IMMUNOHISTOCHEMICAL ANALYSIS OF SOX2, FGF-10 AND WNT-1 IN BENIGN EPITHELIAL ODONTOGENIC LESIONS. *DR. LÉLIA BATISTA DE SOUZA, DR. MARCELO ANDERSON BARBOSA NASCIMENTO, MS. HELLEN SANTOS, PROF. ROSEANA DE ALMEIDA FREITAS, PROF. LEÃO PEREIRA PINTO. FEDERAL UNIVERSITY OF RIO GRANDE DO NORTE*

Objectives: This study evaluated the immunoexpression of SOX2, FGF-10 and Wnt-1 in 20 cases of odontogenic keratocyst (OKC), 20 solid ameloblastoma (AM), 20 adenomatoid odontogenic tumor (AOT), 10 calcifying epithelial odontogenic tumor (CEOT) and 5 dental germs.

Findings: The analysis of SOX2 immunoexpression revealed positivity in most cases of the lesions. The immunostaining score for SOX2 revealed a statistically significant difference between the groups of lesions, with a higher frequency in OKC and CEOT ($p < 0.001$). After pairing, we observed a significant difference between AM and OK, AM and CEOT, OKC and AOT, OKC and CEOT, and AOT and CEOT ($p < 0.05$). Analysis of the immunoexpression of FGF-10 revealed positivity in all cases of the lesions, with no statistically significant difference between the groups ($p = 0.628$). There was a significant difference in relation to the positivity scores for Wnt-1 ($p < 0.001$) with higher frequency in OKC and AOT. After pairing, there was a statistically significant difference between AM and OKC, AM and CEOT, OKC and CEOT and, AOT and CEOT ($p < 0.05$).

Conclusions: The expression pattern of SOX2, FGF-10 and Wnt-1 in dental germs and odontogenic lesions evaluated here confirms the participation of these proteins in the tooth development as well as in the development of benign epithelial odontogenic lesions.

AMELOBLASTIC FIBRODENTINOMA: A UNIQUE MIXED ODONTOGENIC TUMOR. *DR. AMIR AFROGHEH. UNIVERSITY OF THE WESTERN CAPE/NHLS*

Ameloblastic Fibrodentinoma (AFD) is currently considered as a developing odontoma, and has subsequently been removed from the new WHO classification of odontogenic tumours. However, the presence of dentinoid in AFD, absence of enamel, the potential for continued growth, its exceptionally low recurrence rate, and the occurrence of AFD within the same age group as ameloblastic fibroma (AF) and ameloblastic fibro-odontoma (AFO), suggest a unique mixed odontogenic neoplasm, separate from AF, AFO and developing odontoma. The histologic diagnosis of AFD can be challenging in small/limited biopsy specimens composed of odontogenic ectomesenchyme and lacking odontogenic epithelium. In such cases, it may not be possible to distinguish between AFD, odontogenic myxoma, dental follicle and central odontogenic fibroma (COF) with confidence, and a circumspect report may be necessary. Herein, a rare case of a large AFD of the anterior maxilla in a 5 year old boy will be presented.

MULTIFOCAL AMELANOTIC MELANOMA OF THE HEAD AND NECK: A CHALLENGING CASE. *DR. ELIANO CASCARDI[A], DR. LUISA LIMONGELLI[A], DR. ANGELA TEMPESTA[A], DR. SAVERIO CAPODIFERRO[A], DR. MAURO MASTROPASQUA[B], PROF. ANNA NAPOLI[A], PROF. EUGENIO MAIORANO[A], PROF. GIANFRANCO FAVIA[A]. [A] UNIVERSITY OF BARI, [B] POLICLINICO HOSPITAL OF BARY*

Introduction: Primary malignant melanoma evolves from melanocytic precursors via the formation of intermediate lesion of varying stability. Less than 1% of all malignant melanomas arise in the head and neck area, the anterior maxilla and alveolar mucosa being the most frequently affected sites. Males and females are equally affected, with an age range between adolescence and senescence. The prognosis is usually poor, with a 5-years survival rate of 30-35% and a median survival of 36 months.

Several cases of primary malignant melanoma of the head and the neck area have been reported in the literature but in most cases no clear evidence was shown whether such lesions were primary or metastatic in origin.

Case Report: We present a case of malignant melanoma in a 50-years old male, who complained for a rapidly growing maxillary nodular lesion, involving the ethmoid sinus and the orbital base. Histopathological intraoperative examination revealed a poorly differentiated malignancy, with spindle-shaped cells showing prominent nucleoli. Subsequent immunohistochemical stains highlighted pan-CK (dot-like) and S100 protein positivity but HMB-45 and melan-A were negative, supporting the diagnosis of malignant melanoma. The tumour was treated by en-block resection with mapping-margins and additional histopathological examination showed an intra-mucosal hyper-melanotic lesion, consistent with an acral lentiginous-type melanoma, which was considered the primary neoplastic focus.

Conclusions: Primary malignant melanomas in the oral cavity are rare and usually asymtomatic at early stages, thus leading to delayed diagnosis. This must rely upon accurate histopathological and extensive immunohistochemical evaluation as the morphological features often are misleading or non-specific. It is worth to emphasise that melanocyte-specific antigens (Melan-A and HMB-45) frequently are negative in such neoplasm and unexpected cytokeratin positivity may occur, which may result in an inappropriate diagnosis.

PIGMENTED MUCOEPIDERMOID CARCINOMA: A CASE REPORT. *DR. JOSEPH KUBIAK, DR. JOHN FANTASIA, DR. JIAN YI LI, MD, PHD. ZUCKER SCHOOL OF MEDICINE AT HOFSTRA/NORTHWELL*

Objective: Mucoepidermoid carcinoma (MEC) is the most common salivary gland malignancy, but to date, there are few reported cases of the pigmented variant of mucoepidermoid carcinoma. Classically, MEC is a malignant epithelial tumor composed of varying proportions of mucous, epidermoid, intermediate, columnar, clear, and occasionally oncocytic cells. There are two main classification systems that stratify MEC into low-, intermediate-, and high-grade types on the basis of morphologic and cytologic features. Additionally, there are well recognized variants of MEC, including clear cell and oncocytic variants of MEC. This case is selected to highlight the uncommonly encountered pigmented variant of MEC.

Clinical Presentation: A 32 year-old male with a one year history of cheek pain presented with a 0.9×0.5 cm pigmented and painful swelling of the right inferior buccal mucosa, adjacent to tooth #30.

Intervention and Outcome: An incisional biopsy was taken of the right inferior buccal mucosa and submitted for

histopathologic diagnosis. A diagnosis of mucoepidermoid carcinoma, pigmented, low-grade (AFIP Grading Scheme) was rendered. Subsequent CT and PET imaging revealed no evidence of metastasis, and the tumor was fully resected with negative margins under general anesthesia. Immunohistochemical profile demonstrated positive staining for CK5/6 and p63 with focal S100 and mammaglobin positivity.

Conclusion: Mucoepidermoid carcinoma is a common salivary gland malignancy, but the uncommon pigmented variant of MEC can pose confusion for the surgical pathologist.

EVALUATING UTILITY OF PROTEIN S100A7 IN PREDICTING PROGRESSION OF ORAL EPITHELIAL DYSPLASIA.

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Objectives: Protein biomarker, S100A7, in oral dysplasia and squamous cell carcinoma has shown some predictive value for the transformation of dysplasia to cancer. The objectives of this study are: (1) to determine a correlation between the expression of S100A7 and histologic grade of oral dysplastic lesions using immunohistochemistry and an algorithm based on image analysis; and (2) to evaluate whether S100A7 can be utilized as a reliable predictor for progression of low grade oral dysplastic lesions or transformation to carcinoma.

Findings: 8 low grade lesions evolved into high grade lesions, and 7 high grade lesions evolved into higher grade lesions, over time. For the low grade lesions, the average S100A7 immunostaining score was 5.6; three were graded low risk and 5 were graded medium risk by algorithm. One low grade and 3 high grade lesions did not progress and remained stable. For these, the average S100A7 immunostaining score was 5.8; one was graded low risk and 3 were graded medium risk by algorithm. Preliminary analysis suggests S100A7 has increased expression in higher risk lesions.

Conclusion: The identification of a reliable, quantitative measure in the diagnosis of dysplasia and the ability to predict the likelihood of transformation to malignancy will potentially lead to more individualized treatment and better patient outcomes.

LOW-GRADE MUCINOUS SINONASAL ADENOCARCINOMA NON-INTESTINAL TYPE: A CASE REPORT.

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Objetive: Present a case of low-grade mucinous sinonasal adenocarcinoma, non-intestinal type in maxillary sinus. The intestinal type sinonasal adenocarcinomas (I-TSAC) are a very rare neoplasm with similar architectural and cytological features to a G.I. metastatic carcinomas; the non-intestinal type cacinomas are less frequent that I-TSAC.

Case: 70-year-old male with a painless swelling on the zygomatic area, epistaxis and nasal obstruction symptoms with six months of evolution. X-ray examination revealed solid mass occupying the left maxillary antrum, infiltrating the zygomatic arch and the eye orbital floor. The microscopic findings consist in solid-mucionous neoplasm of pleomorphic low columnar cells, the cellular proliferation was arranged in nest with back to back architectural growth pattern, and focal bone invasion, A very loose eosinophilic stroma with mucinous aspect surround the neoplastic nests. Immunohistochemical reactions was positive for CK7, and pS100, being negative for CK20, and MUC-2. PET-scan revealed no systemic disease and confirming no metastatic origin.

Conclusions: The SN-ITACs are a very uncommon neoplasm, localized mainly in the ethmoidal sinus, nasal cavity and maxillary sinus. The SN-ITACs are very likely to the intestinal adenomas and adenocarcinomas, these tumors could be positive to CK20, MUC-2, and CDX-2. The differential diagnosis is the pleomorphic adenoma and its malignant counterpart (Carcinoma ex-pleomorphic adenoma), metastatic adenocarcinomas must be included in the differential diagnosis especially those with gastro-intestinal origin. Renal, breast and prostate carcinomas has been reported with sinonasal metastasis.

SALIVARY GLAND EPITHELIAL NEOPLASMS IN PEDIATRIC POPULATION: A SINGLE-INSTITUTE EXPERIENCE.

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Objectives: Salivary gland epithelial neoplasms are very rare in children and adolescents. The aim of the present study was to determine the clinicopathologic characteristics of salivary gland neoplasms in patients younger than 19 years from January 2005 to December 2017 at our institution according to the 2017 World Health Organization classification of salivary gland tumors.

Findings: During the 13-year period, a total of 77 patients were analyzed. The tumors were located in the parotid (n= 37), submandibular gland (n = 15), and minor salivary glands (n = 25). The mean age was 14.5 years old (ranging from 6 to 18 years). Seventy-two (93.5%) of 77 tumors occurred in the 10−18 year age group, and only 5 in patients aged less than 10 years. The male-to-female ratio was 1:1.08. Fifty tumors (64.9%) were benign and 27 (35.1%) were malignant. The histologic types of adenomas were pleomorphic adenoma (n = 45, 58.4%), myoepithelioma (n = 4, 5.2%), and sebaceous adenoma (n = 1, 1.3%). The histologic types of carcinomas were mucoepidermoid carcinoma (n = 18, 23.4%), secretory carcinoma (n = 4, 5.2%), acinic cell carcinoma (n = 3, 3.9%), adenoid cystic carcinoma (n = 1, 1.3%), and myoepithelial carcinoma (n = 1, 1.3%). Three of the 4 cases of secretory carcinoma were initially diagnosed as cystadenocarcinoma.

Conclusions: Salivary gland epithelial neoplasms in Chinese pediatric patients are rare. There was a roughly equal sex distribution. The vast majority of patients were diagnosed in the 10−18 year age group. Parotid gland was most common involved site, and pleomorphic adenoma was the most common