and enzymes, which controls the growth of oral microorganisms and maintains a balanced oral microflora. Oral cavity provides a multivariant environment to habitate over 700 bacteria and fungi. Besides causing caries and periodontitis, many systemic diseases have been correlated to oral microbes, including cancers, HIV, DM and pericarditis. We hypothesized that lacking saliva will alter the composition of oral microbiota.

Findings: To study the changes of oral microbiota, ten xerostomia patients, who were not in any active treatments, and 4 healthy normal volunteers were recruited. Gingival plaques were collected following the standard protocol. Gingival plaques were collected, placed in PowerBead Tube (Qiagen) and stored in -800C until further analysis. Microbiota were detected using bacterial 16S ribosomal RNA and analyzed based on the levels of Phylum and Class. At phylum level, the mean presence of Bacteroidetes in xerostomia and normal subjects were 16.2±1.0% and 28.3±1.7%, respectively (p=0.03, t-test). Mean presence of Firmicutes phylum in xerostomia and normal subjects were 15.1±1.5% and 3.2±0.8%, respectively (p=0.03, t-test). In addition, mean presence of Firmicutes bacilli class in xerostomia and normal subjects were 6.3±0.7% and 1.1±0.5%, respectively (p=0.05, t-test).

Conclusions: Significant differences in oral microbiota were observed between xerostomia and normal subjects. More samples are needed to verify the current results and to apply the oral microbiota in the diagnosis of xerostomia.

MASPIN EXPRESSION IN PLEOMOPHIC ADENOMA, POLYMORPHOUS LOW GRADE ADENOCARCINOMA AND ADENOCYSTIC ADENOCARCINOMA OF SALIVARY GLANDS SEEN AT THE LAGOS UNIVERSITY TEACHING HOSPITAL, LAGOS, NIGERIA.

DR. OLAJIDE AKEJU[A], DR. OLAJUMOKE EFFIOM[B], PROF. ADEKUNBIOLA BANJO[B], PROF. ONATOLU ODUKOYA[B]. [A] LAGOS UNIVERSITY TEACHING HOSPITAL, [B] UNIVERSITY OF LAGOS

Objectives: To immunostain with Maspin antibody, formalin fixed, paraffin embedded tissues of 41 samples of Pleomorphic Salivary Adenoma [PSA], 10 samples of Polymorphous Low-Grade Adenocarcinoma [PLGA] and 34 samples of Adenoid Cystic Carcinoma [AdCC].

To quantitatively assess Maspin expression in each of the three (3) Salivary Gland Tumours (SGTs) by combining immunostaining intensity scores with scores of proportion of positively stained cells (Total mean scores) in each, using the method described by Reiner et al 1990.

To analyze data using Chi square, Fisher's Exact tests and analysis of variance to compare total mean scores of maspin expression among the three (3) SGTs, the statistical significance level being set at $p < 0.05$.

Findings: PSA had the greatest proportion of Maspin immunopositivity (73.2%), followed by PLGA (40.0%) and AdCC (35.2%). Mean total Maspin score of PSA (3.5±2.4) was statistically significantly higher than that of PLGA (1.2±1.8) [p=0.005]. and that of AdCC (1.0±1.5) [p<0.0001].

Conclusion: In this study, there was decreasing expression of Maspin from PSA to PLGA to AdCC, which is consistent with established increased order of clinical aggression of these tumors. It is suggested that Maspin expression could be a useful adjunct diagnostic tool to discriminate between PSA, PLGA and AdCC.

ANALYSIS OF SALIVARY GLUTATHIONE AND SELENIUM IN HIGH RISK AND ORAL CANCER PATIENTS SEEN AT LAGOS UNIVERSITY TEACHING HOSPITAL, LAGOS, NIGERIA.

DR. REMILEKUN OLUWAKUYIDE[A], DR. OLAJUMOKE EFFIOM[B], PROF. OSARETIN EBUEHI[B], PROF. ONATOLU ODUKOYA[B]. [A] LAGOS UNIVERSITY TEACHING HOSPITAL, [B] UNIVERSITY OF LAGOS

Objectives: To select three study groups consisting of 20 oral squamous cell carcinoma subjects(Group 1), 20 high risk for oral squamous cell carcinoma subjects (Group 2) and 20 healthy controls (Group 3).

To collect saliva samples from each subject and analyze for salivary concentration level of glutathione using enzymatic recycling assay and salivary selenium concentration level using atomic absorption spectrophotometry.

To analyze data on salivary glutathione and selenium levels in each group and compare findings within and between groups using statistical method of Analysis of Variance (ANOVA)

Findings: The mean salivary glutathione concentration in healthy control group (5.618±0.5213μM) was higher than the high risk group (5.273± 0.2340μM) and oral cancer group (5.047± 0.5115μM) The difference between groups was statistically significant ($p = 0.001$). However, the salivary selenium was higher in the oral cancer group (0.0167±0.0083 mg/dl) compared to the high risk (0.0148± 0.0071mg/dl) and healthy control (0.0138± 0.0093 mg/dl) but not statistically significant (p= 0.5414).

Conclusion: Salivary glutathione level could be a predictor of risk of oral cancer and could therefore serve as a non invasive modality in the early detection of oral cancer.

CONGENITAL-INFANTILE SPINDLE CELL AND SCLEROSING RHABDOMYOSARCOMAS: UNIQUE VARIANTS DEFINED BY MOLECULAR FEATURES.

DR. CATHERINE FLAITZ[A], DR. JOHN HICKS[B]. [A] NATIONWIDE CHILDREN'S HOSPITAL, OHIO STATE UNIVERSITY, [B] TEXAS CHILDREN'S HOSPITAL, BAYLOR COLLEGE OF MEDICINE

Objectives: Congenital-infantile spindle cell (SpRMS) and sclerosing (ScRMS) rhabdomyosarcomas with tumor-defining molecular features in the head and neck region will be described. These tumors may be confused with more commonly occurring spindle cell tumors (myofibroma, infantile fibrosarcoma) in infants. NCOA2 and VGLL2 rearrangements, and MyoD1 mutations are characteristically identified in SpRMS and ScRMS. NCOA2 and VGLL2 rearrangements are more common in SpRMS, while MyoD1 mutations are more common with ScRMS. NCOA2 or VGLL2 RMS tend to have favorable outcomes, but MyoD1 mutation RMS may have aggressive disease with dismal outcome.

Findings: 5 neonates and infants were diagnosed with head and neck SpRMS (n=3, 2 males, 1 female, ages 2 weeks to 6 months, 2 maxillary sinus, 1 neck) and ScRMS (n=2, 2 males, ages 5 weeks and 8 months, 1 perinasal, 1 mandible). SpRMS were characterized by malignant spindle cells that were compactly apposed, and closely resembled infantile fibrosarcoma. ScRMS were composed of small round cells in a prominent sclerotic matrix. Both SpRMS and ScRMS lacked rhabdomyoblastic differentiation on H&E staining. Immunostaining with myogenic antibodies (Desmin, Myogenin, MyoD1) identified rhabdomyoblastic origin. Electron microscopy (N=4) showed rudimentary myofilaments in 3 cases

and absence of myogenic differentiation in 2 SpRMS cases. Cytogenetic and molecular analyses identified NCOA2 rearrangements in 2 SpRMS and MyoD1 mutations in 1 SpRMS and 2 ScRMS. SpRMS were negative for ETV6 rearrangements associated with infantile fibrosarcoma. MyoD1 mutation RMS demonstrated chemoresistance and progressive disease; while NCOA2 RMS responded favorably to oncologic management.

Conclusions: SpRMS and ScRMS occurring in neonates and infants require molecular characterization for diagnosis, initiating appropriate oncologic and surgical management, and predicting outcome. SpRMS may mimic infantile fibrosarcoma closely, and it is recommended that spindle cell tumors in neonates and infants be assessed for myogenic differentiation.

FACTORS INFLUENCING ODONTOGENIC MAXILLOFACIAL INFECTIONS AND THE ECONOMIC IMPACT AT A UK HOSPITAL.

DR. KARAN NADIG, MR. NIGEL TAYLOR. ROYAL SURREY COUNTY HOSPITAL, ENGLAND

Objectives: To describe the presentation, management, and demographics of 100 consecutive patients with odontogenic infection managed at the Royal Surrey County Hospital, UK. To identify factors influencing Length of Stay (LOS) with the resulting economic impact.

Findings: Male: female ratio was 54:46 with a mean age of 36 years and mean LOS of 2.38 nights. 29% had not received treatment prior to admission. Age, White cell count, male gender, and multiple space infection were associated with a significantly greater LOS.

The most commonly involved fascial spaces were the submandibular (39%) and buccal (39%) spaces. 10% of patients experienced complications as a result of infection. Diabetes, smoking and treatment prior to admission were found not to significantly affect LOS.

A total of 238 nights in hospital were spent by these patients in this study. Assuming an average cost of £400 ($ 560) per night, and OR cost of £1200/hour this cost the national health system an estimated £133,600 ($186,600) for an often preventable disease.

Conclusions: Severe odontogenic infection are preventable by regular dental attendance, and represent a significant morbidity and economic cost to patients and limited health resources that are under financial constraints.

Aggressive management of odontogenic infections should be considered for older, male patients with multiple space involvement and a high White Cell Count.

EGR1 IS NEGATIVELY ASSOCIATED WITH HNSCC CELL INVASION VIA INHIBITION OF MMP9 AND MDM2.

PROF. SO-YOUNG CHOI, PROF. SU-HYUNG HONG, MS. SO YOUNG CHOI, MS. SUNG-MIN KANG. KYUNGPOOK NATIONAL UNIVERSITY

Objectives: The effect of early growth response-1 (EGR1) on cancer invasion remains controversial depending on the cancer type. EGR1 is known to slow the progression of cancer by inhibiting the expression of MMP2. However, the effect of EGR1 on MMP9, which is important for HNSCC invasion, is disputed. Our aim is to clarify the tumor suppressor role of EGR1 in downregulating MMP9. We also consider MDM2, an enhancer of MMP9 expression.

Findings: EGR1 mRNA and protein expression were compared in normal and HNSCC tissues using The Cancer Genome Atlas (TCGA) dataset analysis as well as immunohistochemistry (IHC). In vitro cell invasion was performed by two-dimension (2-D) and three-dimension (3-D) spheroids Matrigel invasion assay. TCGA data showed significantly higher EGR1 mRNA levels in nonmetastatic HNSCC tissues than in metastatic tissues. IHC analysis showed significantly higher levels of nuclear EGR1 expression in primary tumor tissues than in paired metastatic lymph node tissues. Transient EGR1 overexpression inhibited the Matrigel invasion of HNSCC cells, as well as decreasing mRNA of MMP9 and MDM2. Consistent with these observations, TCGA data analysis found significantly fewer metastatic patients among a subgroup of a large population presenting higher EGR1 expressions with lower MMP9 and/or MDM2.

Conclusions: Our data suggests that EGR1 might be a potential candidate to attenuate HNSCC metastasis.

EXFOLIATIVE CYTOLOGY AS A COMPLEMENTARY TOOL FOR ORAL DIAGNOSIS: COST-EFFECTIVENESS OR TIME LOST?.

PROF. FABIO CORACIN[A], MR. ALVARO TOLENTINO MENDES[A], MRS. HEAN GI KEAN[B], PROF. SUZANA CANTANHEDE ORSINI MACHADO DE SOUSA[B]. [A] NOVE DE JULHO UNIVERSITY - UNINOVE, [B] UNIVERSITY OF SAO PAULO - USP

Objective: To analyze the cytological diagnosis and compare with the clinical provisional diagnosis to determine the sensitivity and specificity of exfoliative cytology in oral lesions.

Findings: We retrieved 1,000 consecutive diagnosis from the cytology diagnosis files of the Oral Pathology Service at the University of São Paulo, comprising 621 females patients and 379 males patients with a median age of 53yo (range: 3-91). Regarding race, 676 patients were caucasians and 181 blacks. The most frequent sites where material was collected were tongue (n=267), palate (n=261), buccal mucosa (n=149) and gingiva (n=55). The most frequent clinical suspicion was a search for fungus (n=330) and candidiasis (n=276). Concerning the final cytological diagnosis, 25/330 cases aiming for fungus search came out as candidiasis. In those 276 cases that had candidiasis as clinical hypothesis, only 66 resulted positive for the fungus. In the 20 samples where herpes simplex was the clinical suspicion, the cytological diagnosis of herpes was confirmed in 5 cases (all classified as class II of Papanicolaou), for the remaining 15 cases only a Papanicolaou class was attributed, being 4 cases class I and 10 class II and 1 case could not be analyzed. In 15 cases there was a suspicion of squamous cell carcinoma, and of these, 4/15 were classified as class V and 2 as class 4. The remaining were 6 class II and 3 class III. Other diagnosis did not show a pattern of cytological characteristics matching the clinical suspicion.

Conclusions: We conclude that exfoliative cytology is mostly not helpful for diagnosis in Oral Pathology, and, biopsy remains the gold standard, unless the patient refuses a biopsy.

DIAGNOSTIC CONCORDANCE AMONG PATHOLOGISTS INTERPRETING ORAL MUCOSAL BIOPSIES FROM INDIVIDUALS AFFECTED BY GVHD.

PROF. FABIO CORACIN[A], PROF. PAULO SERGIO DA SILVA SANTOS[B], PROF. SUZANA CANTANHEDE ORSINI MACHADO DE SOUSA[C], PROF. FABIANA MARTINS[D], PROF. WASHINGTON STEAGALL