SALIVARY GLAND SONOELASTOGRAPHY: TO DO OR NOT TO DO? *DR. IRIT ALLON, DR. DANIEL LONDON, DR. OLGA RESNIKOV, DR. MICHAEL ABBA, DR. ANNA PIKOVSKY, PROF. ODED NAHLIELI. BARZILAI UNIVERSITY MEDICAL CENTER*

Background: Sonoelastography (SEG) is a non-invasive, relatively new imaging modality that maps the elastic properties through stiffness of soft tissue. Pathological conditions such as inflammation and neoplasia can change tissue elasticity; as a result, when used in the major salivary glands, this non-invasive modality may provide information that could be useful for diagnosis.

Objective: Two preliminary studies are presented; both assess the diagnostic utility of SEG: the first in primary Sjogren's syndrome (pSS) and the second concerns major salivary gland tumors.

Methods and materials: The first study included fifteen patients with pSS that underwent SEG of the major salivary glands before starting pilocarpine treatment versus diffused sialadenitis and normal glands. The second study included nineteen benign and malignant tumors, just before ultrasound-guided needle aspiration for cytology and excisional biopsy. Quantitative indices of the shear elastic modulus were compared with cytological and histopathological results. Elastography was scored on color-scaled elastograms.

Results: Mean elasticity/stiffness values for pSS were not significantly different from those of diffused sialadenitis and normal salivary gland tissue. As for salivary gland tumors, scores showed clustering according to pathological condition. For example, pleomorphic adenomas were firmer than Warthin's and adenoid cystic carcinoma was firmer than polymorphus adenocarcinoma.

Conclusions: SEG did not show a diagnostic advantage in regard to the assessment of pSS. Nevertheless, it might serve as a tool in the evaluation of benign and malignant major salivary glands tumors. Our studies should be continued to confirm these preliminary observations.

METASTASIS AROUND DENTAL IMPLANTS MASCARAING AS PERI-IMPLANTITIS - A WOLF IN SHEEP'S CLOTHING. *DR. IRIT ALLON[A], DR. LIAT HECHT-NAKAR[A], PROF. ABRAHAM HIRSHBERG[B], DR. ALEJANDRO LIVOFF[A]. [A] BARZILAI UNIVERSITY MEDICAL CENTER, [B] TEL*

Background: Placement of dental implants is a common procedure with a high success rate. A minority of the cases fail, however, a manifestation termed peri-implantitis, which is considered clinically obvious, hence often not biopsied.

Case report: In this report, a case of metastatic lung adenocarcinoma mimicking peri-implantitis adjacent two dental implants is presented. The lesion occurred eight months after the surgical implantation procedure and by that time, the underlying malignancy was unknown to the patient. During the surgical procedure itself', and even in the follow up meetings, there was no apparent clinical or radiographic sign of a metastatic disease, but during an eight months follow up session, the soft tissue around the implants was firmly swelled and mildly erythematous, and the x ray imaging revealed a nonspecific ill-defined radiolucency of the alveolar bone. The tissue was excised, adjacent bone was curated and the tissue was submitted to histopathological analysis. The pathological picture presented a malignant tumor composed of epithelial islands embedded within a fibrous stroma. The epithelial islands presented atypical features and an immunohistochemical phenotype of lung adenocarcinoma that included positive pan keratin, thyroid transcription factor-1 and napsin-A and negative thyroglobulin and prostatic specific antigen. Concurrently, the patient was diagnosed with a lung adenocarcinoma and started systemic treatment.

Conclusion: This case of metastatic disease masquerading as peri-implantitis reflects the importance of submitting any tissue to histopathological assessment.

APPLICABILITY OF ORAL EPITHELIAL DYSPLASIA GRADING IN POTENTIALLY MALIGNANT DISORDERS OF ORAL CAVITY-AN INSTITUTIONAL REVIEW. *DR. KARPAGASELVI SANJAI[A], DR. LALITA JAYARAM THAMBIAH[B]. [A] VYDEHI INSTITUTE OF DENTAL SCIENCES/ RAJIV GANDHI UNIVERSITY OF HEALTH SCIENCES, [B] MR AMBEDKAR INSTITITUTE OF DENTAL SCIENCES/RAJIV GANDHI UNIVERSITY OF HEALTH SCIENCES*

Oral cancer may be preceded by Potentially malignant lesions such as leukoplakia, erythroplakia, stomatitis nicotina, oral submucous fibrosis (OSMF) and erosive lichen planus(LP). Oral Epithelial dysplasia (OED) is an important predictor of malignant potential. According to WHO 2017, the three tiered grading reliability can be improved by Binary grading system of high & low risk. So the aim of this retrospective study was verify the applicability of the binary grading system for OED in our institution.

Objective: Comparison of the Binary grading system with WHO three tiered grading system in Oral Epithelial Dysplasia.

Findings: 116 cases reported as OED from the period 2008 to 2017, were reevaluated and graded according to WHO 2005 & the Binary system. 81.03% of cases were clinically diagnosed as oral leukoplakia, 10.34% as oral LP and 8.62% as OSMF. The frequency of distribution of cases according to WHO grading system were mild (19), moderate (55) and severe (42), whereas according to binary system 85 cases are high risk and 31 cases low risk. On comparison, all 42 cases of severe dysplasia were graded as high risk. Out of 55 cases of moderate dysplasia, 41 were graded as high risk and 14 as low risk. Among 19 cases of mild dysplasia, 2 cases were designated as high risk and 17 cases as low risk. Out of 116 cases, 11(9.48%) cases were of recurrence as OED. 9 cases (10.58%) out of 85 high risk cases showed recurrence in comparison to two (2.35%) out of 31 low risk cases. Analysis of Binary system in relation to clinical features is also attempted.

Conclusion: In the present analysis, though majority of the high risk cases occurred on buccal mucosa, recurrence was more on tongue. The binary system helped in defining the prognostic group by providing the histologic criteria.

FREQUENT COEXISTENCE OF GLI1 OVEREXPRESSION AND BRAF(V600E) MUTATION IN AMELOBLASTOMAS. *DR. PEI HSUAN LU, DR. JULIA YU FONG CHANG, DR. JANG-JAER LEE. NATIONAL TAIWAN UNIVERSITY HOSPITAL*

Objective: Recent studies show SMO mutations play a role in the pathogenesis in ameloblastomas and may co-existence with FGFR2, RAS and occasionally BRAF mutations. In our previous study, no SMO mutations were identified in ameloblastomas in Taiwan. To understand whether sonic hedgehog (SHH)

pathway through other mechanisms is present in ameloblastomas in Taiwan and how frequent sonic hedgehog (SHH) pathway coexistence with BRAF mutation, we aimed to examine the expression of Gli1, the key transcription factor in SHH pathway, in ameloblastomas.

Methods: Thirty formalin fixed paraffin embedded ameloblastoma tissue sections were used for macro-dissection of tumor component and DNA and RNA extraction. Sanger sequencing was performed to detect the BRAF(V600E) and SMO(L412F and W535L) mutations. Real-time RT-PCR was performed to investigate the expression of Gli1. Four radicular cysts and one calcifying odontogenic cyst were used as controls. The relationship between Gli1 expression in ameloblastomas and clinicopathological parameters were also evaluated.

Results: Among 30 ameloblastoma cases, twenty-six cases harbored BRAF(V600E) mutation and none had SMO mutations. Either BRAF(V600) nor SMO mutations were identified in controls. The expression of Gli1 was significantly higher in ameloblastomas than controls ($p<0.01$), especially in follicular type ameloblastomas with acanthomatous changes. Multicystic/ Solid ameloblastomas showed higher Gli1 expression than unicystic ameloblastomas ($p<0.05$). The expression of Gli1 was higher in patients >50 year-old than <50 year-old ($p<0.05$). We observed a trend that higher Gli1 expression in BRAF wild type than BRAF mutant cases (P=0.24), however, analysis of a larger cohort is needed to substantiate this finding. No statistical significance was identified between Gli1 expression level with gender, root resorption, bone perforation, and recurrence.

Conclusion: Frequent coexistence of Gli1 overexpression and BRAF(V600E) mutation in ameloblastomas was noted. This finding suggested that inhibition of both SHH pathway and BRAF-MAPK pathway might be required for future target therapy in ameloblastomas.

CANCER ASSOCIATED FIBROBLASTS (CAFS) INFLUENCE TISSUE INVASION ON SALIVARY GLAND MUCOEPIDERMOID CARCINOMA (MEC) CELLS.

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Objectives: MEC is the most common salivary gland malignancy. Although prognosis is mostly based on TNM status, histologic grade is also used as a parameter to determine treatment. CAFs have been reported to influence worse behavior in several malignancies including head and neck squamous cell carcinoma. We noticed the presence of CAF-like cells, displaying immunohistochemical positivity for alpha smooth muscle actin, in some MECs with bad outcome and we hypothesize that CAFs may influence MEC aggressiveness. Therefore, we investigated tissue invasion using the organotypic 3D human leiomyoma model and cell migration using the Incucyte® system with a gel derived from human leiomyomas (myogel). MEC cell lines HMC2 and UTMUC1, derived from high grade tumors, were cultivated alone or co-cultured with CAFs in order to evaluate if CAFs would influence MEC cells invasion and migration. Cells were cultivated on top of human leiomyoma discs for 14 days to allow invasion. Discs were fixed in 10% buffered formalin, processed and 3 micrometer tissue slices were prepared and submitted to immunohistochemical reaction with a pan-cytokeratin antibody (clone AE1/AE3). The number of invasive cells was determined by counting invasive cells under light microscope. Invasion was studied using a wound scratch assay coupled with a live camera and data obtained was analyzed using software provided by the manufacturer.

Findings: Both MEC cell lines (HMC2 and UTMUC1) displayed a significant increase in tissue invasion when co-cultured with CAFs compared to when they were cultured alone. Only HMC2 cell line presented a significant increase in migration when co-cultured with CAFs.

Conclusion: CAFs significantly increase MEC cell lines invasion and migration. The presence of CAFs deserves further investigation in MEC tumor samples and it may correlate with tumor behavior and clinical outcome.

SYNCHRONOUS ORAL SALIVARY GLAND TUMORS: REPORT OF THREE NEW CASES AND REVIEW OF THE LITERATURE.

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Multiple synchronous or metachronous salivary gland tumors, benign or malignant, are rare yet more likely to occur in the major salivary glands compared to involvement of the minor salivary glands. In this poster we present three new cases of synchronous oral salivary gland tumors in minor salivary glands and review the previously reported cases.

All three patients were female. Two of the patients aged 55 and 85, presented with submucosal nodules of the upper lip and left buccal mucosa, respectively. Histopathologically, both cases exhibited two separate encapsulated tumors identified as pleomorphic adenoma and canalicular adenoma presenting as a single nodule in the first case, but as two separated nodules in the second. The third patient was a 46-year old who presented with a grayish-blue, non-ulcerated, and painful nodule on the left soft palate. Histopathologic examination showed a nodule composed of two adjacent, yet separate tumors diagnosed as polymorphous adenocarcinoma demonstrating significant perineural invasion, and low-grade mucoepidermoid carcinoma.

Conclusion: Intraoral multiple synchronous salivary gland tumors are rare and unusual, with only a few cases reported in the literature. The diagnosis of such tumors would be significant from treatment, management, and prognostic standpoints. Cytogenetic studies might be useful in further clarification of these entities.

DISSEMINATED METASTATIC MELANOMA OF UNKNOWN ORIGIN FIRST DIAGNOSED IN THE ORAL CAVITY WITH NEAR RESOLUTION AFTER IMMUNOTHERAPY AND SUBSEQUENT IMMUNE-RELATED SEQUALAE.

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