcinoma.Radiographically, CCC may show was diffuse clouding with or without erosion of adjacent bone.

Methods:

A retrospective analysis of CCC diagnosis at National Ribat University clinic was concluded to assess diagnosis quality, and histological variations in relation topatient prognosis.

Results:

We report 52 cases from 2012-2017 with ‘clear cell’ attached to histological diagnosis. Of those, only 27 cases where of true CCC findings and were within the oral cavity(including salivary gland). Patient age group was 15-67 years and included 22 Males and 5 Females. Mean diagnosis time was 3 months and patient prognosis outcome after 3 years was 89% survival rate. 15 cases were of salivary gland origin (9 major, 6 minor glands), 8 cases were of Odontogenic tissue and 4 cases were of metastatic involvement (3 renal, 1 thyroid).

Conclusions:

CCC differential diagnosis includes the main areas of: Odontogenic neoplasms with clear cell component (ameloblastoma, odontogenic carcinoma and calcifying epithelial odontogenic tumour), Salivary gland tumours (acinic cell carcinoma with clear cells and clear cell mucoepidermoid carcinomas as well as benign oncocytoma and myoepthelioma) and metastatic clear cell tumours of renal, prostate, bowel, thyroid and liver origin.

#65: Propranolol in the Treatment of Oral Arteriovenous Malformations (Avms)

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Background:

Propranolol is a B3 non-selective adrenergic receptor used in the management of hypertension and arrhythmias. Recently, the anti – angiogenic effects of Propranolol have been reiterated. It is effective in the management of vascular anomalies particularly infantile haemangiomas however its advantages and role in head and neck vascular lesions is limited. Vascular anomalies may be classified as Vascular malformations or Haemangiomas under the most recent classifications of the International Society for the Study of Vascular Anomalies (ISSVA 2014).

Case Summary:

A 34-year-old female presented with a large expansile lesion at the midline of the mandible. Cone Beam CT revealed extensive vascularity and destruction of the mandible as a whole as well as midline swelling buccolingual that was hard but painless. Differential diagnosis included Vascular anomalies, neoplasms (including Kaposi's sarcoma, Non-Hodgkin's lymphoma, Amelanotic melanoma) and cysts (Aneurysmal bone cyst) A diagnosis of AVM was made and the patient was initiated on 60mg corticosteroid and 30 mg Propranolol daily. Corticosteroid therapy was slowly weaned off. The patient returned weekly for blood pressure monitoring and assessment of the lesion. 2 months later there was marked improvement in the re – bone formation and loss of vascularity of the lesion. The lesion became markedly reduced in size, started to conform with adjacent gingival colour and became progressively hard.

Conclusions:

We describe a case report of AVM to the mandible and the successful regression of the lesion within 2 months using Corticosteroid short therapy and Propranolol 30mg. Prompt diagnosis and avoidance of biopsy is vital as perfuse unstoppable bleeding may arise if incorrect measures are taken. Propranolol is a safe and effective management in AVMS. Side effects of Propranolol are usually rare but include hypoglycaemia, bradycardia, hypotension, hyperkalaemia, somnolence and cold extremities as well as respiratory distress.

#66: Role of Dentists in Preventing Necrotizing Stomatitis in Transplant recipients

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Background:

Chronic immunosuppression predisposes transplant recipients to infection by a wide spectrum of endogenous or exogenous pathogens pathogens as well as necrotizing periodontal conditions. Likewise, disproportionate periodontal destruction in relation to local factors may signal undiagnosed HIV disease or iatrogenic overimmunosuppression. We report a renal transplant patient who presented with massive soft and hard tissue destruction in anterior mandible, found to be overimmunosuppressed and hospitalized for management.

Case Summary:

A 58 year-old male presented with painful lower anterior teeth which had become progressively loose over the preceding 2 weeks. His PMH was significant for diabetes II, ESRD, HTN, CAD, hyperlipidemia, hypothyroidism, anemia, OSA and multiple surgical procedures including kidney transplantation 6 months previously. He was on multiple medications for aforementioned conditions including tacrolimus and mycophenolate to prevent graft rejection. Extraoral exam was WNL. The patient had poor oral hygiene, heavy deposits and significant halitosis. He had not received dental care for years. Lower anterior segment involving teeth 23-26 was mobile with teeth 24 & 25 in supra-occlusion and lack of osseous support on occlusal radiograph. There was extensive soft tissue necrosis involving anterior FOM, gingiva and labial vestibule. Potential sequelae of over-immunosuppression such as necrotizing stomatitis, opportunistic infection, neutropenic ulceration and malignancy were suspected. Patient was premedicated, loose teeth were removed, necrotic tissue debrided and submitted for microscopic examination. He was prescribed peridex, and amoxicillin and referred to the transplant unit. Follow up blood work revealed profound leukopenic and he was admitted for management. Histopathology showed necrotic/ granulation tissue, inflammation, and extensive gram negative bacterial colonies. Staining for HSV, CMV and fungal species was negative. Tacrolimus level was WNL. Mycophenolate discontinued and patient administered filgrastim to raise neutrophil count. Leukopenia gradually improved and necrotic lesion resolved. Patient subsequently received thorough dental cleaning to eliminate local factors.

Conclusions:

In patients receiving therapeutic immunosuppression, a delicate balance is necessary to ensure efficacy in prevention of graft rejection while minimizing risk of infection. In this respect, dental providers perform an integral function in minimizing risk of complications by eliminating oral foci of infection in preparation for transplantation as well as life-long maintenance of oral health post-transplant.