1. LEIOMYOMATOUS HAMARTOMA: CASE REPORT AND REVIEW OF THE LITERATURE

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. Mozibur Rahman (New York Medical College, Dept of Path, Immun & Micobio), Dr. David Merer (New York Medical College, Dept of Otolaryngology), Dr. Aaron Yancoskie (Touro College of Dental Medicine at New York Medical College; New York Medical College, Dept of Path, Immun & Micobio)

Objective: The oral leiomyomatous hamartoma (OHL) is uncommon with only 32 cases reported. It typically presents early in life as a polypoid nodule on the midline alveolar tissues of the maxilla or midline dorsum of the tongue. Growth potential is limited with few cases reaching dimensions greater than 1.0 cm. The microscopic composition includes an intact surface mucosa with an underlying fibrovascular stroma possessing an unencapsu- lated proliferation of smooth muscle fascicles. Excision is considered definitive treatment. We report a case of OHL in a female of 3-months and review the literature.

Clinical Presentation: A 1-month-old female presented with her mother at the Otolaryngologist's office for evalua- tion of an oral cavity lesion noted at birth (Fig 1). The patient's mother reported no significant change in size of the lesion and that it had not interfered with feeding. Physical examination showed a 1.0 x 0.5 cm cylindrical nodule emanating from the anterior midline maxillary alveolar ridge.

Intervention and Outcome: An excisional biopsy was performed under general anesthesia when the patient was 3 months old and the tissue was submitted to pathology. Grossly, the specimen consisted of a white-pink cylindrical mass of soft tissue measuring 1.2 x 0.4 x 0.4 cm. Histopathologic features included an intact parakeratinized sur- face mucosa with an underlying proliferation of eosinophilic spindle cells containing elongated cigar-shaped nuclei arranged in fascicles and dispersed haphazardly in a fibrovascular stroma (Fig 2A). The eosinophilic spindle cells stained positively for smooth muscle actin (Fig 2B) and desmin (Fig 2C) but were negative for S-100 protein (Fig 2D). These findings confirmed a diagnosis of OHL. The patient was free of disease at a four-month follow-up visit.

Conclusion: The clinical, histopathological and immunohistochemical features of an OLH occurring in a 3-month- old female are presented and the literature is reviewed. Management and follow-up are discussed.

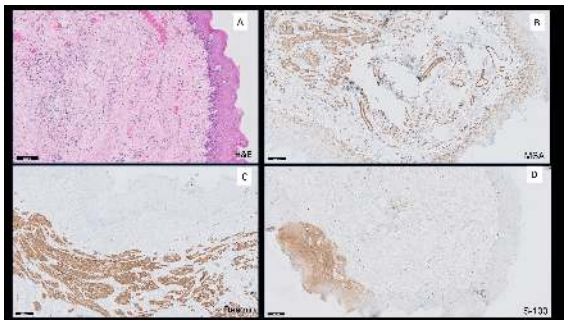


Figure 2.jpg

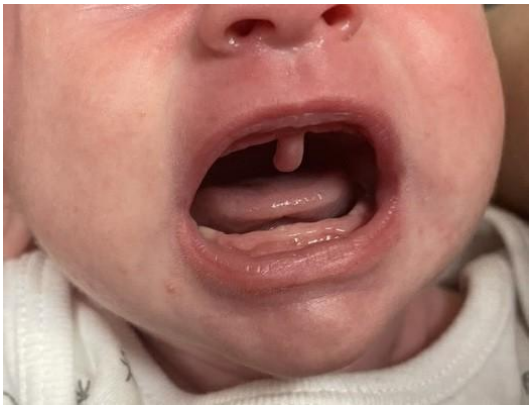


Figure 1.jpg

2. Adenosquamous Carcinoma: A Series of Six New Cases and Review of the Literature

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. Tanya Wright (Tufts University School of Dental Medicine), Dr. Nagamani Narayana (UNMC College of Dentistry)

Background: Adenosquamous carcinoma is a rare and aggressive variant of squamous cell carcinoma. According to WHO, it includes the presence of adenocarcinoma and squamous cell carcinoma. The most common sites of the oral cavity include floor of mouth, tongue, alveolus, palate, and lip with a male prevalence. It may present clinically as an ulcer, exophytic mass, nodular mass, or indurated mass and patients may complain of pain.

Objective: With a limited number of cases reported, two active biopsy services identified only six cases of adenosquamous carcinoma with clinical and histopathological findings. Review of literature will discuss the simi- larities and differences between the published cases with respect to clinical findings and histopathology.

Findings: Our cases occurred in the tongue, palate, lower lip, the age range of 40-81 years, with a mean age of 66.6 years. In contrast to the literature our cases were common in women. Four of the cases were present for one year, one case was present for three years, and one case of unknown duration. Two of the cases presented as an ulcerated lesion. Only one case presented with paresthesia and resorption of bone and history of smoking. Two of the cases from the tongue and palate included a differential of malignancy (verrucous and squamous cell carcinoma). Three cases did not include a differential diagnosis while one case from the lip included a differential of fibroma. The histopathological findings revealed squamous cell carcinoma in the superficial aspect of the specimen and adenocarcinoma deep in the specimen similar to the literature.

Conclusion: Six cases of adenosquamous carcinoma, common in women, and a case appearing as a benign nodule are discussed. As the clinical appearance of these lesions are not unique, problems in diagnosing adenosquamous carcinoma will be highlighted.

3.Intraoral Adamantinoma-like Ewing Sarcoma: A Reexamination of Past Diagnoses and Previously Unreported FLI-1 Positivity in Odontogenic Tumors

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Rachelle Wolk (New York Presbyterian Queens), Dr. Leigh Griffin (New York Presbyterian Queens), Dr. Carter Bruett (New York Presbyterian Queens), Dr. Paul Freedman (New York Presbyterian Queens), Dr. Renee Reich (New York Presbyterian Queens)

Adamantinoma-like Ewing sarcoma (ALES) is a rare variant of Ewing sarcoma (ES) with limited cases reported. ALES is predominately recognized in the head and neck and can be a challenging diagnosis. ALES differs from the typical ES by a nested growth pattern, peripheral palisading and keratinization. It is known to harbor the EWSR1- FLI1 t(11:22) gene fusion and exhibit FLI1, CD99, p40 and p63 expression. Our goal was to reevaluate our small cell malignancies originally diagnosed as atypical ameloblastoma, ameloblastic carcinoma, odontogenic carcinoma and Ewing sarcoma to see if they could be reclassified as ALES. To do so, we searched the files at OPL, NYPQ from 1984-2022. Of the 28 cases we found, four demonstrated histologic features suggestive of ALES. Three blocks were available for further study. There was one maxillary and three mandibular cases. The diagnoses for the cases with available tissue were: odontogenic carcinoma (2) and Ewing sarcoma. All three were stained with FLI1 and CD99. The case previously diagnosed as ES was positive for both while the other two were positive for FLI1 but negative for CD99. To support a diagnosis of AELS, the CD99/FLI1 positive case was stained with p63 and 40. It was focally positive for p40 and negative for p63. Since it failed to strongly express both p63 and p40 a diagnosis of ALES was excluded. FLI1 positivity in the other cases was unusual since it has yet to be reported in any odontogenic tumor. Its significance remains undetermined. While we were unable to reclassify our cases, awareness of ALES is important as the distinction can have treatment and prognostic implications. Therefore, despite their rarity, we emphasize the importance for clinicians to consider ALES in their differential diagnosis when faced with a small round blue cell tumor with palisading and keratinization.

4. CT Features of Maxillary Melanotic Neuroectodermal Tumor of Infancy: Case Report and Systematic Review

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Daria Vasilyeva (Division of Oral and Maxillofacial Pathology, Columbia University Medical Center), Dr. Elizabeth Philipone (Division of Oral & Maxillofacial Pathology, Columbia University Irving Medical Center), Dr. KC Chan (Division of Oral & Maxillofacial Radiology, Columbia University Irving Medical Center)

Objective: The aim of this systematic review is to determine the common CT features of maxillary melanotic neuroectodermal tumors of infancy (MNTI).

Materials and Methods: English-language, full-text, case reports and case series of histopathologically proven, max- illary MNTI with figures of CT images of diagnostic quality were searched in PubMed, Ovid, Scopus, Web of Science, and Google Scholar databases from July to September 2021.Descriptive statistics were used to determine the fre- quency of each CT feature of maxillary MNTI.

Results: Forty-two of 807 studies in the databases met the inclusion criteria to give a total of 43 cases of maxillary MNTI for analysis. In order of frequency, common CT features of maxillary MNTIs are concentric bone expansion in 43 (100%) cases, well-defined periphery in 41 (95.35%) cases, tooth displacement in 37 (86.05%) cases, bilocular radiolucent internal pattern in 26 (60.47%) cases, and cortical hyperostosis in 23 (53.49%) cases.

Conclusions: Bilocular radiolucent internal pattern and cortical hyperostosis have not been established as common CT features of maxillary MNTIs. As over half of the published maxillary MNTIs have these two CT characteristics, when present, either alone or together, they can support a radiologic interpretation of MNTI for a well-defined, expansile mass in the infantile maxilla.

5. AR-positive oncocytic carcinoma of minor salivary glands with widespread locoregional involvement and multiple recurrences.

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Mr. Konstantinos Tzanavaris (School of Dentistry, NKUA, Athens, Greece), Dr. Efstathios Pettas (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Athens, Greece), Dr. Vasileios Ionas Theofilou (Department of Oncology and Diagnostic Sciences, School of Dentistry, University of Maryland, Baltimore, USA), Dr. Maria Georgaki (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Athens, Greece), Dr. Evangelia Piperi (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Athens, Greece), Prof. Andreas C. Lazaris (1st Department of Pathology, School of Medicine, National and Kapodistrian University of Athens, Greece), Prof. Nikolaos G. Nikitakis (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Athens, Greece)

Objectives: Oncocytic carcinoma (OC) of the salivary glands (SG) represents an uncommon malignancy predom- inantly composed of cells with oncocytic features. Its differential diagnosis includes several other SG neoplasms exhibiting oncocytic differentiation. Herein, we describe a case of OC originating from minor SG of the left upper mucobuccal fold, which, over a period of 9 years and despite intensive and repeated multimodality therapy, de- veloped multiple recurrences and widespread locoregional involvement with bilateral lymph node metastasis and eventual spread to the contralateral parotid gland.

Findings: A 64-year old female presented for evaluation of a submucosal nodule in the left upper mucobuccal fold. Incisional biopsy was performed and histopathologic and immunohistochemical examination revealed fea- tures consistent with OC of minor SG. The tumor was surgically removed and the patient remained under close follow-up. In the next 9 years, she sequentially developed ipsilateral lymph node metastasis, multiple local re- currences (involving the left trigeminal nerve), contralateral lymph node metastasis and eventual extension into the right parotid gland. Histopathologic examination of the various biopsy and surgical specimens, including the most recent right parotidectomy, showed consistent microscopic features of OC, composed of malignant oncocytic cells displaying pleomorphism, mitotic activity, neurotropism, and angioinvasion without prominent ductal forma- tion. Immunohistochemical findings were also compatible, including positivity for AR, Her-2/neu, CK7, EMA, and GCDFP-15 and negative staining for p63, DOG-1, and SOX-10. Throughout the years, the patient underwent multiple therapeutic interventions, including surgical resection, radiotherapy, and chemotherapy, while, most recently, she is under anti-androgen therapy , remaining alive with disease 9 years after the original diagnosis.

Conclusions: OC is a rare high-grade SG malignancy characterized by poor clinical outcome necessitating aggressive treatment and long-term follow-up. The case presented here exemplifies the very aggressive locoregional behavior of this tumor, as well as its tendency for resistance to multimodality therapy resulting in multiple recurrences.

6. A Review of Mandibular Osteosarcomas

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. Bryan Trump (University of Utah School of Dentistry), Mr. Austin Steffensen (University of Utah School of Dentistry), Mr. Jeffrey Brown (Huntsman Cancer Institute, Department of Orthopaedics)

Introduction: Osteosarcoma arises from neoplastic mesenchymal cells which deposit osteoid. These tumors are usually found in the distal femur and proximal tibia but are not limited to these regions. This study explores the prevalence, clinical features, and patient survival of osteosarcoma originating in the mandible.

Methods: The NCI Surveillance, Epidemiology, and End-Results database was utilized to identify cases of mandibu- lar osteosarcoma diagnosed between 2004 and 2015. Sex, age, grade, histological subtype, tumor size, tumor ex- tension, presence of metastasis at diagnosis and therapeutic intervention were determined for each patient. This information was processed and evaluated using many statistical models. Osteosarcoma originating from other pri- mary sites were also assessed for comparison.

Results: 5.5% of osteosarcoma cases were mandibular. The median age was 43 years and 58.5% female. The os- teoblastic subtype was the most common (62.2%). The chondroblastic subtype was found in 25.6% and 12.2% was comprised of seven other subtypes. 74.6% of mandibular osteosarcoma were Grade 3 or 4 in the SEER database. Median tumor size was 4.5 cm. 2.6% of patients presented with metastatic disease. 89.6% received surgical interven- tion, 54.9% received chemotherapy, and 24.4% received radiation therapy. The 2, 5, and 10, year survival rates were 79.9%, 65.6% and 58.5% respectively. Increased age, increased tumor size, and metastasis decreased survivability. **Conclusion**: This study confirms the median age of mandibular osteosarcoma is 43 years compared to extremity tumors that are most common in the 2nd decade of life. Unique to this study is the finding that chondroblastic osteosarcoma are correlated with increased survival time. Rates of metastasis were lower in this cohort than os- teosarcoma found in the extremities while mortality rates were similar. Surgical resection with wide margins and radio therapy had better survival rates. These findings demonstrate that mandibular osteosarcoma demonstrates unique biological behavior when compared to osteosarcoma at other sites.

7. Heparin-induced Hemorrhagic Oral Bullae in a Patient on Dialysis

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Khanh Trinh (Division of Oral and Maxillofacial Pathology, Columbia University Medical Center), Dr. Daria Vasilyeva (Division of Oral and Maxillofacial Pathology, Columbia University Medical Center), Dr. Elizabeth Philipone (Division of Oral & Maxillofacial Pathology, Columbia University Irving Medical Center)

40-year old male with end-stage renal disease, who is currently receiving dialysis treatment triweekly, presented to the Oral Surgery department with chief complaint of recently developed blood-filled lesions on buccal mucosa, labial mucosa and lateral tongue. Further investigation revealed that Heparin was administered during the dialysis sessions. Upon discussion with the dialysis team, Heparin was discontinued and the lesions almost completely re- solved after one week. This uncommon adverse side effect from Heparin is called bullous hemorrhagic dermatosis (or Heparin-induced bullous hemorrhagic dermatosis/HBHD). It often presents in the extremities and is character- ized by acute onset of tense, hemorrhagic bullae. Though concerning, HBHD has a relatively short course and often resolves spontaneously regardless of whether Heparin is maintained, discontinued or changed.

8. Glomangioma of the lower lip: report of a rare case with a review of literature

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. Devaki Sundararajan (Divison of Oral and Maxillofacial Pathology, Boston University Goldman School of Dental Medicine), Dr. Vikki Noonan (Divison of Oral and Maxillofacial Pathology, Boston University Goldman School of Dental Medicine)

Glomus tumors are benign tumors of glomus bodies which are thermoregulatory organs in the dermis predomi- nately seen in subcutaneous tissues of the extremities. A glomus body consists of arteriovenous anastomosis, glo- mus cells and smooth muscles enclosed by a connective tissue capsule. Glomus tumors may develop from pericytes or from smooth muscle progenitor cells. Glomus tumors are often painful and are usually seen in the subungual areas but may also occur in deep dermis of hands, wrists and feet. Glomus tumors can rarely occur at other sites such as oral cavity, nasal cavity, stomach and bone. Glomus tumors can present in two different forms; a sporadic form typically presents as a solitary lesion and the familial form tends to occur as multifocal lesions in children. Glomus tumors are classified into three main categories based on the amount of glomus cells, vascular structures and smooth muscle cells as solid glomus tumor, glomangioma and glomangiomyoma. Glomus tumors of the lip are extremely rare with less than 15 cases reported in the literature. Glomangioma which is a variant of glomus tumor has specific histopathologic features and is composed of large dilated venous structures surrounded by a rim of glomus cells. We report a case of glomangioma that presented as a movable nodule on the lower lip in a 27 year old male. The clinical presentation, the histopathologic features, immunohistochemical studies, treatment, and prognosis for this rare lesion will be discussed along with a review of the literature.

9. Oral Mucosal Melanoma: Diagnostic and Management Challenges: The Importance of Biopsy Site Selection, Immunohistochemistry, Mutational Analysis, and Potential Benefits of Novel Treatments

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Sara Sternbach (Department of Dental Medicine, Division of Oral and Maxillofacial Pathology, Zucker School of Medicine at Hofstra Northwell Health), Dr. Stephen Roth (Department of Dental Medicine, Division of Oral and Maxillofacial Pathology, Zucker School of Medicine at Hofstra Northwell Health), Dr. Silvija Gottesman (Department of Dermatology, Division of Dermatopathology, Department of Pathology and Laboratory Medicine, Zucker School of Medicine at Hofstra Northwell Health), Dr. David Hirsch (Department of Dental Medicine, Division of Oral and Maxillofacial Surgery, Zucker School of Medicine at Hofstra Northwell Health), Dr. Robert Kelsch (Department of Dental Medicine, Division of Oral and Maxillofacial Pathology, Zucker School of Medicine at Hofstra Northwell Health)

Introduction: Mucosal melanoma (MM) is a rare and aggressive variant of melanoma. MM represents less than 5% of all melanomas and is most common in the head and neck. Unlike cutaneous melanoma, there is no association with exposure to UV sunlight. In the head and neck, approximately 70% of MM arise from the sinonasal tract and 20% from the oral cavity. Other locations include non-retinal ocular, pharyngeal, and laryngeal sites. The most common oral sites are the hard palate and gingiva. The diagnosis is based on histopathologic features, with appro- priate immunohistochemical support. Multifocal biopsies may be required to establish a diagnosis. Conventional treatment modalities have been disappointing.

Case Findings: We report the clinicopathologic features of 4 oral cavity pigmented lesions suspicious for melanoma. Pathology findings ranged from 1) a palatal/gingival melanotic lesion not diagnostic for melanoma requiring further biopsy, 2) a non-diagnostic palatal/gingival melanotic lesion with diagnosis confirmed on cervical lymph node fine needle aspiration, and 3, 4) conventional invasive palatal melanomas. We evaluate the initial clinical presentation, biopsy site selection, histopathologic and immunohistochemical markers, treatment considerations and modalities. **Results:** All of the pigmented lesions were found on the hard palate/maxillary gingiva. One patient presented with cervical lymph node metastasis at diagnosis. Three of the cases required immunohistochemical markers, such as HMB-45, Melan-A, and SOX-10, to support the diagnosis. Mutational analysis on three cases revealed *NF1*, *BRAF*, and *GNA11* mutations, respectively. Two cases emphasized the importance of biopsy site selection, with initial biopsies being non-diagnostic.

Conclusion: Four clinical cases with similar clinical presentations revealed very different biopsy results. Biopsy site selection plays a crucial role. The correlation between clinical and histopathologic features is important, es- pecially when a diagnosis proves difficult to establish. Novel therapeutic approaches such as topical imiquimod in combination with immunotherapy are changing the treatment paradigm.

10. Superficial mucocele : a case report and review of the literature

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Soo-Yeon Sohn (Icahn School of Medicine at Mount Sinai), Dr. Alex Greenberg (Icahn School of Medicine at Mount Sinai), Dr. Naomi Ramer (Icahn School of Medicine at Mount Sinai)

Introduction: Superficial mucocele is a rare variant of the common mucocele. Some clinicians may interchange these two terms, but pathologically, they are two different entities. Mucocele is commonly known to be caused by trauma. It affects younger patients, with predilection for the lower lip and oral mucosa with minor salivary glands. On the other hand, while some cases reported the incidence of superficial mucocele with oral lichen planus or in patients with head and neck radiation, the etiology of superficial mucocele is yet to be clear. Superficial mucocele is more common in patients older than 30 years of age and it has a predilection for the hard and soft palate.

Material and methods: A case of a 76-year-old female with two superficial mucoceles on the hard palate is pre- sented. In addition, a search of the Mount Sinai Hospital database during the years 1995-2021 and a search of the English-language literature retrieved additional cases of superficial mucocele.

Results: Over 100 cases were found in the Mount Sinai Hospital database. Approximately 200 additional cases were found in the MEDLINE/PubMed literature search. Disease characteristics including epidemiological factors, site predilections, and histology are reviewed and data recorded

Conclusion: Superficial mucocele is a variant of mucocele with different etiology and site predilections. The his- tological features are also distinctive. Therefore, superficial mucocele should be considered a separate entity from conventional mucocele.

11. Rare gastrointestinal heterotopias of the oral cavity – A report of two cases and literature review

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Madhu Shrestha (Department of Diagnostic Sciences, Texas A&M University), Dr. Yi-Shing Lisa Cheng (Department of Diagnostic Sciences Texas A&M University), Dr. Paras Patel (Department of Diagnostic Sciences Texas A&M School of Dentistry, Dallas, TX), Dr. Phillip Newton (Private Practice - Oral Surgery Associates of North Texas, Dallas, TX), Dr. Yoon Hyeok Choi (Board certified Pediatric Dentist, Frisco, Texas), Dr. Victoria Woo (Department of Diagnostic Sciences Texas A&M School of Dentistry, Dallas, TX.)

Heterotopic gastrointestinal mucosa (HGIM) is a developmental anomaly considered to represent a choristoma. It typically presents at an early age and is rarely discovered in adults. Heterotopic gastrointestinal epithelium is more frequently described in other parts of the GI tract such as the gallbladder and common bile duct and has rarely been reported in the oral cavity. Herein, we report two cases of HGIM found in the oral cavity. The first patient was a 49-year-old male who presented with a red patch involving the floor of the mouth midline. The second patient was an 8-year-old male who presented with a soft tissue lesion on the dorsum of the tongue. Histologic examination of the biopsies showed oral mucosa surfaced by stratified squamous epithelium that transitioned to columnar epithelium resembling gastrointestinal lining. A diagnosis of heterotopic gastrointestinal mucosa was rendered in both cases. HGIM most commonly affects the anterior dorsal tongue and, due to their rarity, are often mistaken for other conditions on clinical examination. Various theories pertaining to etiopathogenesis have been proposed, including entrapment of gastric rests of embryonic tissue and misplaced or entrapped undifferentiated endodermal stem cells, which subsequently undergo gastrointestinal differentiation. These two cases highlight the variable presentation of HGIM in the oral cavity and serve to increase clinical awareness, including the importance of biopsy to achieve histopathologic confirmation.

12. A Series of 62 Subgemmal Neurogenous Plaques

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Alivia Shasteen (University of Pittsburgh), Dr. Elizabeth Ann Bilodeau (University of Pittsburgh)

OBJECTIVE: We herein present a case series of subgemmal neurogenous plaques (SGNP), a subepithelial nerve plexus associated with taste buds often seen on the posterolateral border of the tongue. We sought to assess the clinicopathologic features of SGNP.

METHODS: Cases from the University of Pittsburgh Oral Pathology Biopsy Service archives (1999-2022) diagnosed as subgemmal neurogenous plaque, lymphoepithelial cyst (LEC), lingual tonsil, and lymphoid aggregate (of the tongue) were retrieved. Cases were reviewed, classified, and evaluated for the presence of a SGNP. The clinical, demographic, gross, and histologic data were reviewed.

RESULTS: 62 cases with a SGNP were identified. The mean age was 57.5 years (range: 17-87). A 3:1 female sex predilection was noted. All cases were located on the tongue, with 75.8% (47/62) designated as the lateral border. In 27.4% (17/62) the primary diagnosis was SGNP, and in 72.6% (45/62), SGNP was a secondary finding, with the primary diagnosis being a hyperplastic lingual tonsil (18/62, 29.0%), a lymphoepithelial cyst (14/62, 22.6%), or a lingual tonsil (9/62, 14.5%). Pain data was available for 11/17 primary SGNPs, with 45.5% (5/11) reported as symptomatic, whereas only 18.5% (5/27) of the patients with biopsied lingual tonsils reported symptoms. Ganglion cells were seen in 54.8% of SGNPs (34/62). Of the cases with SGNP as a secondary finding, 70.4% (19/27) of lingual tonsils and 42.9% (6/14) of LECs exhibited ganglion cells. Clinical impressions included lingual tonsil (21/62, 33.9%), fibroma (14/62, 22.6%), and inflamed taste bud/papillae (11/62, 17.7%).

CONCLUSION: SGNP may be symptomatic, and the only finding encountered on a posterolateral tongue biopsy. However, more commonly, SGNP is associated with another pathology and is a secondary, incidental finding. Of the cases reviewed in this study, no case had a pre-biopsy clinical diagnosis of SGNP. Thus, clinicians should be made aware of this entity.

13. "Hematologic Malignancy Presenting as Submandibular Duct Sialolithiasis"

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. Sonal Shah (Department of Clinical Sciences, University of Nevada Las Vegas School of Dental Medicine), Dr. Jo-Lawrence Bigcas, MD (Department of Otolaryngology, University of Nevada Las Vegas School of Medicine)

Background: As is well-known, the vast majority of oral malignancies are primary squamous cell carcinomas. Lymphomas, sarcomas and metastases to the oral cavity are very rare. We present an interesting case of a patient with a second lymphoma that presented as a submandibular duct-occupying elongated yellowish mass on the floor of the mouth, initially clinically suggestive of a massive sialolith.

Case Summary: A 65-year-old male presented with a medical history of hypertension, lymphoma treated in 2018, and recently treated prostate cancer. Extra-orally, he exhibited bilateral cervical lymphadenopathy, concerning for recurrent lymphoma. Repeat FNA was recommended, but intra-oral clinical exam revealed a sizable, yellowish left floor of mouth mass that appeared to be originating from the submandibular duct. This clinical presentation was concerning for massive sialolithiasis versus salivary gland manifestation of malignancy. In addition to multiple enlarged and atypical cervical lymph nodes, CT imaging revealed a non-radiopaque mass of the left sublingual space, less classic for typical salivary calculi. Incisional biopsy of the intra-oral mass was performed and showed a proliferation of small-to-medium sized lymphocytic cells with clumped chromatin. IHC stains for Bcl-1 (cyclin D1) were strongly positive and flow cytometry studies were positive for CD5, which confirmed a final diagnosis of mantle cell lymphoma. The patient started chemotherapy with daily Ibrutinib capsules, a drug targeted for mantle cell lymphoma treatment.

Conclusion: Although metastases to the oral cavity are rare, they should always be kept in mind when a patient presents with a history of malignancy. The clinician should be aware that these oral metastases may clinically resemble other more common and innocuous lesions. Timely biopsy and proper diagnosis with utilization of ad- vanced studies such as IHC and flow cytometry are crucial to provide the patient with targeted therapy for optimal survival.

14. Oral lichenoid reactions associated with pembrolizumab immunotherapy. A series of 4 cases.

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Ms. Vasiliki Savva (School of Dentistry, NKUA, Athens, Greece), Ms. Marina-Konstantina Kanelli (School of Dentistry, NKUA, Athens, Greece), Dr. Efstathios Pettas (Department of Oral Medicine and Pathology and Hospital Dentistry, School of Dentistry, NKUA ,Greece), Dr. Maria Georgaki (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Athens, Greece), Dr. Erofili Papadopoulou (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Greece), Dr. Evangelia Piperi (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Athens, Greece), Dr. Emmanouil Vardas (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Athens, Greece), Prof. Nikolaos G. Nikitakis (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Athens, Greece)

Introduction: Immune-checkpoint inhibitors have significantly contributed to theimprovement of the survival rate of patients suffering from various advanced malignancies.Well-known immune-related adverse events (irAEs) may involve any anatomic region,including the oral cavity.

Materials and Methods: Four cases of biopsy-proven oral lichenoid reactions (OLRs) in patients undergoing pembrolizumab therapy were retrospectively retrieved and their demographic as well as clinicopathologic characteris- tics were assessed.

Results: All patients were female with a mean age of 70 years, three of them diagnosed with lung adenocarcinoma and one with renal cell carcinoma. Three patients developed symptoms few months after the commencement of immunotherapy, while one patient reported exacerbation of possibly preexisting lesions following pembrolizumab administration. Atrophy and/or ulcerations in combination with white reticulations were clinically detected, with- out any specific site predilection. Histopathologic findings were consistent with “lichenoid mucositis”, further cor- roborated with direct immunofluorescence in two cases.Clinicopathologic correlation strongly favored a diagnosis of lichenoid drug reaction, specifically irAE; any other factors that could be correlated with the development of OLRs were excluded. Significant remission of lesions was induced by topical and/or systemic corticosteroids in all cases. Following oncologist consultation, all patients continued pembrolizumab treatment due to the advanced cancer stage and were advised to remain under close follow-up with appropriate OLR management, when needed. Intriguingly, in one patient, an oral white plaque with microscopic evidence of epithelial dysplasia developed a month after the diagnosis of OLR.

Conclusions:Literature supports that pembrolizumab could either cause or exacerbate pre-existing autoinflamma- tory conditions. The management of oral irAEs improves quality of life, therefore oral examination of such patients and proper therapeutic intervention, in collaboration with attending oncologists, are to be encouraged. The potential role of immunotherapy in the development of leukoplakic lesions remains to be elucidated.

15. Level of PECAM1 expression and clinical factors in patients with oral lichen planus

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Sumita Sam (University of Florida), Dr. Indraneel Bhattacharyya (University of Florida), Dr. Nadim M Islam (University of Florida), Dr. Donald Cohen (University of Florida), Dr. Sarah Fitzpatrick (University of Florida)

Introduction: PECAM1 is a signaling molecule that is important for the transmigration of inflammatory mediators through endothelial cells. Previous studies have found PECAM1 to be overexpressed in oral lichen planus (OLP) compared to normal mucosa. Some studies document increased expression in erosive OLP versus reticular OLP, suggesting that this molecule might be a possible therapeutic target. We aim to relate expression of PECAM1 in OLP to clinical disease factors.

Materials and Methods: Following IRB approval, a retrospective review (2011-2021) of biopsied clinical OLP cases within our institution was completed. Immunohistochemical staining for PECAM1 was performed. PECAM1 ex- pression was measured semi-quantitatively for both endothelial cells and the inflammatory infiltrate. The clinical parameters were compared to levels of PECAM1 expression via student t-test and Fisher's exact test.

Results: A total of 28 cases were included. All OLP cases showed endothelial expression for PECAM1 with 75% of cases showing moderate to intense staining. 71% of OLP cases demonstrated inflammatory infiltrate PECAM1 ex- pression, with 25% demonstrating moderate to intense staining. No significant association could be demonstrated between either endothelial or infiltrate PECAM1 expression and age, sex, disease duration, direct immunofluores- cence testing results, isolated versus diffuse oral presentation, reticular versus erosive type, treatment status, or outcome. Patients reporting non-OLP lesions were significantly less likely to show endothelial PECAM1 expression ($p=0.038$, Fisher's exact test), but did not differ for infiltrate PECAM1 expression.

Conclusion: Results of this study do not support the findings of differences between PECAM1 expression in reticular versus erosive OLP. PECAM1 is widely expressed in both endothelial and inflammatory infiltrate in either type of OLP, and its questionable that PECAM1 represents an effective therapeutic target for management of this condition.

16. Pigmented mucoepidermoid carcinoma: a case report and review of the literature

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Spencer Roark (New York Presbyterian Queens), Dr. Carter Bruett (New York Presbyterian Queens), Dr. Renee Reich (New York Presbyterian Queens), Dr. Paul Freedman (New York Presbyterian Queens)

Introduction: Mucoepidermoid carcinoma (MEC) is the most common malignant salivary gland tumor. Histolog- ically, it is composed of mucous, epithelial, and intermediate cells. Several variants of MEC have been described including clear cell, oncocytic, and sclerosing. However, our literature search yielded only five reports of MEC with melanin pigmentation. Thus, this case illustrates the rare finding of melanin in a palatal MEC.

Case Report: A 63-year-old female presented to her oral surgeon with an asymptomatic, flat pigmented lesion of the left hard palate. Because of the brown color of the lesion and its presentation in a high-risk site for melanocytic lesions, the clinician was concerned about the possibility of melanoma. Histopathologic examination revealed an infiltrating salivary gland tumor composed of cystic islands containing an admixture of epidermoid, mucous, and columnar cells. Intracytoplasmic pigment was noted within the epidermoid cells in the tumor islands and ductal structures and was most predominant in the superficial portion of the tumor. Immunohistochemical staining with HMB45 confirmed the presence of melanocytes colonizing the epidermoid cells of the MEC and an increased number of melanocytes in the overlying mucosa. Melanocyte numbers decreased in the tumor cells as the lesion infiltrated more deeply. A diagnosis of low-grade mucoepidermoid carcinoma with melanin pigmentation was made.

Conclusion: Colonization of melanocytes has been reported in many tumors including breast carcinomas and oral squamous cell carcinomas. The pigmented variant of MEC is extremely rare. MEC with melanocytic colonization presents a diagnostic challenge to clinicians; these lesions can mimic benign and malignant pigmented lesions in- cluding melanotic macule and melanoma. Clinicians should consider salivary gland lesions in their differential diagnosis of pigmented lesions. Pathologists should be aware that the presence of melanin in a glandular neoplasm does not preclude the diagnosis of MEC.

17. Comparison of virucidal activity of four different oral rinse solutions against acyclovir resistant HSV-1 strains

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. Maria Georgaki (Department of Oral Medicine), Dr. Sara Dovrat (Central Virology Laboratory, Public Health Services, Ministry of Health, Sheba Medical Center, Tel Hashomer, Israel), Dr. Mor Bal Ilan (Resident, Oral Medicine Unit, Sheba Medical Center, Tel Hashomer, Israel), Dr. Evangelia Piperi (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Athens, Greece), Prof. Nikolaos G. Nikitakis (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Athens, Greece), Dr. Noam Yarom (Head, Oral Medicine Unit, Sheba Medical Center, Tel Hashomer, Israel, and School of Dental Medicine, Tel Aviv University, Tel Aviv, Israel.)

Objectives: Herpes Simplex Virus (HSV) is the best-known member of the HHV family, including HSV type 1 (HSV-1) and HSV type 2 (HSV-2). Symptoms are usually mild and self-limiting. However, in immunocompromised patients, HSV infections might be severe. The development of drug resistance due to long term treatment and prophylaxis with antiviral agents, especially in immunocompromised patients, is not uncommon and highlights the need for alternative methods to prevent virus reactivation and reduce symptoms. The aim of this study was to compare the efficiency of four different oral rinses against acyclovir-resistant HSV strains.

Findings: Two acyclovir-resistant HSV -1 strains were diluted 1:10 in the following solutions: Essential oils-based mouthwashes (Listerine® Zero® and Listerine® Fresh Burst®), chlorhexidine gluconate 0.2% (Hexidyl®) and povidone-iodine 7.5% (Betadine Gargle®). Phosphate buffered saline (PBS) served as a control solution. Loss of virus infectivity was determined using plaque reduction assays. All four tested solutions significantly reduced virus infectivity with essential oils-based mouthwashes and povidone-iodine being slightly more efficient, compared to chlorhexidine.

Conclusions: The tested oral rinses demonstrated in-vitro effectiveness against acyclovir-resistant HSV. Compar- ative clinical studies are mandatory in order to establish the clinical effectiveness of daily oral rinses in reducing HSV reactivation in immunocompromised patients.

18. Oral Kaposi sarcoma affecting a non-HIV patient under immunosuppressive therapy for IgG4-related disease

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Efstathios Pettas (Department of Oral Medicine and Pathology and Hospital Dentistry, School of Dentistry, National and Kapodistrian University of Athens, Greece), Dr. Styliani Tziveleka (Department of Oral Medicine and Pathology and Hospital Dentistry, School of Dentistry, National and Kapodistrian University of Athens, Greece), Dr. Maria Georgaki (Department of Oral Medicine and Pathology and Hospital Dentistry, School of Dentistry, National and Kapodistrian University of Athens, Greece), Dr. Panagiotis Panagopoulos (Department of Pathophysiology, School of Medicine, National and Kapodistrian University of Athens, Greece), Dr. Erofili Papadopoulou (Department of Oral Medicine and Pathology and Hospital Dentistry, School of Dentistry, National and Kapodistrian University of Athens, Greece), Dr. Emmanouil Vardas (Department of Oral Medicine and Pathology and Hospital Dentistry, School of Dentistry, National and Kapodistrian University of Athens, Greece), Dr. Evangelia Piperi (Department of Oral Medicine and Pathology and Hospital Dentistry, School of Dentistry, National and Kapodistrian University of Athens, Greece), Prof. Athanasios G. Tzioufas (Department of Pathophysiology, School of Medicine, National and Kapodistrian University of Athens, Greece), Prof. Nikolaos G. Nikitakis (Department of Oral Medicine and Pathology and Hospital Dentistry, School of Dentistry, National and Kapodistrian University of Athens, Greece)

Objectives: Kaposi sarcoma (KS) represents an uncommon angioproliferative neoplasm with distinct clinicopatho- logic features caused by HHV-8 infection, most frequently seen in HIV patients. Iatrogenic subtype usually affects HIV seronegative individuals and rarely manifests with oral lesions. Herein, we describe a rare case of oral KS affecting a non-HIV patient under immunosuppressive therapy for IgG4-related disease.

Findings: A 70 year-old female presented for evaluation of a hemorrhagic palatal lesion of one month duration. The patient had been diagnosed with systemic IgG4-related disease a year before and was under rituximab treatment combined with methylprednisolone. Previous medications included leflunomide, azathioprine, and cyclosporine. Current complete blood count showed neutrophilia and lymphopenia. Clinically, a well-circumscribed purplish mass with central necrotic ulceration located on the anterior palate was detected. Radiographic examination re- vealed no bone involvement and with a clinical impression of vascular tumor or lymphoma, incisional biopsy was decided. On microscopy, pleomorphic spindle cells with slightly increased mitotic activity were organized in fas- cicles occasionally forming nodules. Slit- and sieve-like vascular spaces, as well as ectatic blood vessels and ery- throcyte extravasation, were also noticed. Immunohistochemical analysis exhibited positivity for HHV-8, D2-40, CD31, CD34, and factor-VIII, Ki-67 was expressed by 60% of the tumor cells, while PAS highlighted the presence of intra- and extracytoplasmic hyaline bodies. Final diagnosis of KS (nodular stage) was rendered and the patient underwent a negative serology (ELISA) testing for anti-HIV antibodies. Surgical excision of the residual lesion in clinically normal margins was performed and the patient was referred to her rheumatologist for modification of the immunosuppressive medication.

Conclusions: Iatrogenic KS is directly related to immunosuppressive therapy used for several pathoses or following solid organ transplantation. The disease follows a varying clinical course, while cessation of the immunosuppres- sive regimen may be the only intervention required.

19. Erdheim-Chester disease of the jaws: a case report

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Joud Y. Omari (Department of Oral Medicine, Infection and Immunity, Harvard School of Dental Medicine, Boston, MA), Dr. Sook-Bin Woo (Department of Oral Medicine, Infection and Immunity, Harvard School of Dental Medicine, Boston, MA. Division of Oral Medicine and Dentistry, Brigham and Women's Hospital, Boston, MA. StrataDx, Lexington, MA.)

Erdheim-Chester disease (ECD) is a rare non-Langerhans histiocytic disease that is characterized by xanthogranulomatous infiltration of multiple organ systems by histiocytes that are negative for langerin (CD207) and CD1a. *BRAF V600E* mutation is present in 54% of the cases. The disease most commonly affects males in their 5^{th} and 7^{th} decades and the bone is involved in 96% of cases although there have been only 11 reported cases of ECD involving the jaws. Here, we describe a 57-year-old male who presented in 2012 with bone pain in his left tibia. Radiographic examina- tion at that time showed a lytic lesion in the distal left tibia and biopsy revealed findings consistent with ECD. In May 2020, radiographic examination of the mandible and maxilla for dental extractions and implant placement inciden- tally showed multiple areas of extensive bone loss admixed with areas of sclerosis in the posterior mandible and maxilla. Biopsy of the mixed lytic-sclerotic lesions showed infiltration by epithelioid histiocytes with Touton-type multinucleated giant cells. Immunohistochemical staining results were positive for BRAF and CD163 and negative for CD1a, consistent with the patient's known history of ECD. The patient started vemurafenib treatment in July 2020 for progressive disease. Of the 11 previously reported cases involving the jaws, the mean age at diagnosis was 36 years and there was male predominance; 2.5:1. Reports describe multiple, often bilateral, mixed lytic-sclerotic lesions. The mandible alone was involved in 45% of the cases, 54% of the cases involved both the mandible and maxilla and in one case the lesions were confined to the maxilla. Management ranged from symptomatic treatment to the use of BRAF inhibitors such as vemurafenib and dabrafenib.

20. Perineuroma of the Oral Cavity: Report of Two Cases and Review of Literature.

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Adetokunbo Olawuyi (1Department of Oral Medicine, Infection and Immunity, Harvard School of Dental Medicine, Boston, MA), Dr. Sook-Bin Woo (Department of Oral Medicine, Infection and Immunity, Harvard School of Dental Medicine, Boston, MA Division of Oral Medicine and Dentistry, Brigham and Women's Hospital, Boston, MA, StrataDx, Lexington, MA)

Adetokunbo Olawuyi[1], Sook-Bin Woo[1,2]

Abstract

Perinueromas are benign, painless, slow-growing soft tissue lesions that arise from the perineurium and show immunoreactivity for EMA, claudin-1, GLUT-1, type IV collagen but are S-100 protein negative. There have been 28 cases of perineurioma reported in the oral cavity and this is a report of two new cases. The two cases occurred in a 36 and 58-year-old female that occurred in the anterior vestibule of the mandible and right lingual mandibular mucosa respectively. The tumor consisted of a benign spindle cell proliferation that was discrete and thinly encapsulated. The spindle tumor cells were interspersed with thick bands of hyalinized and dense fibrocollagenous tissue, within which were scattered capillaries. The spindle cells had indistinct borders, a small amount of pale cytoplasm and spindled to ovoid nuclei with dispersed chromatin and inconspicuous nucleoli. EMA was positive in both cases while S100, GFAP and CD34 were negative. In the 28 reported cases, fifteen patients were females (M:F 1.1:1), with a mean age of 37 years (range 15-70 years). The most common site was the mandible 7 (25%), buccal mucosa 6 (21%) and tongue 6 (21%). All tumors were EMA positive and S100 protein negative and no cases recurred. Perineuromas are benign neural tumors that are uncommon in the oral cavity which do not tend to recur.

[1] Department of Oral Medicine Infection and Immunity, Harvard School of Dental Medicine, Boston, MA, USA

[2] Center for Oral Pathology, StrataDx, Lexington, MA, USA

21. Ki-67 expression patterns may be an adjunct test to differentiate benign HPV-related lesions of the oral cavity

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Rachel Novack (University of British Columbia), Dr. Rajan Saini (University of British Columbia), Dr. Catherine Poh (University of British Columbia), Dr. Yen Chen Kevin Ko (University of British Columbia)

Introduction: There are over 200 known subtypes of human papillomavirus (HPV). Low-risk HPVs can cause several benign lesions of the oral cavity with similar clinical and histologic features. These reactive HPV lesions often present with characteristic viral cytopathologic changes in epithelial cells, called koilocytes. Ki-67 is a commonly used marker for proliferating cells and is known to increase in HPV-induced lesions. This study investigates whether Ki-67 staining can help differentiate condyloma acuminatum, which is often a sexually transmitted disease, and multifocal epithelial hyperplasia (Heck's disease) from other benign HPV-related lesions.

Materials and Methods: A total of 59 lesions from 51 patients of previously diagnosed lesions, including condyloma acuminatum (14 lesions), Heck's disease (11 lesions), squamous papilloma (28 lesions), and fibroepithelial polyp (6 lesions) were identified from the BC Oral Biopsy Service. H&E diagnosis was confirmed by two board certified Oral and Maxillofacial pathologists. All slides were stained with Ki-67 and evaluated for the distribution of strong positive nuclear staining in the epithelium.

Results: All squamous papillomas showed contiguous nuclear positivity along basal and parabasal layers of the epithelium. All lesions of Heck's disease and 13 out of 14 lesions of condyloma acuminatum showed positive nuclear staining in the basal and parabasal epithelial layers, as well as in the spinous cell layers. Six cases of fibroepithelial polyp showed nuclear staining of Ki-67 in the basal cell layer.

Conclusion: Our results demonstrate that Ki-67 staining pattern can be used as a reference marker for challenging cases of both condyloma acuminatum and Heck's disease when the histology is ambiguous. We are examining several recurrent squamous papilloma lesions to see if Ki-67 can help to predict recurrence.

22. BRAF V600E as an adjunct tool in aggressive odontogenic cystic lesions without typical histological characteristics - a case series

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Rachel Novack (University of British Columbia), Dr. Felipe Sperandio (University of British Columbia), Dr. Catherine Poh (University of British Columbia), Dr. Yen Chen Kevin Ko (University of British Columbia)

Ameloblastoma is a locally aggressive neoplasm of odontogenic epithelial origin. Despite their aggressive nature, these lesions are often discovered during routine dental radiographs as multilocular or unilocular radiolucencies. BRAF-V600E mutation is frequently found in ameloblastoma. Here, we report 3 unusual cases showing innocuous cystic lining epithelium, either at an earlier biopsy or as part of the biopsy samples, that demonstrated diffuse positive BRAF V600E expression by immunohistochemistry.

The first two cases presented radiographically as multilocular mandibular odontogenic cystic lesions in a 15-year- old female and 38-year-old male. Histological analysis revealed classic ameloblastoma components, as well as cys- tic changes with epithelium lining showing a thin parakeratotic superficial squamoid epithelium cell layer, slightly loose spinous cell layer, presence of basal cell layer with no obvious reverse polarity, and rare epithelial focal thick- ening. In both cases, BRAF V600E is diffusely positive in tumor and cystic areas. The third case is of a 48-year-old male with a history of dentigerous cyst in the left mandible 19 years ago, and a recurrence 3 years ago. Histologi- cally, the recurrence showed a cystic lesion with proliferative non-keratinized epithelium and loose intermediate cell layers, with no basal palisading or large squamoid cells at the most superficial cell layer. The case was signed out as an inflamed cyst. The current lesion showed ameloblastoma with abundant keratin formation. BRAFV600E staining was positive on both recurrent cases. Retrospectively, the first recurrent lesion may mimic a plexiform cystic ameloblastoma with intraluminal proliferation.

We conclude that BRAFV600E staining may be an adjunct stain in differentiating some challenging cases of cystic ameloblastoma from other odontogenic cystic lesions where classic histological features are absent, but radiology demonstrates a more aggressive pathology.

23. Juvenile nasopharyngeal angiofibroma. Report of a case with immunohistochemical and ultrastructural analysis of stromal cells.

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. Maria Georgaki (Department of Oral Medicine), Dr. Jeffrey S Wolf (Otorhinolaryngology, Head & Neck Surgery, School of Medicine, University of Maryland, Baltimore, USA), Dr. Cinthia B Drachenberg (Department of Pathology, School of Medicine, University of Maryland, Baltimore, USA), Prof. Nikolaos G. Nikitakis (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Athens, Greece), Dr. John Papadimitriou (University of Maryland Baltimore)

Objectives: Juvenile nasopharyngeal angiofibroma (JNA) is a rare, benign, but locally aggressive, neoplasm with a significant recurrence rate (ranging from 0-55%). JNA is occurring in adolescent and young males with a mean age of 14 years at diagnosis. The aim of this study is to present a recurrent case of JNA on the base of the skull exhibiting interesting microscopic features and to evaluate the immunohistochemical and ultrastructural phenotype of JNA stromal cells.

Findings: A 19-year-old male presented with a recurrent skull base tumor, resected twice within a 3 years pe- riod with a histopathologic diagnosis of JNA. Immunohistochemical analysis of the two surgical specimens revealed beta-catenin strong nuclear positivity in the stromal cells, and relatively strong plasma membrane and cytoplasmic positivity in the endothelial cells, the latter exhibiting prominent cuboidal, columnar, or polygonal shapes. In addi- tion, strong c-kit/CD117 positivity in numerous interspersed mast cells and strong androgen receptor (AR) nuclear expression (in a speckled manner) in the stromal tumor cells were noticed. Electron microscopic characteristics included prominent endothelial intercellular junctions and giant perichromatin nuclear granules (measuring >300 nm in the first resection, and up to 220 nm in the second resection) in the stromal tumor cells.

Conclusions: Considering that AR activity is affected by nuclear matrix localization, the observed immunohisto- chemical and ultrastructural findings of prominent AR positivity and giant perichromatin nuclear granules, respec- tively, in stromal cells of JNA, may reflect a connection of potential pathogenetic significance. These findings may help shed light to the morphogenesis of this particular ultrastructural finding of the giant perichromatin granules, as well as the role of androgen receptors in tumorigenesis in general.

24. Sclerosing Microcystic Adenocarcinoma: A Case Report and Review of the Literature

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Kedkanya Mesil (Department of Oral Medicine Infection and Immunity, Harvard School of Dental Medicine, Boston, MA), Dr. Sook-Bin Woo (Department of Oral Medicine, Infection and Immunity, Harvard School of Dental Medicine, Boston, MA, Division of Oral Medicine and Dentistry, Brigham and Women's Hospital, Boston, MA, StrataDx, Lexington, MA)

Sclerosing microcystic adenocarcinoma (SMAC) is a rare salivary gland tumor that resembles microcystic adnexal carcinoma (MAC) of the skin. It is a slow-growing tumor with a favorable prognosis with no local recurrence or distant metastasis. Whole exome sequencing from one study revealed loss of function mutation in CDK11B, while MAC exhibits mutations in CDKN4/6, TP53 and JAK1. We report a case of SMAC on the lower lip in a 70-year-old man. The tumor was composed of a nonencapsulated, diffusely infiltrative carcinoma with marked surrounding desmoplasia. The tumor consisted of small islands of tumor cells with duct and microcyst formation, closely asso- ciated with excretory salivary ducts. The tumor cells were polygonal with moderate amount of pale cytoplasm and poorly defined cell borders. The nuclei were round to ovoid with dispersed chromatin and small nucleoli. The ducts had a central layer of luminal cells with eosinophilic cytoplasm and flattened abluminal cells. Some tumor islands were squamoid without central lumens. The overlying epithelium did not exhibit dysplasia and the adjacent minor salivary glands exhibited chronic obstructive changes. The tumor cells were diffusely positive for CK7 and weakly positive for CEA, EMA and SOX10. Antibodies to p63, p40 and SMA decorated the outer abluminal cells. The dual study for keratin and S100 protein highlighted ductal tumor cells and peri-and intraneural invasion, respectively. The tumor cells were negative for CD117 and the Ki-67 proliferation index was less than 5%. Mitotic figures were rarely identified. Eleven previously reported cases showed a median age of 54 years and the most frequently af- fected site is the tongue (54.5%), followed by floor of the mouth (27.3%), parotid gland (9.1%) and nasopharynx and clivus (9.1%). The tumor cells of SMAC are positive for keratin, negative for CD117 and have low Ki-67 proliferation index (<5%).

25. Oral Metastasis of Renal Cell Carcinoma with Rhabdoid Features

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Allison Lee (Department of Diagnostic Sciences Texas A&M University School of Dentistry, Dallas, TX), Dr. Douglas Dingwerth (Private Practice - Oral Surgery Associates of North Texas, Dallas, TX), Dr. Paras Patel (Department of Diagnostic Sciences Texas A&M School of Dentistry, Dallas, TX), Dr. Victoria Woo (Department of Diagnostic Sciences Texas A&M School of Dentistry, Dallas, TX.)

Renal cell carcinoma (RCC) is the third most common cancer of the genitourinary tract and has more than doubled in incidence in the United States since 1975. Survival is highly dependent upon the stage at diagnosis, with a re- ported 93% 5-year survival rate for stage I disease in contrast to 14% for stage IV disease. Approximately one third of patients with RCC present with metastasis as their initial manifestation. We herein describe a 70-year-old male who presented for evaluation of an exophytic mass encompassing tooth #32. A panoramic radiograph showed ex- tensive destruction of the underlying mandible. The patient's medical history was significant for asthma and type 2 diabetes; no known oncologic history was disclosed. Histologic examination of a right mandibular biopsy revealed a diffuse proliferation of large, pleomorphic cells varying in growth from sheets to cohesive nests and cords. Many of the neoplastic cells exhibited a conspicuous rhabdoid morphology characterized by abundant eosinophilic cy- toplasm and vesicular nuclei. Immunohistochemical analysis showed these cells to be strongly positive for CD10, PAX8, and vimentin and weakly positive for AE1/AE3 and EMA. Retained expression of INI1 was observed. The final diagnosis was high-grade carcinoma with rhabdoid features, suggestive of metastatic renal cell carcinoma. The pa- tient was subsequently referred to medical oncology for further work-up. In addition to the mandibular lesion, CT imaging revealed osteolytic lesions of multiple sites and two lung nodules. A PET scan confirmed extensive osseous disease and kidney lesions. The patient is four months post-biopsy and currently undergoing palliative care. Metas- tasis to the oral and maxillofacial region is an uncommon occurrence that accounts for 1 to 1.5% of all maxillofacial malignancies. Recognizing the histopathological and immunohistochemical spectrum of potential primary malig- nancies, including unusual morphologic variants, can aid in directing the diagnostic workup and reducing the time from presentation to management.

26. A Tale of Two Imaging Modalities: A Case Report of an Odontogenic Myxoma of the Anterior Maxilla

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Mark Mintline (Western University of Health Sciences), Dr. Setareh Lavasani (Western University of Health Sciences), Dr. Benajmin Kim (Western University of Health Sciences), Dr. Jay Preston (Western University of Health Sciences), Dr. Tobias Boehm (Western University of Health Sciences), Dr. Lee Slater (Scripps Oral Pathology Service)

We present a case of a small odontogenic myxoma of the anterior maxilla in a 77-year-old Hispanic female. This case highlights how routine dental radiographs may provide inaccurate representations of an odontogenic myx- oma's margins. The margins of odontogenic myxomas are typically better visualized on a CBCT or MRI. On the initial periapical radiograph, the tumor effaced the lamina dura and periodontal ligament of the left central incisor, and its borders were poorly defined with diffuse margins. Clinically, the patient was asymptomatic but reported gradual displacement of the central incisor. Based on the patient's age and initial plain radiograph, a malignant neoplasm was favored. However, the lesion appeared less aggressive on CBCT imaging. CBCT images revealed a low density (radiolucent) lesion with better defined margins and slight expansion resulting in thinning of the buccal cortical plate. The tumor was excised with enucleation and curettage. Gross examination revealed an unencapsu- lated gelatinous mass. Histopathologic examination revealed a benign but locally invasive odontogenic neoplasm characterized by stellate and spindle-shaped cells in a myxoid extracellular matrix consistent with odontogenic myxoma. An odontogenic myxoma is composed predominately of glycosaminoglycans, mainly hyaluronic acid. Tumor growth is driven by secretion of mucoid extracellular matrix and can produce varying radiologic imaging findings. CBCT and MRI imaging supplement routine radiographs and can help establish the intraosseous extent of these radiographically diverse set of neoplasms and plan surgical margins.

27. Metastatic SMARCA4-deficient undifferentiated carcinoma of the oral cavity: a case report

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Min Kyeong Kim (Department of Oral Medicine Infection and Immunity, Harvard School of Dental Medicine, Boston, MA, USA), Dr. Sook-Bin Woo (Department of Oral Medicine, Infection and Immunity, Harvard School of Dental Medicine, Boston, MA Division of Oral Medicine and Dentistry, Brigham and Women's Hospital, Boston, MA, StrataDx, Lexington, MA)

SMARCA4-deficient high-grade malignancies are being increasingly recognized at a wide variety of anatomic loca- tions, namely the genitourinary tract, thorax, gastrointestinal tract, head and neck, and central nervous system. Non-small cell lung cancers exhibit SMARCA4 alterations in 10-25% of cases and in the head and neck, the sinonasal tract is the most commonly involved site. Many patients present with local or distant metastases at initial visit and median survival ranges from 4 to 7 months. We report a case of metastatic SMARCA4-deficient undifferentiated car- cinoma in a 63-year-old woman who presented with a 3.0 cm x 2.0 cm x 2.0 cm exophytic mass extending from teeth #25 to #28 buccally and lingually with a 4 cm poorly-delineated radiolucency in the underlying bone. The tumor consisted of a diffuse proliferation of large polygonal epithelioid cells with indistinct cell borders and abundant pale cytoplasm. The nuclei were large, vesicular and pleomorphic with prominent nucleoli. Many atypical mitotic fig- ures and apoptotic cells were noted. The tumor cells were focally positive for pankeratin, CAM5.2 and claudin-4 but negative for S100 protein, SOX10 and SMARCA4. On further work-up, the CT scan confirmed a 4.3 cm mandibular radiolucency and revealed a 16 cm mass in the right upper lobe of the lung, multiple smaller tumor nodules in the left lower lobe, tumor nodules in the thyroid and left kidney, and enlarged lymph nodes in the hilar, supraclavicular
, mediastinal and right axillary regions consistent with a primary lung cancer with extensive metastatic foci. The patient died of disease within two months of diagnosis of the oral metastasis. SMARCA4-deficient undifferentiated carcinoma has not been reported as a primary tumor in the oral cavity and as such the patient should always be evaluated for a primary malignancy elsewhere.

28. Tea-tree-oil (Melaleuca alternifolia) effects on oral epithelial dysplasia: an in-vitro pilot study

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

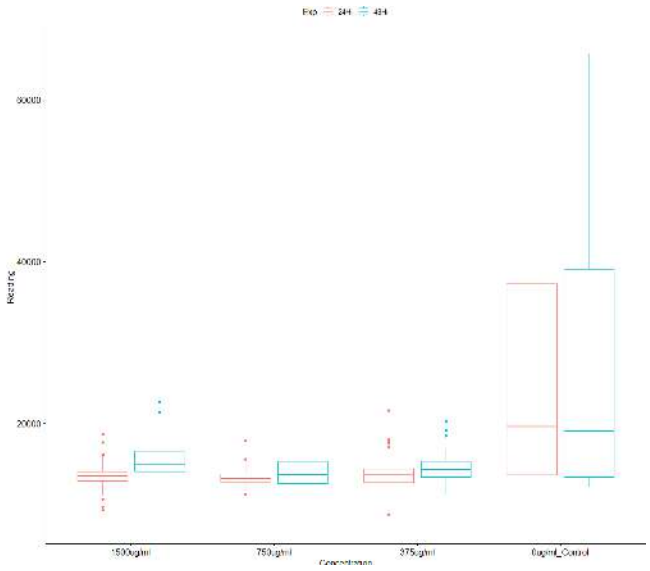
Mr. Austin Kim (Midwestern University - College of Dental Medicine Illinois), Ms. Jacqueline Wallowitch (Midwestern University - College of Dental Medicine Illinois), Dr. Feng Gao (Midwestern University - College of Dental Medicine Illinois), Dr. Gina Agostini-Walesch (Midwestern University - College of Dental Medicine Arizona), Dr. John Mitchell (Midwestern University - College of Dental Medicine Arizona, Illinois), Dr. Maria Cuevas-Nunez (Midwestern University - College of Dental Medicine Illinois)

Introduction: Plant-based and phytochemical compounds have gain popularity as anticancer drugs. Previous stud- ies have shown anti-tumor effects on skin via topical applications of a solution containing tea tree oil (TTO) derived from *Melaleuca alternifolia* and dimethylulphoxide (DMSO). Our group found that TTO and DMSO can also exert cytotoxic effects on oral squamous cell carcinoma cell lines. This study assessed the cytotoxic effects of TTO and DMSO on an oral mucosal dysplastic cell line (DOK).

Materials and Methods: Tea tree oil (Guru Nanda, California, USA) was diluted in DMSO (Sigma Aldrich, St. Louis, MO) in 375, 750, 1500 μg/ml concentrations and used to treat DOK (ECACC, Salisbury, UK) in 96-well plates at a 1000 cells per well. Treatments were performed in triplicate, with controls containing just DMSO. Cells were rinsed, then assessed for cell viability 24 hours and 48 hours after treatment via alamarBlue™ (ThermoFisher Scientific, Waltham, MA.) A Shapiro-Wilks test ($p<0.001$) and visual inspection of histogram and qqplots showed data were not normally distributed. Subsequent outlier tests (rstatix) identified 4 (of 192) data points that qualified as extreme. These observations were replaced via means substitution. Subsequent tests showed more appropriate distributions and that no data transformation was needed. A 2-way repeated measures ANOVA was used to test for a significant interaction between exposure time (24 vs 48hr) and concentration (0, 375, 750, 1500 μg /ml) on fluorescence.

Results: Results show significant, independent effects of concentration and exposure on fluorescence (p- value<0.05). Subsequent pairwise posthoc tests show significant differences between the control group and all three concentration groups at 48Hr (p-value < 0.05). There were not significant pairwise differences at 24Hr, nor were there significant differences between the three exposure groups (Figure 1).

Conclusions: Further studies are needed to define the mechanistic effects of TTO and DMSO on OED.


Exp 244 484
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375ug/ml
0ug/ml_Control

Figure 1.png

29. Title: Targeting JAKs to Treat Sjögren's Disease

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. Zohreh Khavandgar (National Institute of Dental and Craniofacial Research), Dr. Sarthak Gupta (National Institute of Arthritis and Musculoskeletal and Skin Diseases), Mr. Thomas J. F Pranzatelli (National Institute of Dental and Craniofacial Research), Dr. Paola Perez-Riveros (National Institute of Dental and Craniofacial Research), Dr. Shyh-Ing Jang (National Institute of Dental and Craniofacial Research), Dr. M. Teresa Magone (National Eye Institute), Dr. John A Chiorini (National Institute of Dental and Craniofacial Research), Dr. John O'Shea (National Institute of Arthritis and Musculoskeletal and Skin Diseases), Dr. Mariana J Kaplan (National Institute of Arthritis and Musculoskeletal and Skin Diseases), Dr. Ilias Alevizos (National Institute of Dental and Craniofacial Research), Dr. Margaret Beach (National Institute of Dental and Craniofacial Research), Dr. Alan N Baer (National Institute of Dental and Craniofacial Research), Dr. Sarfaraz A Hasni (National Institute of Arthritis and Musculoskeletal and Skin Diseases), Dr. Blake M Warner (National Institute of Dental and Craniofacial Research)

INTRODUCTION

Sjögren's Disease (SjD) is an autoimmune disease with unknown etiology and variable clinical presentation includ- ing dry mouth and dry eyes. Convergent pathways involving innate and adaptive immune systems, and altered expression of cytokines, are implicated in SjD pathogenesis. Cytokines, interferons and interleukins, signal through the Janus Kinase (JAK) and Signal Transducer and Activator of Transcription proteins (STAT) pathway. Tofacitinib, an oral JAK inhibitor, is FDA-approved for the treatment of refractory ulcerative colitis, psoriatic arthritis, and rheumatoid arthritis. Hasni, et al.(2021), recently completed a randomized, placebo-controlled trial (RCT) of To- facitinib in systemic lupus with positive biological results and acceptable safety profile. However, there are no approved systemic therapies for SjD. We hypothesize that JAK inhibitors may block inflammatory signaling central to SjD pathogenesis resulting in improved exocrine and extra-glandular manifestations of disease.

METHODS

Subjects' salivary glands(SG) and peripheral bloods were used for transcriptional and proteomic analyses to mea- sure JAK-STAT signaling in SjD. Using these preliminary data, we initiated a Phase Ib-IIa RCT to test Tofacitinib (5 mg *bid*), for treatment of mild to moderate SjD(N=30; NCT04496960), randomized 2:1 drug to placebo, for a period of 6-months. Safety, clinical, patient-reported, and tissue/biological endpoints will be compared between baseline and 6-months in drug- and placebo-treated subjects.

RESULTS

Transcriptomic and proteomic analyses confirmed involvement of the JAK-STAT pathway in SG and peripheral bloods in SjD subjects over controls. Our RCT is now open to enrollment with 5 subjects enrolled and 1 subject randomized. This clinical trial will yield preliminary data about the safety, clinical, and biologic efficacy of Tofaci- tinib in SjD.

CONCLUSION

Our preliminary data demonstrate the potential utility of JAK inhibitors to treat SjD by restraining pathogenic cy- tokine signaling and preventing epithelial dysfunction. This new trial will provide novel safety, clinical efficacy, and biological data for Tofacitinib therapy in SjD.

30. Rallying for reflection: Development and pilot use of a rubric to assess and facilitate self-reflection skill development in the dental classroom

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Margarita Katser (Icahn School of Medicine at Mount Sinai), Dr. Brandon Veremis (Icahn School of Medicine at Mount Sinai), Dr. Theodora Danciu (University of Michigan School of Dentistry), Dr. Vitaliy Popov (University of Michigan Medical School), Dr. Vidya Ramaswamy (University of Michigan School of Dentistry)

Introduction: Despite its utility, peer feedback within higher education curricula has not demonstrated consistent correlation with academic performance. Student self-reflection may be one pivotal factor influencing this rela- tionship, as the degree of one's metacognitive assessment can alter reception and interpretation of feedback. Yet, students are rarely instructed on conducting self-reflection. In this paper, we discuss development and pilot use of a rubric based on Korthagen's ALACT reflection model to evaluate and encourage this skill.

Methods: 125 third-year dental students enrolled in an oral pathology course received peer feedback on a case- based assignment. Students undergoing review were given opportunity to read their feedback and subsequently completed self-reflection on four domains of their performance (examination, diagnostic reasoning, treatment plan- ning, and resource utilization). Two reviewers experienced in dental education adapted an ALACT-based rubric to score reflections and assess frequency of complete self-reflection, most commonly missed elements, and incidence of neglecting peer feedback.

Results: Of the 125 students, 60 (48%) submitted a complete self-reflection on at least one of four performance do- mains, with only 1 student (0.08%) submitting a complete self-reflection on all four. Students most consistently proposed plans for improvement, with an average 115/125 (92%) addressing this element. The most neglected area of reflection was description of motivations driving proposed improvements, with on average 33/125 (26%) ex- pressing the significance of their plans. Furthermore, 13/125 students (10%) demonstrated discrepancy between self-reflection and peer feedback in at least one domain, indicating a failure to acknowledge peer-suggested short- comings. Kappa values for interrater agreement on self-reflection element scores ranged from 0.574 to 0.800.

Conclusions: Current findings demonstrate that student self-reflection is rarely performed to completion, which may either reflect or hinder integration of peer feedback. We propose a novel evaluation tool to encourage self- reflection assessment and instruction as a means to setting future clinicians up for success.

31. Identification of Contributing Factors to Time to Referral for Oral Lesions

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Shahad Joudah (Princess Margaret Cancer Centre - University Health Network), Dr. Patricia Brooks (Princess Margaret Cancer Centre - University Health Network), Dr. Erin Watson (Princess Margaret Cancer Centre - University Health Network)

Introduction: Delayed referral of patients with oral lesions for diagnosis and subsequent management can result in devastating outcomes. We aimed to investigate the factors that affected time to referral for patients to obtain care within a hospital-based dental department. Proposed factors were referring clinician type, sex, and concern for malignancy.

Method: With Research Ethics approval, a retrospective review of data from the Department of Dental Oncology at Princess Margaret Cancer Centre was assessed for patients referred for consultation of an oral lesion(s). Inclusion criteria were patients aged 18 years or older who have been referred for an oral lesion consultation. Exclusion criteria were patients with inconsistent lesion history, having been to another hospital-based dental clinic or oral pathologist/medicine specialist, and incomplete data. Means were compared with ANOVA and t-test analyses.

Results: For all lesion types, dental specialists referred patients within a shorter period of time when compared to other healthcare providers. This was followed by general practice (GP) dentists, medical specialists and, GP physicians. With respect to sex, we found that male patients were referred for specialized care faster than females. Data also indicated that the number of patients who required biopsy and had been referred by MD specialists was highest, with respect to referral source. Biopsies were also more often performed in females than males.

Conclusion: The importance of early referral and intervention is one of the most important ways to reduce patient mortality and morbidity with respect to oral cancer. Increased oral cancer education to non-dental colleagues may help to improve delays to referral. Furthermore, the decision to initiate a referral may also be influenced by other factors such as inter-professional relations that facilitate interaction between different healthcare provider types, therefore, improvement of hospital-based dental clinic relationships with GP physicians and medical specialists should be encouraged.

32. Pediatric Head and Neck Pathology: Retrospective Analysis at a Tertiary Care Center

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Sehrish Javaid (The Ohio State University), Dr. Michelle Smith (Nationwide Children's Hospital), Dr. Kristin McNamara (Ohio State University), Dr. JOHN KALMAR (Ohio State University), Dr. Archana Shenoy (Nationwide Children's Hospital)

Introduction: Pediatric pathology of the head and neck (H&N) encompasses a wide variety of conditions within a complex anatomical region. As data regarding pediatric H&N pathology is limited, this study aimed to characterize patient demographics, relative frequency and anatomic distribution of pathologic conditions of the H&N region presenting to a pediatric tertiary hospital.

Materials and Methods: An IRB-approved, retrospective records review of H&N pathology cases submitted to the Department of Pathology at Nationwide Children's Hospital in Columbus, Ohio was performed. Data was collected over a 5-year period (2016-2021), including: patient age, sex, histopathologic diagnosis and anatomic site. Lesions were organized into 5 categories based on the anatomic distribution, further sub-classified by etiology and analyzed as a percentage of total cases per category.

Results: 290 cases met inclusion criteria with a slight overall male predominance. The median patient age was 7 (range: 0-20) years, with nearly one-third of cases occurring by age 4. The majority of soft tissue lesions originated from oral mucosa (38%) followed by skin (27%). While 85% of oral lesions were reactive/inflammatory in nature, cutaneous cases were predominated by developmental alterations (38%) followed by benign melanocytic lesions (29%). Biopsies from the craniofacial skeleton accounted for 16% of total cases, led by reactive/inflammatory lesions (54%) and malignant neoplasms (22%).

Conclusions: Despite a small body of literature, current findings are similar to previous reports regarding the fre- quency and distribution of H&N pathology in a pediatric population. While inflammatory/reactive lesions predom- inated overall, the majority of neoplastic conditions were malignant. These findings re-emphasize the importance of timely diagnosis and management of H&N pathology in pediatric patients.

33. Alveolar rhabdomyosarcoma of the anterior maxilla in a 14-year-old: Report of a case

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. Jennie Ison (University of Kentucky College of Dentistry), Dr. Ashley Clark (University of Kentucky College of Dentistry)

Introduction: Rhabdomyosarcoma (RS), while rare in the adult population, is the most common soft tissue sarcoma in the pediatric demographic. In this population, approximately half of all cases arise in the head and neck. The alveolar (ARMS) subtype represents approximately 30% of all such cases and is characterized by small round blue cells exhibiting an immunohistochemical profile indicative of skeletal muscle differentiation and a *FOXO1* gene rearrangement.

Case Report: A painless, rapidly enlarging lesion of the right anterior maxillary vestibule causing visible facial asymmetry was noted in a 14-year-old female. The lesion was described clinically as having a "pebbly" appearance with telangiectasia, contrasting uniquely from the surrounding soft tissue. Microscopic examination revealed a diffusely infiltrative tumor composed of primarily solid/focally nested, discohesive small round blue cells. Immunohisto- chemical staining with desmin, MyoD1, and myogenin was positive; ERG, CD99, synaptophysin, and pancytokeratin were negative. FISH for *FOXO1* gene rearrangement was positive, confirming the diagnosis of ARMS.

Conclusions: The histologic differential diagnosis of ARMS in the pediatric population includes embryonal rhabdomyosarcoma (ERMS), Ewing sarcoma/primitive neuroectodermal tumor (ES/PNET) and lymphoblastic lymphoma (LL). ERMS is the most common type of rhabdomyosarcoma in the head and neck, though most cases occur in pa- tients younger than 5 years of age. Histopathology of ERMS often exhibits a spectrum of differentiation with at least some eosinophilic strap cells with cross-striations, which were not appreciated in this specimen. Additionally, ERMS does not have a *FOXO1* gene rearrangement, which may aid in distinguishing primitive forms of ERMS from ARMS. ES/PNET is positive for CD99 and over 90% of tumors harbor an *EWR-FLI1* gene fusion. LL primarily affects children, accounting for 35% of non-Hodgkin lymphomas in the pediatric population. LL, depending on the neo- plastic precursor cell, will stain positive for hematopoietic markers. Accurate diagnosis of this entity is imperative for adequate treatment.

34. A Dental Emergency of Acute Intraoral Bleeding: A Case Report of Immune Thrombocytopenia

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Mark Mintline (Western University of Health Sciences), Ms. Kylie Holliday (Western University of Health Sciences), Dr. Elizabeth Andrews (Western University of Health Sciences), Dr. Sahar Mirfarsi (Western University of Health Sciences), Dr. Ashley Hagiya (Keck School of Medicine of USC), Dr. Howard Liebman (Keck School of Medicine of USC)

We present a case of a 74-year-old Hispanic male with immune thrombocytopenia (ITP). The case documents the patient's complete diagnostic workup and treatment highlighting the role of the dental team to initially help detect the disorder. The patient presented to an academic dental institution as an emergency appointment with acute gingival bleeding he believed secondary to periodontitis and mobile teeth. The patient had recently returned from Costa Rica and noted "brown spots" adjacent to a mosquito bite, peripheral bruising, and a large volume epistaxis that began two days prior. The dental team evaluated and documented spontaneous gingival hemorrhage, intraoral purpura and ecchymoses, skin petechiae and purpura, and epistaxis before referring the patient for a hematologic evaluation. On admission, his platelet count was <5,000/mcL. The rest of the complete blood count, peripheral-blood smear, serology, and subsequent bone marrow aspirate and biopsy were consistent with the diagnosis of ITP. Ac- tive bleeding resolved and platelet counts increased (>10,000/mcL) after an initial therapy of platelet transfusions, prednisone, and intravenous immune globulin (IVIG) confirming ITP. However, the patient continued to have recur- rent decreases in platelet counts and developed chronic ITP. Subsequent medical therapies for relapses included romiplostim, intravenous methylprednisolone, dexamethasone, rituximab, Rh_o(D) immune globulin (RhIG), ava- trombopag, and sirolimus. Gingival hemorrhage and acute intraoral bleeding are dental emergencies and may be the first signs associated with ITP. Dentists and other oral health professionals may be the first to encounter ITP and other bleeding disorders.

35. Scorbutic Gingivitis: A Striking Oral Manifestation of Systemic Disease in the Special Health Care Needs Population, a Report of Three Cases.

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Laurel Henderson (Department of Dental Medicine, Division of Oral and Maxillofacial Pathology, Zucker School of Medicine at Hofstra Northwell Health), Dr. Stephen Roth (Department of Dental Medicine, Division of Oral and Maxillofacial Pathology, Zucker School of Medicine at Hofstra Northwell Health), Dr. Anna Green (Department of Dental Medicine, Division of Pediatric Dentistry, Zucker School of Medicine at Hofstra Northwell Health), Dr. Lori Cohen (Private practice, Oral and Maxillofacial Surgery, Lawrence, NY), Dr. Kathleen Schultz (Department of Dental Medicine, Divisions of Oral and Maxillofacial Pathology and Pediatric Dentistry, Zucker School of Medicine at Hofstra Northwell Health)

Introduction: Hypovitaminosis C or scurvy, historically associated with seafaring and antiquity, continues in mod- ern times in the setting of food selectivity in the special health care needs (SHCN) population. The American Academy of Pediatric Dentistry's definition of SHCN includes patients with physical, developmental, mental, sen- sory, behavioral, cognitive, or emotional impairment requiring specialized medical management. We present three cases of scurvy recognized at our institution between 2020 and 2021.

Clinical Findings: The patients ranged in age from 6 to 45 years old. Each presented with varying degrees of hemorrhagic gingival enlargement, joint swelling with difficulty ambulating, coiled hair, and perifollicular purpuric rash. Two of the patients are on the autism spectrum and one has a history of major psychosis, schizophrenia, and eating disorder. All have food histories significant for limited variety and poor ascorbic acid intake. Oral biopsy, complete blood count, and vitamin C levels helped to confirm the diagnosis and exclude other entities in the clinical differential. Histopathology revealed ulcerated oral mucosa with underlying granulation tissue, extravasated red blood cells, and fibrin.

Results: Treatment included vitamin C supplementation (100 mg-1000 mg per day) and unobtrusive incorporation of dietary vitamin C. All patients exhibited clinical improvement of symptoms within one week of treatment.

Conclusion: Previous reports have noted scurvy in patients with advanced age, developmental disabilities, sen- sory processing disorders, drug or alcohol use disorder, eating disorders, malnourishment, post-gastrointestinal surgery, malabsorption, hemodialysis, sickle cell disease, thalassemia, pregnancy/breast feeding, and psychiatric disease. Additional situations leading to scurvy include living in institutional facilities, isolation, or refugee camps, and in infants fed with formula that is overheated. The oral diagnostician should incorporate capillary fragility due to vitamin C deficiency into their differential diagnosis when confronted with a SHCN patient exhibiting hem- orrhagic gingival enlargement. Resolution of the scorbutic gingivitis occurs rapidly with appropriate vitamin C supplementation.

36. Osteosarcomas of the jaws show overexpression of the DNA mutating and tumorigenic enzyme APOBEC3B

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Prokopios Argyris (Howard Hughes Medical Institute, University of Minnesota, Minneapolis, MN), Dr. Leigh Griffin (Section of Oral Pathology, New York Presbyterian Queens, Flushing, NY), Dr. Joonsung Yeom (new), Dr. William L. Brown (Department of Biochemistry, Molecular Biology and Biophysics, University of Minnesota, Minneapolis, MN), Mrs. Margaret Brown (Department of Biochemistry, Molecular Biology and Biophysics, University of Minnesota, Minneapolis, MN), Dr. Renee Reich (New York Presbyterian Queens), Prof. Ioannis G. Koutlas (Division of Oral and Maxillofacial Pathology, School of Dentistry, University of Minnesota, Minneapolis, MN), Prof. Reuben S. Harris (Howard Hughes Medical Institute, University of Minnesota, Minneapolis, MN)

Introduction: Jaw osteosarcomas account for approximately 6% of all human osteosarcomas and show locally ag- gressive biologic behavior and distant metastases in up to 21% of the cases. APOBEC3-related mutations represent a major endogenous source of mutations in a plethora of human malignancies, including head/neck, breast, lung and bladder tumors. One of the APOBEC3 family members, APOBEC3B (A3B) is responsible for C-to-T/-G base substi- tutions in 5′-TCA/T trinucleotide motifs. Previous genomic analyses have indicated A3B-driven signature mutations in a portion of osteosarcomas of the long bones. Herein, we provide immunohistochemical data demonstrating elevated A3B protein expression in osteosarcomas of the jaws.

Materials and Methods: A3B protein levels were assessed in formalin-fixed paraffin-embedded jaw osteosarco- mas (N=25), including 3 post-radiation specimens, by immunohistochemistry using a rabbit α-A3B mAb (5210-87-13, dil.1:350). Nuclear A3B immunoreactivity was visualized with the Aperio ScanScope XT platform. Lesions show- ing cell-wide or cytoplasmic positivity were also stained against APOBEC3A (A3A) with a custom rabbit α-A3A mAb (UMN13, dil.1:6,000).

Results: Among 25 jaw osteosarcomas studied, 15 affected men and 10 women (mean age=38.5 years, range=9-85 years) with a predilection for the mandible (16 of 25, 64%). Immunohistochemical analysis revealed moderate-to- strong, nuclear-only, A3B positivity in 13 of 25 (52%) tumors. Marked inter-and intra-tumoral heterogeneity was observed. Most lesions exhibited focal-to-diffuse A3B staining pattern, although rare positivity was also seen. In- terestingly, in 3 osteosarcomas (12%) the neoplastic cells showed diffuse, cell-wide (nuclear and cytoplasmic) im- munoreactivity consistent with A3A, while 9 of 25 (36%) cases were uniformly negative for both A3A and A3B.

Conclusions: The mutator A3B is overexpressed in more than half of osteosarcomas of the jaws, while less fre- quently A3A upregulation can be seen. Our immunohistochemical data complement previous genomic studies on osteosarcomas regarding the role of APOBEC3 mutagenesis in this type of neoplasm.

37. ERBB2 (HER2) and PIK3CA Mutations in a case of Primary Intestinal-Type Adenocarcinoma of the Tongue; Possibly Arising in an Enteric Duplication Cyst

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Sarah Franklin (Department of Dental Medicine, Division of Oral and Maxillofacial Pathology, Zucker School of Medicine at Hofstra Northwell Health), Dr. Corey Chang (Department of Pathology, Zucker School of Medicine at Hofstra Northwell Health), Dr. Naina Sharma (Department of Oncology, Zucker School of Medicine at Hofstra Northwell Health), Dr. Arvind Rishi (Department of Pathology, Zucker School of Medicine at Hofstra Northwell Health), Dr. Daniel King (Department of Oncology, Zucker School of Medicine at Hofstra Northwell Health), Dr. John Fantasia (Department of Dental Medicine, Division of Oral and Maxillofacial Pathology, Zucker School of Medicine at Hofstra Northwell Health)

Introduction:

Intestinal-type adenocarcinoma (ITAC) is a well-described entity occurring in the sinonasal tract. However, there are rare reports of primary ITAC of the tongue. The neoplasm morphologically and immunohistochemically mimics intestinal adenocarcinoma, raising the suspicion for metastasis. Only after excluding the possibility of an intestinal primary can the diagnosis of ITAC be made. It has been hypothesized that primary ITAC of the tongue arises from metaplasia of salivary duct epithelium or choristomatous intestinal tissue.

Clinical Presentation:

We report a case of an 86-year-old male who presented with a mass of the dorsal tongue, present for many years. The patient reported a history of a tongue lesion which was drained in his childhood, as well as a surgical procedure on his tongue 7 years ago. The patient sought treatment at this time because of continued tongue enlargement, making eating difficult.

Outcome:

A biopsy of the tongue mass revealed morphology and an immunohistochemical panel (CK20+ and CDX2+) con- sistent with gastrointestinal carcinoma, suggesting a metastasis. No evidence of gastrointestinal malignancy was found on imaging or endoscopy. In the absence of a primary gastrointestinal malignancy, this tongue mass is con- sistent with a primary ITAC of the tongue. Given the patient's long history of a tongue lesion and a focal area of cyst-like epithelium seen histologically, this may have arisen from an enteric duplication cyst. Next generation se- quencing (NGS) of this case found potentially actionable genomic variants in *ERBB2* (*HER2*) and *PIK3CA*. To our knowledge, this is the first time NGS has been performed in such a case.

Conclusion:

Primary ITAC of the tongue is a rare entity, with only eight cases reported. The current case lends support to the hypothesis that such lesions may arise from long-standing choristomatous intestinal tissue, and the finding of po- tentially actionable genomic variants expands possible treatment modalities.

38. Chondroid Chordoma Presenting as Oropharyngeal Mass in Pediatrics

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. John Hicks (Texas Children's Hospital, Baylor College of Medicine), Dr. Catherine Flaitz (University of Colorado School of Dental Medicine)

Introduction: Chordoma is a low to intermediate grade malignancy, resembling embryonal notochord. This tumor occurs in sacrococcygeal (60%), craniocervical (25%, clivus most common), and vertebral (15%) sites. Chordoma is a rare tumor (incidence 5/10,000,000; 2% of bone tumors, 0.2% of nasopharyngeal tumors). Peak incidence is in the 4th decade. Clinical Presentation and Pathology Findings: 8-year-old girl with asthma history presented with 6-12 months of progressively worsening snoring, muffled voice, and saliva pooling, attributed to seasonal allergies. Upon oral examination, a firm, protruding right tonsillar bed (oropharyngeal) mass with intact overly- ing vascularized mucosa was noted. Limited CT imaging identified an oropharyngeal mass with bony destruction. Biopsy was performed which showed a hyalinized chondroid to cartilaginous mass. Tumor cells immunoreacted with brachyury, EMA, S100, and SOX9, while negative for D2-40, and retained nuclear INI-1. Low-grade chondroid chordoma diagnosis was rendered. Molecular testing of tumor identified p53 mutation, and KMT2B and ROS1 mu- tations of unknown significance. Conventional tumor karyotype was 46XX. Additional imaging identified an 8.5 cm clivus origin tumor. The patient underwent additional surgery for tumor debulking, followed by oncologic (radi- ation therapy) management. Conclusion: Chondroid chordoma involving oro/nasopharyngeal region is rare (0.2% of all oro/nasopharyngeal tumors). The differential diagnosis includes chondrosarcoma, chordoid meningioma, myoepithelioma/myoepithelial carcinoma, and extraskeletal myxoid chondrosarcoma. Treatment is surgical with complete resection difficult due to anatomic location. Although the tumor tends to be radioresistant, high-dose ra- diation therapy is usually employed. Overall survival with aggressive surgery is up to 75% at 5 years and up to 65% at 10 years. Recurrence is common (up to 90% at 10 years). The chondroid variant has a somewhat better prognosis. Sonic hedgehog homolog protein gene (7q33), T (brachyury) gene duplication (6q27), and TSC1 or TSC2 (tuberous sclerosis) inactivation are associated with chordoma. Autosomal dominant familial tumors associated with T gene duplication are rare.

39. Oral Manifestations of Hemophagocytic Lymphohistiocytosis/Pancytopenia - A Case Report

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Ms. Sameera Eleidy (ECU School of Dental Medicine), Dr. Andres Flores-Hidalgo (ECU School of Dental Medicine), Dr. Iquebal Hasan (ECU School of Dental Medicine)

Introduction: Hemophagocytic lymphohistiocytosis (HLH) is a life-threatening disorder characterized by uncon- trolled activation of lymphocytes and macrophages resulting in hypercytokinemia, immune dysregulation, and in- jury of multiple organ systems. HLH can cause severe neutropenia if left untreated, and patients often die from bacterial or fungal infections.

Case Presentation: 45-year-old female presented to the ECU School of Dental Medicine with bilateral tender ulcer- ations on the buccal mucosa at the occlusal plane level and hard palate. Oral mucosa sloughing was also noticed at the gingival margins of multiple mandibular teeth, with a grey-yellow appearance. The patient was later admitted through an ER visit to our Medical Center due to severe pancytopenia, where her condition worsened, including the developing of jaundice, excessive lethargy, and blood in the stool. The oral ulcers increased in size and became painful. Hematopathology later confirmed the diagnosis of HLH/pancytopenia and transaminitis AKI (acute kidney injury).

Discussion and Conclusion: The findings of this case report are consistent with those in the literature concerning clinical presentation pancytopenia. However, the patient appears to have primary HLH and not associated with other underlying immune disorders. Typically, HLH is presented in secondary cases and may not be visible until late in the disease progression. Overall, such cases require careful listening to the patient's history, performing a thorough physical examination, and additional laboratory investigations for a definitive diagnosis.

40.A Diagnostic Challenge: A high-grade fibroblastic osteosarcoma of the mandible arising from a recurrent fibro-osseous lesion

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Safia Durab (Department of Diagnostic and Biomedical Sciences, UTHealth School of Dentistry at Houston), Dr. Victoria Manon (Department of Oral and Maxillofacial Surgery, UTHealth School of Dentistry at Houston), Dr. Nadarajah Vigneswaran (Department of Diagnostic and Biomedical Sciences, UTHealth School of Dentistry at Houston), Dr. James Melville (Department of Oral and Maxillofacial Surgery, UTHealth School of Dentistry at)

Osteosarcoma (OS) of the jaws consists of three major histologic subtypes: chondroblastic OS, osteoblastic OS and fibroblastic OS (FOS). Ossifying fibroma of the jaws have three subtypes: conventional ossifying fibroma (COF), juvenile trabecular ossifying fibroma (JTOF) and juvenile psammomatoid ossifying fibroma (JPOF). We present an interesting case of a mandibular tumor initially diagnosed as a COF with subsequent recurrences diagnosed as JTOF and FOS. A 62 -year-old female presented in 2015 with an expansile radiolucent lesion of the right mandibular premolar region. Biopsy of this lesions was diagnosed as COF. Patient returned in 2016 complaining of a “bump” in her right mandibular buccal vestibule and recent onset of paresthesia of the right lip and chin. Excisional biopsy of the tumor rendered a diagnosis of JTOF. Patient was lost to follow up after 3 months, returning in 2019 with a rapidly growing tumor in her right mandible. Patient underwent right hemi-mandibulectomy with reconstruction, with the surgical specimen diagnosed as FOS. We reviewed the microscopic features of the primary tumor and subsequent recurrences, examining the expression of MDM2, CDK4 and p53 in these tumor samples. Surgical specimens from 2015 and 2016 revealed hypercellular proliferation of spindle and stellate cells with minimal collagen, with focal areas of osteoid and thin trabeculae of woven bone within the stroma. Tumor cells revealed no evidence of cytologic activity or increased mitotic activity. In contrast, the surgical specimen from 2019 revealed highly cellular plump spindle cells proliferation with cytologic atypia, increased mitotic activity, with focal and minimal osteoid. All three tumor samples revealed nuclear positivity for MDM2, CDK4 and p53. Based on these studies, we conclude that this case represents a low-grade FOS undergoing de-differentiation to a high-grade FOS. Our case illustrates the challenge and significance of distinguishing low-grade FOS from JTOF which share overlapping microscopic features.

41. Newly Defined FUS-TFCP2 Gene Fusion Rhabdomyosarcoma and ALK Upregulation: Molecular Sequencing Redefining Traditional Morphological Diagnoses

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Scott Davis (Department of Dental Medicine, Division of Oral and Maxillofacial Pathology, Zucker School of Medicine at Hofstra Northwell Health), Dr. Steve Yusupov (Department of Dental Medicine, Division of Oral and Maxillofacial Surgery, Staten Island University Hospital Northwell Health), Dr. Morris Edelman (Department of Pathology and Laboratory Medicine, Zucker School of Medicine at Hofstra Northwell Health), Dr. Tony Philip (Department of Hematology Oncology, Zucker School of Medicine at Hofstra Northwell Health), Dr. Andrew Salama (Department of Dental Medicine, Division of Oral and Maxillofacial Surgery, Long Island Jewish Medical Center Northwell Health), Dr. John Fantasia (Department of Dental Medicine, Division of Oral and Maxillofacial Pathology, Zucker School of Medicine at Hofstra Northwell Health)

Introduction: Rhabdomyosarcoma (RMS) is a rare malignant neoplasm that has historically been categorized as alveolar, embryonal, pleomorphic, and spindle cell/sclerosing types. Molecular sequencing has identified additional subtypes of rhabdomyosarcoma with diagnostic and prognostic significance. Novel fusions of the intraosseous spin- dle cell/sclerosing type specifically *FUS-TFCP2* or *EWSR1-TFCP2* have been identified. These subtypes are aggressive tumors with high mortality, that have a predilection for the craniofacial bones. An additional intraosseous spindle cell/sclerosing RMS defined by a *MEIS1-NCOA2* fusion has also been described.

Case Findings: A 31-year-old male presented with a progressively enlarging mass on the right posterior maxilla and extending onto the palate. Imaging displayed a solid 5 cm tumor that filled the maxillary sinus and eroding the maxillary bone. The biopsy demonstrated malignant spindle and plasmacytoid/epithelioid cells, focal necrosis, and numerous mitoses.

Results: Immunohistochemical staining of tumor cells were positive for desmin (patchy), cytokeratins CAM5.2 and AE1:3, INI1 (no loss), CD99 (patchy), myogenin, Myo-D1, and ALK. Negative staining of tumor cells with P63, LCA, CD68, S100, MELAN-A, MPO, EMA, ERG, and CD31. Archer multiplex PCR analysis identified the *FUS-TFCP2* fusion; a finding consistent with the newly described gene fusion in this morphologically spindle cell/sclerosing subtype of RMS. The patient did not respond well to treatment and eventually succumbed to complications from SARS-CoV-2 infection, nine months after the diagnostic biopsy.

Conclusions: The *FUS-TFCP2* fusion is an exceedingly rare newly described finding associated with the intraosseous spindle cell/sclerosing RMS subtype. The entity commonly involves the craniofacial bones. The tumor typically co-expresses keratin markers, muscle markers, and ALK while demonstrating a rhabdomyogenic phenotype. Less than 30 cases have been reported in the head and neck region exhibiting dismal survival statistics. ALK expression is common and may have therapeutic implications.

42. ORAL CYTOLOGY AS AN ADJUNCT IN THE DIAGNOSIS OF ORAL CANCER: A CASE REPORT AND DISCUSSION

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Grayson Cole (University of Pittsburgh), Dr. Kurt Summersgill (University of Pittsburgh)

Objective:

While oral cytologies have limited utility in oral cancer screening compared to clinical correlation and biopsy, some cytologies may show evidence of malignancy. We present a case of cytology performed on a p16+ oropharyngeal squamous cell carcinoma with extension into the oral cavity.

Case presentation:

A 67 year old male with self-reported exposures to Agent Orange (2,4,5-T and 2,4-D), methylethylketone and trichloroethylene presented with 10 months' duration of soreness and a friable, erythematous, sloughing lesion on the hard and soft palate, pharyngeal wall, and posterior floor of mouth. The lesions were unresponsive to antifungal therapy. The patient is s/p liver transplant 8 years ago from alpha-1-antitrypsin deficiency cirrhosis, continuing on immunosuppressants, with a recent switch from tacrolimus to everolimus.

Results:

A cytology of the palatal lesions and biopsy of the right base of tongue/retromolar trigone were taken to determine fungal status and for diagnosis, respectively. The cytology showed fungal pseudohyphae as well as cytologic atypia concerning for malignancy. The biopsy showed invasive p16+ squamous cell carcinoma. A CT revealed a 3.4 x
1.7 cm mass centered on the right palatine tonsils involving the glosso-tonsillar sulcus and base of tongue. The patient is currently receiving a chemotherapy regimen of weekly cisplatin and radiotherapy of 70 Gy/35 fraction to involved disease sites and 56 Gy/35 fraction simultaneous dose to elective nodal echelons.

Conclusion:

While cytology is not a reliable diagnostic tool for oral squamous cell carcinoma, it can show evidence of frank malignancy. Due to the variable presentations of oral squamous cell carcinoma, it is important for oral pathologists to screen cytologies for evidence of malignancy and report on these findings if observed.

43. Focal Oral Elastosis: Case Series, Proposed Nomenclature, and Literature Review

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Ms. Dahee Chung (Harvard School of Dental Medicine), Dr. Lama Alabdulaaly (Harvard School of Dental Medicine), Dr. Sook-Bin Woo (Department of Oral Medicine, Infection and Immunity, Harvard School of Dental Medicine, Boston, MA Division of Oral Medicine and Dentistry, Brigham and Women's Hospital, Boston, MA, StrataDx, Lexington, MA)

Introduction: Elastic fibers are present universally in the oral mucosa and increased elastic fibers in the skin can be seen secondary to radiation or actinic damage. Elastosis of the oral mucosa had been previously reported as elastofibroma/elastofibromatous changes, with only 15 cases reported in the literature. Of these, only 8 cases represented nodular masses and 7 were plaques. Here, we report cases of oral focal elastosis similar to late-onset focal dermal elastosis (FDE).

Results: Seven cases were identified, 4 of which were in females. The median age was 71 (range 49-84), with 6 patients > 65 years of age. One patient had history of radiation for a tonsillar cancer. Six cases were fibromas/fibrous hyperplasias (4 gingiva/palatal mucosa, 1 each in the buccal mucosa and tongue). All showed an abundance of of grey-blue elastic fibers, and some had deep pink globules of elastin, all confirmed with the Verhoeff-van Gieson stain. One was a dysplastic leukoplakia of the gingiva.

Discussion: Late-onset FDE was described by Tajima et al. 1995 as an age-related increase of elastic fibers in the skin. It frequently affects elderly patients (7^{th}-9^{th} decades) and presents as asymptomatic skin-colored papules on the neck and flexural surfaces. Immunohistochemical and biochemical studies and gene expression assays showed that FDE likely results from increased elastin accumulation in the dermis secondary to mechanical stress and, hence, its increased occurrence in flexural surfaces. Here, we report 7 cases of elastotic lesions of the oral mucosa with histopathology similar to that of FDE, and we propose the term "focal oral elastosis" which is analogous to FDE, six of which occurred in the setting of a fibroma.

44. Nuclear pan-TRK immunoreactivity predicts NTRK3 fusion in secretory carcinoma: recognizing a protein product of a gene rearrangement

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Patricia Barros (Zucker School of Medicine at Hofstra-Northwell, Department of Dental Medicine), Dr. Morris Edelman (Zucker School of Medicine at Hofstra-Northwell, Department of Pathology and Laboratory Medicine), Dr. John Fantasia (Zucker School of Medicine at Hofstra-Northwell, Department of Dental Medicine)

Introduction: Salivary secretory carcinoma (SC) is a rare low-grade adenocarcinoma defined genetically by *ETV6* rearrangement, classically resulting in *ETV6-NTRK3* fusion and rarely others including *ETV6-RET* fusion. Micro- scopic overlap with several salivary gland tumors can lead to misdiagnosis, especially in respect to acinic cell car- cinoma. Conventionally, immunoreactivity with S100 and mammaglobin and/ detection of *ETV6* rearrangement have assisted in the diagnosis. Additionally, a recently developed pan-TRK antibody has been employed to identify tumors with *NTRK* fusion, including SC.

Case Findings: A 13-year-old male presented with a right upper neck enlargement of one year duration initially considered parotitis. The enlargement persisted after two rounds of antibiotics. Ultrasound imaging identified a 2.7 cm cystic lesion. Fine needle aspiration and MRI suggested a branchial cleft cyst. Superficial parotidectomy was performed. Microscopic examination revealed a cystic, circumscribed tumor with an intact fibrous capsule exhibit- ing a microcystic growth pattern with luminal secretions and foci of dissociated cells. Cells were small-medium with round-oval nuclei and distinct centrally placed nucleoli, with pink, frothy cytoplasm.
Results: The combination of strong and diffuse immunoreactivity with S100 and mammaglobin favored a diagno- sis of SC. Strong, diffuse nuclear immunoreactivity with pan-TRK was further supportive and indicated the likely presence of *NTRK* fusion. DOG1 was focally positive. Next generation sequencing detected *ETV6-NTRK3* fusion.

Conclusion: Pan-TRK antibody may serve as an additional diagnostic adjunct in the increasingly complex differ- ential diagnosis of salivary gland tumors. Additionally, pan-TRK is correlated with *NTRK3* rearrangement and can have therapeutic implications. A negative pan-TRK may suggest alternative fusion partners like *ETV6-RET* or oth- ers, with these having prognostic significance. Finally, this case report highlights the pitfalls of diagnosing a cystic low-grade adenocarcinoma in a child, where clinically suspected developmental and infectious conditions can lead to delay in diagnosis and treatment.

45. Sinonasal Melanoma in an African American Man. A Case Report and Review of the Literature

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. Billy Ballard (Meharry Medical College, School of Dentistry and Medicine)

Primary mucosal melanomas of the nasal cavity and paranasal sinus are rare, aggressive malignant tumors, es- pecially in African Americans. The complexity of the anatomical location and symptoms of malignant lesions in the Sinonasal cavity is frequently confused with typical benign conditions. Delayed diagnosis frequently results in poor survival rates. This report describes a 57-year-old African American man with left orbital proptosis and recurrent epistaxis. A computed tomography scan revealed a 4.8 x 3.5 x 6.3 cm. mass involving the left nasal cav- ity, maxillary sinus, ethmoid sinus, frontal sinus, and orbit. An endoscopic biopsy revealed a Sinonasal melanoma with histopathological and immunohistochemical confirmation. The patient underwent endoscopic resection of the mass, followed by chemotherapy and adjuvant radiotherapy. The lesion's aggressive nature and the late stage of diagnosis predicted a poor prognosis. Therapy became ineffective, and he developed lung, liver, retroperitoneum, and pancreatic metastases. He was discharged to hospice since no additional treatment was available. Mucosal and cutaneous melanomas are reported rarely in African Americans. This case report discusses and reviews a Sinonasal Mucosal Melanoma in an African American man, emphasizing that although rare, this lesion must be included in the differential diagnosis of Sinonasal lesions. Mucosal melanoma of the nasal mucosa and paranasal sinus is a rare and deadly head and neck disease. Mucosal melanoma makes up only 1% of all melanomas and be- tween 4% and 8% of all Sinonasal malignancies. Although only 1% of melanomas occurring in white are mucosal, other racial/ethnic groups have a higher proportion of mucosal melanomas, 15% for Asian/Pacific Islanders, 9% for African Americans/Blacks, and 4% for Hispanics. Mucosal melanomas are the predominant melanoma in African Americans/Blacks.

46. Alveolar Rhabdomyosarcoma in an Older Woman: A Case Report and Literature Review

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. Billy Ballard (Meharry Medical College, School of Dentistry and Medicine)

Rhabdomyosarcoma (RMS) is a rare, aggressive soft-tissue malignant neoplasm of skeletal muscle that arises from the primitive undifferentiated striated muscle cells called rhabdomyoblasts. RMS is the most common soft tissue tu- mor in children and rare in adults. We report a 50-year-old woman with a history of antibiotic and steroid-treated chronic sinusitis and polyps presenting right maxilla bulging, epiphora, ocular pruritus, and upper dentalgia. A computed tomography scan (CT) showed a right-sided 7.3 x 4.9 cm. mass in the nasopharynx that destroyed the anterior and medial walls of the maxillary sinus. An endoscopy biopsy revealed a malignant undifferentiated mes- enchymal neoplasm composed of sheets of small, round, blue cells, with the morphologic and immunohistochem- ical criteria diagnostic of an Alveolar Rhabdomyosarcoma. Histologically RMS is subdivided into four subtypes: embryonal, alveolar, botryoid, and pleomorphic. Embryonal RMS is the most common subtype in children, while pleomorphic RMS is most common in adults. RMS accounts for approximately 1% of adults and 10-12% of children's head and neck cancers. RMS's five-year overall survival rate in the pediatric population is 70%, compared to 40%– 54% in the adult population. Because of its rarity and common presenting symptoms with inflammatory diseases, RMS can be difficult to recognize and diagnose in the early course of the disease, which delays adequate treatment and a favorable prognosis. Currently, there are no official guidelines for managing the disease in adults. Treatment of RMS involves a multimodal approach, including chemotherapy, radiation therapy, and surgical resection when possible. This Sinonasal alveolar rhabdomyosarcoma case study highlights the importance of maintaining a broad differential diagnosis when evaluating a unilateral nasal obstruction in an adult.

47. EBV-positive lymphoepithelial-like carcinoma of the floor of the mouth showing high expression of the immunotherapy target PD-L1

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. Prokopios Argyris (Howard Hughes Medical Institute, University of Minnesota, Minneapolis, MN), Mr. Carter Lukenda (School of Dentistry, University of Minnesota, Minneapolis, MN), Dr. James Midtling (Private practice), Prof. Mansur Ahmad (Division of Oral Medicine, Diagnosis and Radiology, School of Dentistry, University of Minnesota, Minneapolis, MN), Prof. Rajaram Gopalakrishnan (Division of Oral and Maxillofacial Pathology, School of Dentistry, University of Minnesota, Minneapolis, MN)

Introduction: Lymphoepithelial-like carcinoma (LELC) of the head/neck represents the histopathologic analogue of nasopharyngeal lymphoepithelial carcinoma. LELC may present in various anatomic locations including the salivary glands, oropharynx, and oral mucosa with, overall, favorable outcomes. High PD-L1 immunoexpression, a druggable immunotherapy target, has been previously reported in pulmonary LELCs. **Materials and Methods:** A 42-year-old Asian male presented with a 3-cm, ulcerated, exophytic tumor of the right floor of the mouth ex- tending to the midline without invading the edentulous mandibular bone. No paresthesia, pain or numbness were reported. A PET/CT scan disclosed a hypermetabolic ipsilateral level 1B lymph node suspicious for metastasis. The submandibular and sublingual salivary glands exhibited normal morphology. An incisional biopsy was performed. **Results:** Histopathologic examination revealed infiltration by neoplastic epithelial cells organized in a multilobular architecture and engulfed by a dense lymphocytic proliferation. The malignant cells displayed a syncytial growth pattern and featured indistinct cell membrane borders, abundant, eosinophilic or amphophilic cytoplasm, large round, ovoid or elongated, vesicular nuclei and prominent nucleoli. Nuclear pleomorphism, atypia and high num- ber of mitoses were observed. The carcinoma cells were positive for EBV by EBER ISH. By immunohistochemistry, strong and diffuse positivity for cytokeratin AE1/AE3, p53 and Ki67 (>70-80% of the cells) was seen. The lymphocytic population comprised predominantly of CD3-positive T cells. Moderate-to-strong membranous/cytoplasmic PD-L1 (clone SP263) immunoreactivity was observed in >25% of tumor cells and surrounding infiltrating T cells. A diagno- sis of LELC was rendered. Review of the English literature revealed 26 examples of intraoral LELC (mean age=60.5 years, range=38-82, F:M ratio=18:8) with a predilection for the palate (62%), and EBV-positivity in 64% of the cases. **Conclusions:** LELC may, infrequently, present intraorally. Similar to its nasopharyngeal counterpart, oral LELC is strongly associated with EBV infection. PD-1/PD-L1 targeted immunotherapies may serve as a promising additional therapeutic regimen for this patient group.

48. Submucosal fibrous nodules of the hard palate with features of collagenous fibroma. A specific entity?

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Mr. Nikolaos Apostolidis (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA), Mrs. Ioanna Tsouri (Department of Oral Medicine and Pathology and Hospital Dentistry, School of Dentristry, NKUA), Dr. Efstathios Pettas (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Athens), Mrs. Anastasia Andreou (Department of Oral Medicine and Pathology and Hospital Dentistry, School of Dentistry, National and Kapodistrian University of Athens), Dr. Maria Georgaki (Department of Oral Medicine and Pathology and Hospital Dentistry, School of Dentistry, National and Kapodistrian University of Athens), Dr. Evangelia Piperi (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Athens, Greece), Prof. Andreas C. Lazaris (1st Department of Pathology, School of Medicine, National and Kapodistrian University of Athens, Greece), Prof. Nikolaos G. Nikitakis (Department of Oral Medicine & Pathology and Hospital Dentistry, School of Dentistry, NKUA, Athens, Greece)

Introduction: Collagenous fibroma (CF), also known as desmoplastic fibroblastoma, represents a benign, slowly growing fibroblastic/myofibroblastic soft tissue tumor of wide anatomic distribution, mostly affecting the subcu- taneous and intramuscular tissue. Although its pathogenesis remains obscure, detection of the t(2;11)(q31;q12) translocation is considered supportive of its neoplastic origin. Cases involving the oral cavity remain scarce in the literature. Our scope is to comprehensively analyze the clinicopathologic and immunohistochemical profile of five cases affecting the hard palatal mucosa and falling into the spectrum of oral CF.

Materials and Methods: Five cases diagnosed as oral CFs were retrospectively retrieved and their demographic, as well as clinicopathologic and immunohistochemical characteristics, were assessed.

Results: Five patients, four females and one male with a mean age of 57.8 years, were referred for evaluation of a solitary, asymptomatic palatal nodule of long duration, clinically reminiscent of salivary gland or mesenchymal tumors. The medical history of all patients was unremarkable with no history of previous local trauma. All lesions were surgically excised and histopathologic examination revealed a well-demarcated paucicellular lesion composed of spindled to stellate-shaped cells with bland nuclei exhibiting thin chromatin and small nucleoli embedded in a dense hyalinized collagenous stroma with low vascularity. Entrapment of adipose tissue was also a predominant feature of all tumors. The post-surgical course was uneventful with no recurrences reported so far. The expression of α-SMA confirmed the myofibroblastic origin of a subpopulation of cells, while the tumor cells were S-100, CD34, and CD68 negative.

Conclusions: The findings of our study are in accordance with the pertinent English-language literature about oral CFs and highlight the predilection for the mucosa of the hard palate. Further reporting and characterization of submucosal nodules of fibrous consistency located in this oral anatomic subsite and comparison with their non-oral counterparts, including cytogenetic analysis, is recommended.

49. The Usefulness of Claudinin Oral Lichen Planus and Epithelial Dysplasia

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Saja Alramadhan (University of Florida), Dr. Indraneel Bhattacharyya (University of Florida), Dr. Donald Cohen (University of Florida), Dr. Nadim M Islam (University of Florida)

Introduction: Claudins constitute a group of proteins that are crucial components of the tight junction structure and function. The altered expression of selected claudins has been reported in several malignancies. This study aims to assess the usefulness of claudindifferentiation between oral lichen planus and epithelial dysplasia, particularly from lesions in high-risk locations with equivocal diagnoses.

Materials and Methods: An IRB-approved retrospective search of the University of Florida Oral Pathology biopsy service database between 1994- 2021 was performed. All cases of oral lichen planus (OLP), oral lichen planus with atypia (OLPA), and oral epithelial dysplasia (OED) affecting high-risk locations were identified. The cases were re-evaluated independently by three board certified Oral and Maxillofacial Pathologists and cases selected for claudin and claudin immunohistochemistry (IHC) staining testing. Stained cases were reviewed and evalu- ated for intensity and extent of IHC expression of claudin

Results: The expression and intensity of claudinOED. Claudin-1 showed strong membranous immunoreactivity involving the basal and suprabasal layer of the epithelium in severe OED and carcinoma in situ. Moderate membranous immunoreactivity was seen only in the suprabasal layer in mild and moderate OED. In OLP the staining pattern of claudin-1 was similar to that seen in mild and moderate OED; however, the staining expression and intensity were weaker. Claudin

Conclusion: In the current series there was no statistically significant difference in claudin and claudin immunohistochemical expression to support the use of these immunomarkers as discriminators between OLP, OLPA, and OED in lesions from high-risk locations.

50. RHABDOMYOMATOUS MESENCHYMAL HAMARTOMA OF THE TONGUE. L AlQudah, R Riggs, V Murrah. U North Carolina, Chapel Hill, Greensboro Oral, Implant & Facial Cosmetic Surgery Center, NC.

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Leen AlQudah (University of North Carolina at Chapel Hill Adams School of Dentistry), Dr. Robert J Riggs (Greensboro Oral, Implant & Facial Cosmetic Surgery Center), Dr. Valerie Murrah (University of North Carolina at Chapel Hill Adams School of Dentistry)

Rhabdomyomatous mesenchymal hamartoma (RMH) is a rare congenital lesion of the head and neck, consisting of a disordered collection of mature skeletal muscle, adipose tissue, nerve bundles, with or without adnexal struc- tures. RMH is reported in the literature under various names, including, striated muscle hamartoma, congenital midline hamartoma, and hamartoma of cutaneous adnexa and mesenchyme. RMH usually presents as a solitary lesion but may be multicentric and associated with congenital abnormalities. RMH can develop with uncommon congenital abnormalities such asoculocerebrocutaneous (Delleman) syndrome, a rare condition accompanied by orbital cysts, cerebral malformations, and focal skin defects. Only 70 RMH cases have been reported in the liter- ature. The pathogenesis is unknown but may be explained by embryological migration of tissues derived from mesoderm influenced by genetic and microenvironmental factors. We present a case of RMH on the tongue, an unusual location. A 16-year-old healthy female, presented with a single well-defined sessile pink submucosal mass on the posterolateral border of the tongue that had not changed in size for several years. Excisional biopsy was performed. Histopathologic examination revealed an intact, hyperparakeratotic acanthotic stratified squamous epithelium. Atypical striated muscle was localized immediately proximal to the surface epithelium. It infiltrated between copious amounts of adipose tissue and thick-walled vascular channels. The deepest portion of the speci- men showed typical striated muscle. There was no evidence of malignancy. Immunohistochemistry for desmin and S-100 were performed. The atypical striated muscle directly beneath the surface was strongly positive for desmin. S-100 highlighted small foci of normal peripheral nerve and ruled out granular cell tumor. Follow-up revealed no functional post-surgical complications nor evidence of recurrence. We conclude that RMH should be considered in the differential diagnosis of long-standing asymptomatic tongue masses in young patients and, if present, should alert the clinician to the possibility of associated syndromes.

51. A case report of HPV-related multiphenotypic sinonasal carcinoma (HMSC)

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. Fatma Alkassimi (BDS, MS), Dr. Yousef Soofi (MD), Dr. Emad Alqassim (MD)

Introduction: Human papillomavirus (HPV)-related multiphenotypic sinonasal carcinoma (HMSC), formally named as HPV-related carcinoma with adenoid cystic carcinoma-like features.

This lesion is usually restricted to the sinonasal tract and shows features of surface dysplasia and adenocarcinoma (specifically adenoid cystic carcinoma). The molecular studies reveal the association of this lesion with high-risk HPV especially HPV 33. Here we report a case of a 37 year old male, HIV positive presented with nasal polyps and epistaxis. The patient underwent bilateral nasal sinuses surgery.

Materials and Methods:

Grossly: Right sinus contents was received as an aggregate of tan- brown soft tissue with a hemorrhagic material that measures 5.5 x 4.5 x 1.0 cm.

Microscopically: The tumor is predominantly composed of a mixed cribriform , tubular and solid pattern of basaloid cells with focal surface squamous dysplasia. The tumor is biphasic, with eosinophilic ducts scattered among the basaloid cells. Also, histological evidence of myoepithelial differentiation has been noted.

A panel of different ancillary tests were performed.

Results: Immunohistochemical stains showed the tumor cells are positive for p16, Pancytokeratin, CK7, SOX-10 and SMA, and patchy positive for CK5/6, p40 , p63, S100 and CD117. On the other hand, the tumor cells are negative for Desmin, Myo-D1, Synaptophysin, Chromogranin, CD45 , CD34 ,GATA3, CK20 and Mucicarmine. MIB1 demonstrates a high nuclear index. The in situ hybridization test showed tumor to be positive for the HPV 33 mRNA.

Conclusion: The most challenging differential diagnosis in this case is an intranasal adenoid cystic carcinoma, but the focal surface squamous dysplasia and positive HPV test reduce the possibility of this diagnosis. Another important differential diagnosis that should be included is the basaloid squamous cell carcinoma (BSCC). However, the BSCC usually does not react with SMA and S100. The microscopic features and ancillary tests are consistent with the diagnosis of (HMSC).

52. Prevalence of High-Risk Human Papillomavirus in Oral Squamous Cell Carcinoma

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Sara Albastoni (University of North Carolina at Chapel Hill Adams School of Dentistry), Dr. Valerie Murrah (DMD, MS, MAEd, MBA), Dr. Ricardo Padilla (University of North Carolina at Chapel Hill Adams School of Dentistry), Dr. Si On Lim (University of North Carolina at Chapel Hill Adams School of Dentistry)

Introduction: High-risk human papillomavirus (HR-HPV) infection is a well-established favorable prognostic vari- able in oropharyngeal squamous cell carcinoma (OPC), leading to deescalated treatment and better outcomes com- pared to HPV-independent OPC. Studies of HR-HPV in OPC demonstrated the validity of using immunohistochem- istry (IHC) with antibody p16 as a surrogate marker to assess the presence of transcriptionally-active HR-HPV in tumors of that site. There is limited published data regarding the prevalence of transcriptionally-active HR-HPV in oral squamous cell carcinoma (OSCC) to validate its use as a standard of care. The objective of this study aims to determine the prevalence of HR-HPV infection in OSCC by means of p16 IHC and HR-HPV ISH and to assess the utilization of p16 IHC as a surrogate marker for transcriptionally active HR-HPV in OSCC.

Materials and Methods: This study was approved by our Institutional Review Board. OSCC cases from 2018 to 2019 with p16 IHC and HR-HPV ISH studies diagnosed at the University of North Carolina at Chapel Hill Oral and Maxillofacial Pathology Laboratory were retrieved (n = 107). The hematoxylin and eosin, p16 IHC, and HR-HPV ISH slides were reviewed and scored by three board-certified oral and maxillofacial pathologists. Sixty-nine cases met the inclusion criteria for this study.

Results: There was 100% concordance between the pathologists. Sixty-four (92.8%) cases were non-reactive for both p16 IHC and HR-HPV ISH. Four (5.8 %) cases demonstrated only p16 immunoreactivity. One (1.4%) case, from the floor of the mouth, demonstrated both p16 and HR-HPV ISH reactivity.

Conclusions: In this cohort of OSCC, HR-HPV prevalence was low. These results support the more aggressive con- ventional treatment of OSCC. In view of the discordance in 5.8% of the cases, investigation of other potential HPV etiologic types is warranted.

53. Kaposi sarcoma masquerading as a pyogenic granuloma, elicits further clinical investigation for HIV infection.

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Shahd Alajaji (University of Maryland Baltimore), Dr. Kevin Asher (Private practice), Dr. Ahmed S. Sultan (University of Maryland Baltimore), Dr. John Basile (University of Maryland Baltimore), Dr. Rania Younis (University of Maryland Baltimore)

Introduction:

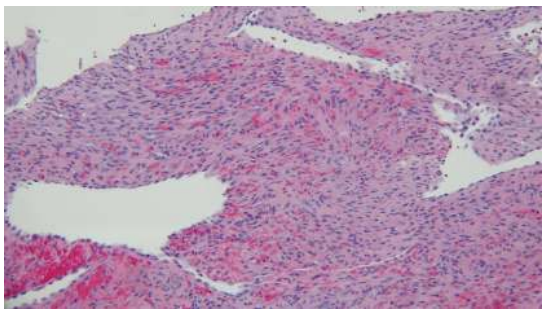
Kaposi sarcoma (KS) is a rare angio-proliferative endothelial neoplasm. Although the pathogenesis of KS is likely multifactorial, infection of cells with human herpes virus 8 (HHV-8) is the main etiologic component. KS affecting the oral mucosa typically manifests with small, well-delineated macular lesions or larger infiltrative hemorrhagic nodular lesions.

Case presentation:

A 24-year-old otherwise healthy male with non-remarkable medical history presented to his dentist with a red- purple exophytic nodule measuring approximately 3 x 2 x 1.5 cm located on the buccal attached gingiva of teeth #2 and #3. It had been present for more than 6 weeks. Tooth #2 had class III mobility. The clinical impression was a pyogenic granuloma. An incisional biopsy was obtained and submitted for histopathologic evaluation. H&E stained sections showed stratified squamous epithelium overlying an inflamed and vascular fibrous connective tissue. The connective tissue contained large staghorn-like blood vessels, fragments of metaplastic bone, and numerous spindle- shaped cells that formed slit-like vascular spaces. Extravasated red blood cells were observed especially at the depth of the specimen. The spindle cells exhibited little to no atypia or mitotic activity and were positive for CD31 and CD34. HHV-8 was detected by in situ hybridization and was strongly and diffusely positive confirming a diagnosis of KS. After receiving the histopathologic diagnosis, the referring dentist discussed with the patient who disclosed high risk sexual habits and was referred for HIV testing and to an oral surgeon for complete excision.

Conclusion:

KS presenting in the oral cavity, as the initial sign of disease in an undiagnosed patient, is exceptionally rare. This case highlights that KS can clinically and histologically mimic the appearance of a very common reactive lesion and that further work-up is necessary especially in cases with dense proliferations of spindle-shaped, extravasated red blood cells, and large staghorn-like blood vessels.



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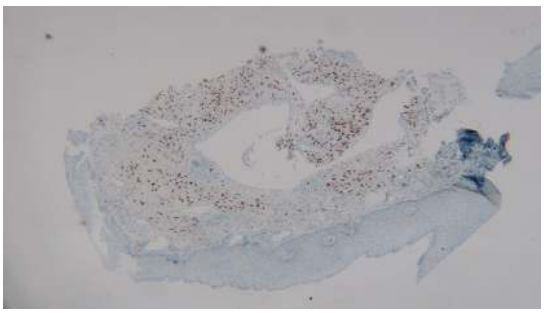

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54. Granulomatosis with Polyangiitis manifesting as "strawberry gingivitis": a prototypical case

Tuesday, 12th April - 09:30: - Poster (Student/Resident)

Dr. Shahd Alajaji (University of Maryland Baltimore), Dr. Kim Thi Van Dinh (Private practice), Dr. Vasileios Ionas Theofilou (University of Maryland Baltimore), Dr. John Basile (University of Maryland Baltimore), Dr. Rania Younis (University of Maryland Baltimore), Dr. Ahmed S. Sultan (University of Maryland Baltimore)

Introduction:

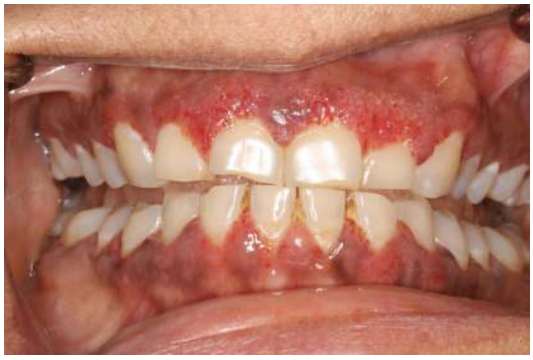
Granulomatosis with Polyangiitis (GPA), previously known as Wegener's granulomatosis, is a type of primary sys- temic vasculitis of small and medium blood vessels characterized by elevated serum levels of anti-neutrophil cy- toplasmic antibodies (ANCA). Three classic features of this rare disease are: necrotizing granulomas of the upper respiratory tract, necrotizing cutaneous vasculitis, and glomerulonephritis. It typically manifests in the oral cavity as classic "strawberry gingivitis" or palatal perforation.

Case presentation:

A 49-year-old female presented to her dentist with generalized gingival swelling and erythema. No relevant med- ical history was provided to our biopsy service. A gingival biopsy specimen showed highly vascular connective tissue containing mixed inflammatory cell infiltrates predominantly of neutrophils and plasma cells. The epithe- lium showed psuedoepitheliumoatous hyperplasia and reactive epithelial atypia. Leukocytoclastic vasculitis and areas of fibrinoid necrosis were observed. Prominent intraepithelial and subepithelial abscesses with significant exocytosis of neutrophils in the epithelium were also noted. The connective tissue contained numerous multi- nucleated giant cells (MNGs) and some were of the langhans-type. After contacting the referring dentist, we were informed that the patient had a previous diagnosis of GPA. The patient was first diagnosed in 2015 and was managed by IV Methylprednisolone, Methotrexate, Leflunomide, and Folic Acid. Currently, on Rituximab and Leflunomide as maintenance therapy. Clinical photographs demonstrated the pathognomonic sign of "strawberry gingivitis." Clinicopathologic correlation was consistent with a final diagnosis of GPA.

Conclusion:

Our case highlights a prototypical case of GPA manifesting with classic "strawberry gingivitis" in the absence of relevant medical history during initial histopathologic evaluation. Because gingival disease can be asymptomatic and remain isolated for long periods of time before spreading to other organs, early identification is essential to initiate treatment early and to hamper disease progression.



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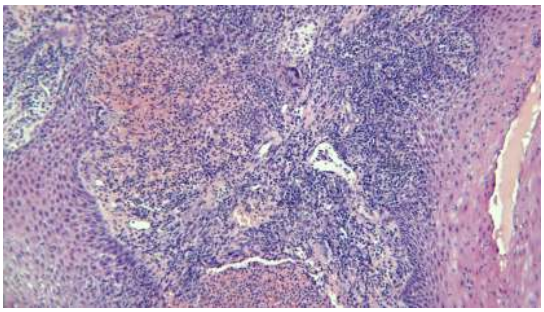

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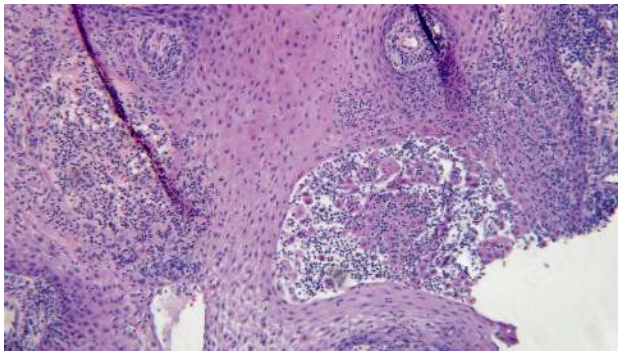

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55. An Unusually Expansile Nasopalatine Duct Cyst Mimicking a Nasolabial Cyst: a Case Report

Tuesday, 12th April - 09:30: - Poster (Regular)

Dr. Moni Ahmadian (University of Nevada), Dr. John Dudek (Mountain View Oral Surgery Las Vegas, NV), Dr. Rajendrakumar Ingle (LMC Pathology Services/ Aurora Diagnostics, Las Vegas, NV)

The nasopalatine duct cyst (NPDC) is the most common non-odontogenic developmental cyst of the gnathic bones. NPDC is believed to arise from cystic degeneration of the epithelial remnants in the nasopalatine duct. Most com- monly diagnosed in the fourth to sixth decades of life, NPDC typically presents as a well-defined unilocular radiolu- cent lesion in the midline anterior hard palate in close radiographic relationship with the apices of the maxillary central incisors. Although many cases are asymptomatic, occasional expansile examples of NPDC have been re- ported usually presenting with swelling of the anterior hard palate. Here we report an unusually expansile and destructive NPDC in a 23 year-old male resulting in perforation of the facial alveolar bone. Clinically, this cyst was deflected lateral to the midline leading to obliteration of the maxillary mucolabial fold, and elevation of the ala of nose closely mimicking the presentation of a nasolabial cyst. Given the significant histomorphologic overlaps between NPDC and nasolabial cyst, this unusual case highlights the importance of correlation of histologic features with the radiographic and intraoperative findings.