

# Poster Abstracts – Tuesday, June 24, 2008

## #122 – Gold Room

ORAL PRESENTATION OF LYMPHOPROLIFERATIVE DISORDER ASSOCIATED WITH EPSTEIN-BARR VIRUS DURING METHOTREXATE THERAPY. N. Matsumoto, S. Mukae, Y. Amano, D. Omagari, T. Izumo, and K. Komiyama. Nihon U., Tokyo, and Saitama Cancer Center, Saitama. Epstein-Barr virus (EBV)-associated lymphoproliferative disorders (LPDs) have recently been observed in patients receiving methotrexate (MTX) treatment for rheumatoid arthritis (RA). The patient is a 74-year-old female with RA, who received low-dose MTX treatment during 8 years. After visiting a dentist with swollen gingiva, the patient was given a 5-day course of antibiotics. However, the swelling was not relieved, and she was referred to our clinic for further examinations, as gingiva swelling with an ulceration in the upper right molar area had continued for 1 month. There was no lymphadenopathy in head and neck area. A CT examination showed alveolar bone resorption in the right maxilla that had evolved into a temporal fossa, while a biopsy revealed monotonous proliferation of medium- to large-sized atypical lymphoid cells. The histological findings correlated with those of a diffuse large B-cell lymphoma. Immunohistochemistry findings showed that the lymphoid cells were positive for the CD20(+), CD30(+), and MUM-1(+) antibodies, and negative for the CD3(-), CD10(-), CD45RO(-), and bcl-6(-) antibodies. EBV viral genome was demonstrated by in situ hybridization in the atypical lymphoid cells. We made a diagnosis of EBV associated LPD, in which the clinicopathological presentation was similar to that occurring in patients with RA treated with MTX. In the present case, the first sign of LPD was identified in the gingiva, which is quite rare. The lesion was completely regressed at 8 months after withdrawal of MTX treatment.

## #123 – Gold Room

MOLECULAR MIMICRY - A PATHOGENIC MECHANISM IN ORAL LICHEN PLANUS? C Kragelund, J Reibel, and L Andersen Torpet. Section of Oral Pathology and Medicine, Department of Odontology, University of Copenhagen, Denmark. Molecular mimicry is a phenomenon where self-genes and non-self-genes e.g. pathogens, express similar structures or amino acid sequences that subsequently act as epitopes in immune reactions. Oral lichen planus (OLP) may be triggered by coincidence of susceptible genes and environmental factors such as pathogens and drugs. CYP2D6 is a highly polymorphic drug metabolizing cytochrome P450-enzyme and metabolizes about 20% of the marketed drugs. The CYP2D6\*4 is one of the clinical relevant alleles with absent function. We hypothesize that the CYP2D6\*4 protein is an epitope candidate for the immune reaction in OLP as this protein has sequence homology with the common oral pathogens herpes simplex virus type 1 (HSV-1) and *Candida albicans*. Objective: To test if OLP patients (OLPs) with a possible susceptible genotype e.g. CYP2D6\*4 demonstrate higher prevalence of *Candida* in oral smears during recall period and/or higher prevalence of positive history of recurrent herpes labialis i.e. HSV1 when compared to OLPs without a CYP2D6\*4 genotype. Methods: 120 OLPs were genotyped for the most frequent CYP2D6 alleles with absent or reduced function. Positive *Candida* in oral smear and the history of herpes labialis were recorded. Findings: 50 % of the OLPs had a CYP2D6\*4 genotype as compared to 30 % in the background population ( $p=0.0001$ ). The proportion of OLPs with a positive history of recurrent herpes labialis (~ 35%), *Candida* in oral smear (~ 40 %), or both (~ 15%) was similar among the two groups. Conclusion: The CYP2D6\*4 gene could be a susceptible gene among a subset of OLP as CYP2D6\*4 protein may be the target in immunologic cross-reactions but there seems to be no obvious correlation with history of recurrent herpes labialis or positive *Candida* in oral smears.

# Poster Abstracts – Tuesday, June 24, 2008

## #124 – Gold Room

THE RELATIONSHIP BETWEEN THE STATE OF ORAL HYGIENE AND THE FREQUENCY OF HUMAN PAPILLOMAVIRUS INFECTION IN THE ORAL CAVITY. Y. Nishimura, H. Maeda, K. Toyama, H. Nakagaki, S. Komatsu, T. Umebayashi, K. Kubo, Y. Sugita and E. Sato, Aichi-Gakuin University, Nagoya, Japan. Recently, some investigators described that human papillomavirus (HPV) infection was related to some factors including sex, age, occupation, smoking habit, alcohol consumption, denture wearing and others. The purpose of this study was to investigate the correlation between changes in the state of oral hygiene and HPV infection of high school students. In this study, 100 (56 males and 44 females) students were randomly selected from the students in Nisshin Aichi Prefectural High School. In a 3-year period from 2004 to 2006, the states of oral hygiene were examined during routine teeth examination in two periodical health checks using Bay Index (BI). According to the score of BI, the students were divided into two groups. These groups were designated as group-G and group-W. In the group-G (G1:in the first grade, G3:in the third grade), the score of BI is 0 or 1 and in the group-W (W1:in the first grade, W3:in the third grade), the score of BI is 2 or 3. Oral squamous cells were collected from swabs of the buccal mucosa. For this procedure, informed consent was obtained. The rate of HPV infection in these 2 groups was examined by PCR. In the group-G1 and G3, the HPV positive rates were 15.5% and 13.8%, respectively. The HPV positive rates of group-W1 and W3 were 45.2% and 64.3%, respectively. The results of the present investigation indicate that an improvement in the state of oral hygiene decreases the rate of HPV infection and demonstrates that oral care may be an effective way to prevent the HPV infection-related oral lesions, including the oral squamous cell carcinoma.

## #125 – Gold Room

ODONTOGENIC KERATOCYSTIC TUMOR (OKT) OF THE MAXILLA: REPORT OF TWO CASES. R. Sáez; F. Rodríguez ; A. Castro; M. Ramos; D. Adorno. U. of Chile, and B. Martínez. U. Mayor. (Santiago, Chile) The occurrence of OKT in the maxilla is unusual, and there is a few cases reported of invasion of the maxillary sinus. They are normally small and uniloculars. In some reported cases of the Gorlin-Goltz syndrome, invasion of the maxillary sinus was observed. We presented two cases of OKT associated to an ectopic third molar in the maxillary sinus. The first case is a 17 year old woman that was referred to the Oral Diagnostic Service. Clinical examination showed absence of intra and extraoral clinical findings, no pain history, and no antral disturbances. A mass occupying the whole right maxillary sinus was observed in a CT scan performed due to an accident. Imagenological initial studies described a malignant tumor of the maxillary sinus. CT scan shows thinning of the lateral wall and involvement of the sinus floor. Water™s plain radiography and Ortopantomography shows the presence of both superior third molars in the maxillary sinus. A second imagenological analysis suggested a benign odontogenic lesion, associated to a ectopic third molar. Incisional Biopsy was performed and a histopathological diagnosis of OKT was delivered. Gorlin-Goltz syndrome was discarded. The second case is an 18 old male patient, presenting an asymptomatic palatal tumor of 5 month evolution. No pain history and no antral disturbances. CT scan shows a right maxillary sinus mass associated to a ectopic third molar. The mass occupies the whole sinus and there is maxillary bone involvement and cortical perforation of the palate. Incisional biopsy was performed and a diagnosis of OKT was delivered. Gorlin-Goltz syndrome was discarded and the ectopic position of the involved third molar was probably produced by pathological displacement.

# Poster Abstracts – Tuesday, June 24, 2008

## #126 – Gold Room

BIOACTIVE CELLULOSE MEMBRANE FROM SQUIRT SKIN SHOWS MESENCHYMAL CELL ADHESION AND OSTEOINDUCTIVE EFFECT. S Lee, Y Kim, S Kim. College of Dentistry, Kangnung National University, Gangneung, Korea. The squirt skin is composed of cellulose membrane likely vegetable, although the body of squirt is belong to animal. However, the inner surface of squirt cellulose skin consists of fine fibrous network inducing ectomesenchymal interaction, and forms a glycocalyx structure instead of the basement membrane of the animal skin. We developed a bioactive cellulose membrane (BCM) using the squirt skin. In the analysis of High Performance Anion-Exchange Chromatography, element analyzer, Field Emission Scanning Electron Microscope, amino acid analyzer, Attenuated Total Reflection Infrared, and Scanning Electron Microscopy The BCM has pure carbohydrate polymer structures consisted of rigid outer surface and delicate inner surface, on which mesenchymal cells are able to be actively attached and also showed osteoinductive effect in the experiment of bony fracture in vivo. Therefore, it is suggested that the BCM can be used as the tissue regenerative barrier membrane.

## #127 – Gold Room

ROSAI-DORFMAN DISEASE: A CASE REPORT. SP Oliveira; ARC Pires; DR Camisasca; ACA Coutinho; M Praxedes; EP Dias; SQC Lourenço. Fluminense Federal University, Niterói - RJ. Rosai-Dorfman disease (RDD), also known as sinus histiocytosis with massive lymphadenopathy (SHML), is a benign, usually self-limited disease of unknown cause that was first described by Rosai and Dorfman in 1969 as a distinct clinicopathological entity with characteristic histological features. This work describes a case of RDD in a 62-year-old white man who was referred to the Service of Bucomaxillofacial Surgery, Antônio Pedro University Hospital, Fluminense Federal University, Brazil, for investigation of a swelling in submandibular gland region. The patient denied fever, trismus, paresthesia or anesthesia, dysphagia, or changes in occlusion. Hematological and biochemical workup was unremarkable. The patient's chest radiograph revealed no abnormalities. Cervical ultrasonography showed an expansive solid formation with a lobular contour in left submandibular gland and left cervical lymph nodes varying in size. The diagnostic hypothesis was submandibular pleomorphic adenoma. An excisional biopsy was performed and the tissue was submitted to microscopic evaluation. Microscopically, the biopsy specimen showed lymph nodes with architecture of polygons cells with an eosinophilic cytoplasm presenting an infiltrate, composed of histiocytes, plasma cells, and lymphocytes. Immunoperoxidase staining for S-100 protein was carried out, and the majority of the histiocytes stained positively. The diagnosis was RDD. Patient is under surveillance appointments by hematologic service. Major salivary gland involvement of RDD is important for dentists as it may cause xerostomia and mimic dental abscess. Even though RDD may be considered a benign disease with favorable evolution, the majority of the cases present an indication of therapeutic intervention to relieve symptoms or decompress vitals structures.

# Poster Abstracts – Tuesday, June 24, 2008

## #128 – Gold Room

ASSOCIATION OF THE WHO GRADING, THE HISTOLOGIC RISK ASSESSMENT AND THE EXPRESSION OF E-CADHERIN AND  $\beta$ -CATENIN WITH PROGNOSTIC FACTORS IN ORAL CARCINOMA. RC LINDENBLATT; GL MARTINEZ; DR CAMISASCA; LE SILVA; EC FONSECA; FL DIAS; PAS FARIA; SQC LOURENÇO, V. BERNARDO. Fluminense Federal University, Niterói, RJ. Studies demonstrate that histopathologic grading systems can be important as predictive factors. In oral squamous cell carcinomas (OSCC), the expression of E-cadherin and  $\beta$ -catenin has been associated with increased invasiveness and unfavorable prognosis. This study proposed to apply histopathologic classifications of WHO (2005) and histologic risk assessment (HRA) (2005) and to analyze the expression of E-cadherin and  $\beta$ -catenin in OSCC. The records of 53 patients diagnosed with primary OSCC in INCa during the year of 1999 were reviewed. Most of the sample was composed of men (81.1%) between 60 and 70 years old (67.4%). Floor of the mouth and tongue accounted for 49.1% and 47.2% of the cases, respectively. Clinical stage I and II accounted for 56.6% of the cases and in pathologic stage analysis 50.9% of the tumors were in stage III and IV. Immunohistochemical method was used to evaluate the expression of E-cadherin and  $\beta$ -catenin. 83% of the tumors were moderately differentiated and 52.8% were of intermediate risk. WHO grading system was related to recurrence (0.043 p) and also to disease-free survival (DFS) (0.031 p). The HRA was statistically associated with overall (OS), DFS and specific survival (SS) (0.015; 0.037; 0.029 p). Descriptive analysis showed E-cadherin expression related to lymph nodes involvement (0.019 p), OS (0.044 p) and HRA (0.047 p). The immunohistochemical quantification showed a significant association with SS and E-cadherin (0.047 p). There was a significant association between  $\beta$ -catenin and WHO grading system (0.041 p). Loss or reduction of E-cadherin and  $\beta$ -catenin is involved in the invasion and metastasis of OSCC.

## #129 – Gold Room

FOCAL EPITHELIAL HYPERPLASIA (FEH): REPORT OF FOUR CASES IN HIV POSITIVE MEN. SP Oliveira; A Silva Júnior; SMS Ferreira; SQC Lourenço; EP Dias. Fluminense Federal University, Niterói - RJ. Focal epithelial hyperplasia (FEH) or Heck<sup>TM</sup>'s disease is a rare but distinctive entity of viral etiology caused by Human Papillomavirus 13 e 32 with characteristic clinical and histopathological features. It is usually seen in children and adolescents of American Indian and Eskimo background; however, it has recently been described in adults who are HIV positive. The objective of this study is to describe four cases of FEH in HIV positive patients that were referred to the Service of Oral Diagnostic, Antônio Pedro University Hospital, Brazil, for investigation of multiples nodules in oral mucosa. Intraoral examination revealed several elevated, sessile, smooth surface nodules involving both upper and lower lip and buccal mucosa. The lesions were soft on palpation and were covered by whitish mucosa. The size of the lesions ranged from 2 to 10 mm in diameter. The largest lesions from each patient were excised under local anesthetic and submitted for histopathological examination. Microscopically (H&E stain) the lesions demonstrated a mucosal nodule covered by parakeratinized stratified squamous epithelium with marked acanthosis. A few scattered koilocytes and occasional mitosoid bodies were observed in the upper layers of the epithelium. The rete ridges were broad and frequently joined. These histopathological features together with clinical features helped to arrive at the diagnosis of FEH. The rarely of this lesion indicates, in patients with unknown serology and which features are not according with patient's profile, an anti-HIV exam. Considering that immunosuppression may play an important role for lesions onset the treatment should be proposed in according with patients' medical care.

# Poster Abstracts – Tuesday, June 24, 2008

## #130 – Gold Room

**ABNORMAL REGULATION OF ANAPHASE PROMOTING COMPLEX DEPENDENT PROTEOLYSIS BY EMI1 IN CANCER.** Y. Kudo, T. Takata. Hiroshima U. Hiroshima, JAPAN. Anaphase-promoting complex (APC) is a complex of several proteins which is activated during mitosis to initiate anaphase. The APC is an E3 ubiquitin ligase that marks target proteins for degradation by the 26S proteasome. The irreversibility of proteolysis is utilized by cells to give the cell cycle directionality. The activated APC targets mitotic cyclin, Aurora-A (Aur-A), Skp2 and securin for degradation. These APC substrates are often highly expressed in cancer. Therefore, we hypothesize that de-regulation of APC dependent proteolysis may be involved in cancer development. Emi1 is known as an APC inhibitor and is degraded by SCF $\beta$ Trcp when cells enter mitotic phase. We found that Emi1 is frequently overexpressed in cancer cells. However, most cancer cells did not express Emi1 at G1 phase. Interestingly, some cancer cells constitutively expressed Emi1 during cell cycle progression. In these cells, APC substrates were overexpressed. On the other hand, one of APC substrates, Aurora-A is a proto-oncoprotein overexpressed in a wide range of human cancers. We previously found that overexpression of Aurora-A in cancer was caused by constitutive phosphorylation that inhibited APCCdh1-mediated degradation. Thus overexpression of APC substrates in cancer was induced by abnormal regulation of Emi1 and by constitutive APC inhibitory-phosphorylation of substrates. Broadly, this study identifies a new mode of overexpression of APC substrates in cancer.

## #131 – Gold Room

**A VIABLE HUMAN MUCOSAL CYST MODEL USING ATHYMIC NUDE MICE.** M. Wang & J. Hille. U. Western Cape & NHLS, Tygerberg, South Africa. This study identifies the pathogens and risk factors that affect the long-term viability of an experimental mucosal cyst model. Cysts constructed from human vaginal mucosa were implanted in 43 male athymic nude mice (MFI nu nu). The efficacy of Terramycin in drinking water and subcutaneous injections of Gentamicin was evaluated. Cysts in 37 mice were recovered after 9 weeks of growth. The original donor vaginal epithelium structure was retained in 23 cyst linings. No differences were noted between the 9-week old cyst linings and donor epithelium. The contaminants isolated from the murine skin before implantation were mainly normal commensals. Coagulase negative Staphylococci (58.1%) and *E. faecalis* (22.6%) were the most frequently isolated pathogens from the implant cyst site after 9 weeks of growth. No difference in intact cyst formation existed between the Terramycin group and the controls; Gentamicin was more efficient against Gram-negative contaminants than Terramycin. The highest risk factors for failure are poor wound healing and murine epidermis in-growth at implant sites.

# Poster Abstracts – Tuesday, June 24, 2008

## #132 – Gold Room

MASS SPECTROMETRIC ANALYSES ENABLES DISCOVERY OF POTENTIAL PROGNOSTIC MARKERS FOR ORAL SQUAMOUS CELL CARCINOMA. R. Ralhan, L DeSouza, I. Leong, M. Alhaq, C. MacMillan, I. Witterick, T. Colgan, and M. Siu. Mount Sinai Hospital, U. of Toronto, and York U., Toronto, Ontario, Canada. Mass spectrometric analyses of homogenates of 10 oral squamous cell carcinoma (OSCC) tissues and corresponding non-malignant controls labeled with isobaric mass tags yielded a panel of 3 proteins (potential cancer markers (PCM) 69, PCM 70 and PCM 72, identities to be disclosed) allowing discrimination of OSCC from non-malignant tissue (sensitivity 0.92, specificity 0.91). These findings were verified by Western, RT-PCR and immunohistochemical analyses. Expression levels of PCM 69 and PCM 70 were determined in 51 samples from patients for whom the post-treatment outcome was documented for up to 42 months. Kaplan-Meier survival curves showed that in cases where there was overexpression of these two proteins the prognosis was significantly worse than in those where neither of the two proteins was differentially expressed (median disease-free survival 13 months versus 38 months,  $p=0.019$ ). Furthermore, PCM 69 and PCM 70 were also differentially expressed in oral precancerous tissues, at a lower level than in OSCC. Further studies comparing two population groups (Indian and Canadian) on additional samples of normal, precancerous and cancerous oral tissues are ongoing.

## #133 – Gold Room

ALTERED EXPRESSION OF INTERCELLULAR ADHESION MOLECULE-1 (ICAM-1), BUT NOT E-SELECTIN, DURING EXPERIMENTAL ORAL CARCINOGENESIS IN RATS. D. A. Ribeiro, T. S. Gomes, C. T.F. Oshima, D.M.F. Salvadori. Federal University of Sao Paulo, UNIFESP, SP, Brazil and Sao Paulo State University, SP, Brazil. Adhesion molecules are known to play a crucial role in the recruitment of inflammatory cells as well as in tumor progression. In this study, the expression of intercellular adhesion molecule-1 (ICAM-1) and E-selectin was evaluated by means of immunohistochemistry during 4-nitroquinoline 1-oxide (4NQO)-induced rat tongue carcinogenesis. Male Wistar rats were distributed into three groups of 10 animals each and treated with 50 ppm 4NQO solution through their drinking water for 4, 12, and 20 weeks. Ten animals were used as negative control. Significantly greater expression of ICAM-1 was demonstrated in well-differentiated squamous cell carcinoma cells, leukocytes and endothelial cells after 20 weeks of treatment with 4NQO when compared to pre-neoplastic lesions and negative control. Weak immunoreactivity for E-selectin was observed in the negative control group and at all experimental periods analyzed indistinctly. In summary, our results suggest that the induction of ICAM-1 may facilitate lymphocyte invasion in oral squamous cell carcinomas, which may ultimately result in ulcer formation as far as to represent a potential prognostic factor in oral cancer patients.

# Poster Abstracts – Tuesday, June 24, 2008

## #134 – Gold Room

EXOSTOSES ASSOCIATED WITH NON-VITAL TEETH. K. Chen, D. Yu, E. Peters. U. Alberta, Edmonton. This study characterized a form of oral exostosis associated with non-vital teeth. The presence of an alveolar bone nodule contiguous to the apex of a non-vital tooth was evaluated in 269 patients sequentially presenting for endodontic treatment. Contralateral vital teeth served as controls. In 42 cases (15.6%), a bone nodule was identified in association with a non-vital tooth; one similar nodule was found in the control sites. The lesions presented as hard, focal, dome-shaped growths, which were typically only evident with palpation. Bone nodules were more likely to occur on the facial bone (92.9% of cases) and in an anterior location (61.0% of cases). There was an association with mandibular or palatal tori, which were present in 38% of bone nodule cases but only 17.5% of non-affected cases. Three bone nodules, removed because of clinical concerns, showed immature vital bone and mild chronic inflammation. The results indicate that distinctive alveolar bone nodules can develop in association with non-vital teeth. They might represent a localized proliferative periostitis in response to an endodontic inflammatory stimulus.

## #135 – Gold Room

MALIGNANT GRANULAR CELL TUMOR OF THE MANDIBLE: CASE REPORT AND REVIEW OF THE LITERATURE. M. SOLOMON, A. ABDOLLAHZADEH, S. LAZOW, AND G. HAR-EL, State University of New York (SUNY), DOWNSTATE MEDICAL CENTER, BROOKLYN. Granular Cell Tumor is an uncommon soft tissue tumor first described by Abrikossoff in 1926, and designated "myoblastic myoma". Subsequently it was more commonly referred to as "granular cell myoblastoma" (GCT). Recent studies with immunohistochemical procedures and ultrastructural analysis support the theory that these are neurogenic tumors, probably of "Schwann" cell origin. GCT accounts for 1% of all soft tissue tumors, and occurs most commonly in the head and neck, and upper extremities. The tongue is the most common intraoral site. Malignant Granular Cell Tumor (MGCT) was first described by Ravich et al. in 1945. It is the rarest of all soft tissue sarcomas and demonstrates a predilection for the lower extremity and the torso. We present a case of MGCT arising in the retromolar trigone and involving the posterior mandible of a 70 year old African American female. The clinical and roentgenographic aspects of the lesion are presented and correlated with gross and microscopic morphology including immunohistochemistry. The literature of MGCT is reviewed.

# Poster Abstracts – Tuesday, June 24, 2008

## #136 – Gold Room

SQUAMOUS CELL CARCINOMA OF THE MS: AN ANALYSIS OF 77 CASES FROM THE BRAZILIAN NATIONAL CANCER INSTITUTE (INCA). FL Dias<sup>1</sup>; M Roter<sup>2</sup>; RA Lima<sup>1</sup>; MF Nascimento<sup>1</sup>; ALA Eisenberg<sup>1</sup>; PR Faria<sup>2</sup>; KCN Souza<sup>2</sup>; SV Cardoso<sup>2</sup>; AM Loyola<sup>2</sup>. 1. INCa - 2. Universidade Federal de Uberlândia – Brasil. Introduction: Squamous cell carcinoma is the most common malignant epithelial tumor of the maxillary sinus (MS), and it has been associated to highly aggressive behavior. There is not representative data about this lesion in the Brazilian population. The present work is a retrospective description of the patients with SCC attended through 1997 to 2006 at the INCa, the main governmental center for cancer statistics in the country. Methods: After histological review for diagnostic confirmation, medical files were assessed to gather demographic and clinical data from the patients. Results: 77 cases of SCC were found (39.0% of the entire sample of MS neoplasias). The male to females ratio was 1,1:1. The average age of the patients was  $58.2 \pm 1.9$  years, varying from 3 to 89 years-old, with prevalence of patients in the fifth and seventh decades of life (60.2% of the sample). Exactly 41.5% of the patients were present smokers, and 52.8% were heavy drinkers. The mean size of the tumors was 4.1cm (1 to 25cm). The average evolution time before first attendance at the institution was 25.2 months (one month to ten years). Tumefaction was registered in 72.2% of the lesions, as well as pain in 65.2% of them. Only 10.3% of the patients<sup>TM</sup> complaints were nasal obstruction. Most of the patients fit in the tumor stage III and IV (62.0%). The mean time of follow-up was 24.1 months, varying from three to 178 months. During this time interval, 64.2% of the patients died of the disease. Conclusion: SCC of the MS is the most frequent tumor in this topography, being diagnosed in advanced stages of tumor progression. This pattern of diagnosis is associated with poor prognosis for this disease.

## #137 – Gold Room

EPIDEMIOLOGICAL STUDY OF THE MAXILLARY SINUS NEOPLASMS FROM THE BRAZILIAN NATIONAL CANCER INSTITUTE (INCa). FL Dias<sup>1</sup>; M Roter<sup>2</sup>; RA Lima<sup>1</sup>; MF Nascimento<sup>1</sup>; ALA Eisenberg<sup>1</sup>; PR Faria<sup>2</sup>; KCN Souza<sup>2</sup>; SV Cardoso<sup>2</sup>; AM Loyola<sup>2</sup>. 1. INCa - 2. Universidade Federal de Uberlândia. Introduction: Tumors affecting maxillary sinus (MS) constitute an uncommon event. The anatomy and topography of the MS favor tumor growth in an insidious way compromising its later diagnosis. There are few statistics about tumor of the MS in the Brazilian population. This is a retrospective study of the tumors of the MS attended through 1997 to 2006 at the INCa, the main governmental center for cancer statistics. Methods: After histological review of the cases, medical files were assessed to gather demographic and clinical data from the patients. Results: The male to female ratio was 1.1:1. Most of the affected patients were white (58.5%). The patients<sup>TM</sup> average age was  $53.3 \pm 18.1$  years (from 3 to 90 years-old), with prevalence of patients in the 5<sup>a</sup> and 7<sup>a</sup> decades of life (57.3% of the sample). One-third of the patients (33.6%) were smokers, and 52.8% were heavy drinkers. Squamous cell carcinoma (SCC) and adenoid cyst carcinoma performed 51.8% of the tumors. Tumefaction was registered as the main sign of the disease in 34.6% of the cases, while oral ulceration was recorded for 8.6% of the cases. Approximately 90.0% of the tumors presented a growth epicenter in the MS, while the other cases represented as a sinusal extension of the extra-sinus neoplasia. Furthermore, 80.3% of the cases fitted in the stage III and IV, and 50% of the patients died from the disease. Conclusion: Malignancies accounted for the commonest tumors affecting MS with SCC owns the higher rates of incidence. Facial swelling is the prevalent sign of the disease that can be accomplished by nasal obstruction in a lesser frequency. The advanced stage of the diseases at the moment of its diagnosis concurs for a more ominous prognosis.

# Poster Abstracts – Tuesday, June 24, 2008

## #138 – Gold Room

EXPRESSION OF P53 (CLONE DO-7 AND PAB-240) IN ORAL SQUAMOUS CELL CARCINOMA AND ITS RELATIONSHIP WITH CLINICOPATHOLOGICAL FEATURES. JA SILVA JR; DR CAMISASCA; LE SILVA; EC FONSECA; FL DIAS; PAS FARIA; SQC LOURENÇO, V. BERNARDO. Fluminense Federal University Niterói - RJ. TP53 gene is a tumour suppressor gene. Its product is a nuclear protein that regulates cell cycle arrest, apoptosis and DNA repair. This study evaluated the expression of anti-p53 (PAb-240), which recognizes the amino acids sequence 213-217 and compared it with DO-7 clone (amino acids 21-25) in oral squamous cell carcinomas (OSCC). The records of 53 primary OSCC diagnosed in the year of 1999 were selected from the Cancer National Institute (RJ Brazil). Patients were mostly males (81%) with an average age of 60 years. Tongue (30%) and floor of the mouth (32%) were the sites most commonly affected. Most of them were graded as moderately differentiated (83%) by WHO grading system (2005). According to TNM stage, both clinical (38%) and pathologic stage II (32%) were the most frequent. Overall 5-year survival was around 58%. Immunohistochemical staining method was evaluated for the expression of p53 using the clones of antibodies DO-7 and PAb-240. Quantitative computer-assisted analysis was performed to evaluate and compare their expression. Clinicopathological and immunohistochemical data were correlated. Kaplan-Meier survival curves and the log-rank test were used. Immunopositivity for DO-7 clone was present in 64% of the cases, while 58% were positive for PAb-240. This expression was above the sample mean suggests that TP53 gene mutations occur in oral carcinogenesis. A statistically significant difference ( $p=0.001$ ) was observed between the two-p53 clones studied. Immunoexpression of both clones did not correlate with clinicopathological factors or survival analysis. To confirm immunohistochemical results and estimate TP53 true prognostic role in OSCC it is important to hold for mutation analysis.

## #139 – Gold Room

CYTOKERATIN 8/18 EXPRESSION IN HEAD AND NECK SQUAMOUS CELL CARCINOMA CELL LINES IN TRI-DIMENSIONAL CULTURE. T.L. Botelho, B.S.F. Silva, A.M.C.D. Vechio, A. Mantesso, D.S. Pinto-Jr. São Paulo University, São Paulo, Brazil. Head and neck squamous cell carcinoma is the sixth most common malignancy and growing problem worldwide. More than 90% of oral malignant lesions are squamous cell carcinomas. The cellular events during carcinogenesis can promote changes of the cytoskeleton, which can be investigated by the expression of intermediate filaments, as cytokeratins (Ck). Simple epithelia ck 8 and 18 are normally expressed but not in oral tissues. The induction of Ck 8/18 expression in non-malignant oral epithelial cells resulted in a significant change of phenotypic characteristics, included an increase cellular motility, which might give first hints for an increased tumor aggressiveness and poor prognosis. The aim of this study was investigated by immunohistochemical and immunofluorescence methods the expression of Ck 8/18 in head and neck squamous cell carcinoma cell lines (HN30, HN 31, HN6 e Haca1) in tri-dimensional culture using collagen gel IV. Ck 8/18 shows positivity in immunofluorescence assay, however in immunohistochemical technique only Ck 18 shows significant expression. These results suggest that in this tri-dimensional tissue culture modeling system, the changes in cytoskeleton could be merely adaptative.

# Poster Abstracts – Tuesday, June 24, 2008

## #140 – Gold Room

CENTRAL CARCINOMA ASSOCIATED WITH ODONTOGENIC CYSTS. T. Kobayashi, H. Ida-Yonemochi, S. Maruyama, J. Cheng and T. Saku. Niigata University Graduate Sch. of Med. & Dent. Sciences, NIIGATA, JAPAN. Primary intraosseous squamous cell carcinoma (PIOSCC) of the jaw bone is developed from remnants of odontogenic epithelia, and some of them have been believed to be derived from pre-existent odontogenic cystic lesions including keratocystic odontogenic tumor. However, it is not always easy to determine the relationship between solid carcinoma parts and cystic parts, especially when the epithelial cyst lining does not contain precancerous lesions in the connecting zone with solid carcinomatous parts. To investigate the relationship between the two parts above mentioned, we compared clinicopathological features between three cases of squamous cell carcinoma (SCC) associated with odontogenic cysts (SCC+) and solid type PIOSCC without cystic lesions (SCC-) from our surgical pathology files. The patients with SCC+ were all male with a mean age of 40.0 years, whereas those with SCC- consisted of one male and two females with a mean age of 79.0 years. Two cases each of SCC+ and SCC- occurred in the mandible. Histopathologically, two of the SCC+ cases had transitional continuities between the cystic linings and the solid SCC parts, while one had no transition. The invading front of two SCC+ fused with the mucosal surface containing epithelial dysplasia, while there was no direct contact between SCC- tumor cell nests with the surface mucosal epithelia. The tumor cell nests of SCC- were larger, more circular-shaped, and less keratinized than those of SCC+. Frequent central necrosis and stromal fibrosis were also prominent in SCC-. Since histopathological features of PIOSCC were so characteristic that it seemed to be possible to distinguish SCC- from mucosal SCC involving pre-existing cysts. However, it is still unknown whether the histology of SCC+ resembles to that of solid PIOSCC.

## #141 – Gold Room

PREVALENCE OF ORAL MUCOSAL LESIONS IN ALCOHOL MISUSERS IN CHENNAI, SOUTH INDIA. J Elizabeth, T Rooban, R Anita, K Ranganathan. Ragas Dental College, Chennai and TTK Hospital, Chennai, India. Background: In India, 4.5% of population uses alcohol regularly. This study was undertaken to record the prevalence of oral mucosal lesions and conditions (OML) among alcohol misusers at Ragas Dental College and TTK Hospital, India. Through history and oral findings were recorded in a pre-determined format. Data entry and statistical analysis were done using SPSS 10.0.5. Result: Of the 500, 77% were in 25-44 years age group, 84% were married, mean age of initiation of alcohol misuse was 34 years, in addition to alcohol, 96% used other psychoactive substances and 72% smoked tobacco. The mean alcohol use duration was 12.6 years. 25% of the study group had at least one OML. The common OML were smoker's melanosis (10.2%), oral submucous fibrosis (8%) and leukoplakia (7.4%). Patients with fair oral hygiene had an OR of 2.96 (95%CI 1.3-6.72, p=0.009) for having an OML and OR for patients with poor oral hygiene was 2.08 (95%CI 1.29-3.37, p=0.003) for getting OML as compared to those with good oral hygiene. Conclusion: The present study highlights poor oral hygiene status and higher prevalence of OML, including potentially malignant states in this high risk population. This study indicates that subjects who misuse alcohol have poor oral hygiene and are at increased risk for development of OML.

# Poster Abstracts – Tuesday, June 24, 2008

## #142 – Gold Room

GIANT PERIPHERAL OSSIFYING FIBROMA: REPORT OF A CASE. A.L.C. Costa, D.R. Camisasca, G.J. Crescente, J.H.G. Mattos, F.L. Dias, S.Q.C. Lourenço. National Cancer Institute - Rio de Janeiro, RJ. The typical peripheral ossifying fibroma (POF) usually occurs on the free margin of the gingiva and it is known to arise from the periodontal ligament. POF is an inflammatory lesion and it averages 1.0 cm at its greatest dimension. The case presented here is unique by virtue of its size. A female patient aged 45 years-old reported with a facial asymmetry due to a progressive growing intra-oral mass that was present for 8 months. Medical history was unremarkable but she presented poor oral health. Oral examination revealed a sessile, slightly mobile, firm and non-pulsatile mass with a smooth surface in the right inferior gingiva measuring about 5.5 by 5.0 cm. No bleeding or bruit was noted. The color of the tumor was slightly red without ulceration. No cervical nodes were palpable. She denied comorbidities and tobacco or alcohol consumption. Panoramic x-ray showed a discrete radiopaque mass between the canine and right molar. Bone beneath it was intact. Incisional biopsy revealed a benign process. Patient was submitted to a transoral tumor resection. Microscopic analysis showed a mass of highly cellular mature fibrous tissue with central areas of calcification, consistent with a diagnosis of POF. Patient is still under surveillance appointments and no recurrence was observed after 12 months. The POF almost certainly represents a stage in the spectrum of fibroblastic gingival lesions. This case probably reached such huge dimensions due excessive irritants (e.g., calculus and plaque) and to a long period without any dental intervention.

## #143 – Gold Room

CLINICAL STAGE I AND II SQUAMOUS CELL CARCINOMA OF THE TONGUE AND FLOOR OF MOUTH - CLINICOPATHOLOGICAL CHARACTERIZATION. D.R. Camisasca, L.R. Gonçalves, G. Brown, D. Pereira, P.A.S. Faria, F. Dias, S.Q.C. Lourenço. Fluminense Federal University Niterói - RJ. Smoke and alcohol account for almost 2/3 of all oral cancers. Tongue and floor of mouth are the most commonly affected sites. This work aims to describe a sample of 20 clinical stage I and II tongue and floor of the mouth squamous cell carcinomas (SCC) collected between August 2007 and February 2008. All patients were selected from the Head and Neck Section of Cancer National Institute (INCA - RJ Brazil). There were 14 males and 6 females. 4 of them were excluded - 2 did not come to the surgery and 2 had to postpone it. Of the 16 remaining cases, 10 (62.5%) were tongue SCC. Patients themselves were the ones to first detect the lesion (68.7% of the cases), which evolved during about 8.8 months before definitive diagnosis. Physicians (n=9) and dentists (n=8) were the health care professionals to whom patients referred. Average age was 53.4 years old, and 3 (18.7%) patients were 40 years old or younger. There were 6 (37.5%) non-smokers and non-drinkers patients and 2 were former users of these substances. All of them were submitted to neck dissection. After microscopic examination, 7 cases turned out to be stage III (n=5) or IV (n=2) due to cancer spread to lymph nodes. Almost all of the cases were SCC moderately differentiated and perineural invasion was present in 5 cases. It is important to study initial stage oral cancer to direct efforts towards its detection and management. In the near future proteomic approach will be held in this sample to search for diagnostic biomarkers and proteins involved in smokers and drinkers patients with SCC compared to non-smokers and non-drinkers.

# Poster Abstracts – Tuesday, June 24, 2008

## #144 – Gold Room

ORAL MANIFESTATIONS IN 2880 SOUTH INDIAN HIV INFECTED PATIENTS. M. Umadevi, K Ranganathan, N. Kumaraswamy, S. Solomon, Ragas Dental College, Chennai, India. Objectives: This cross-sectional study was done to document oral lesions and to compare their occurrence in HIV seropositive patients on anti retroviral therapy (ART) and not on ART. Materials and Methods: 2880 consecutive HIV/AIDS patients attending YRG CARE, in Chennai, over a period of four years constituted the study group. Results: Of 2880 patients, 94 % had acquired the infection through heterosexual contact. There were 2084 males and 796 females. Oral manifestations were seen in 82%. The oral lesions seen were Gingivitis (72%), pigmentation (24%), oral candidiasis (OC, 19 %), periodontitis (18%) and ulcers (3%). Of the 1807 patients for whom the CD4 counts were available, 58% had CD4 count > 200 and 42% had CD4 count less than 200. The prevalence of OC in patients with CD4 count less than 200 was 22% and 12% in those with CD4 counts >200, (P=0.00) There was a difference in the occurrence of OC between patients on ART and those not on-ART (13.9%, 21.2%; P = 0.00). Conclusion: OC was associated with immunosuppression and the occurrence of OC was low in patients on ART when compared with patients not on ART.

## #145 – Gold Room

TONGUE CARCINOMA IN THREE YOUNG ADULTS. D.R. Camisasca, P.A.S. Faria, E. Freitas, T. Faria, F. Dias, S.Q.C. Lourenço. Fluminense Federal University and National Cancer Institute, Rio de Janeiro. In recent years, oral cavity carcinomas have increased at a younger age, especially in females who never consumed alcohol or smoked. This work aims to report clinical and histopathological findings of two males, aged 28 and 41 years old, and one female aged 31 years old, who were treated in Head and Neck Section of National Cancer Institute (RJ Brazil) in 2007 for tongue carcinomas. The female had a history of controlled type 2 diabetes and the younger male reported a family history of gastrointestinal cancer. None of them were smokers and two were sporadic alcohol users. Time elapsed between initial symptoms and definitive diagnosis varied from 5 to 9 months. All were clinic stage I or II and only the female presented node metastasis after surgery with neck dissection and tumor-free margins, to which all of them were submitted. Microscopic analysis showed moderately and poorly differentiated tumors with an aggressive pattern of invasion (diffuse infiltration and cellular dissociation). Perineural invasion was detected in all cases. Hence, everyone was submitted to adjuvant radiotherapy. Patients are well and still under clinical control. Although tongue carcinomas in young adults seem to be histological more malignant, maybe aggressive treatment and a good quality health status will improve patient survival. Health care professionals must be aware of the possibility of oral cancer in young adults without main risk factors (alcohol and tobacco).

# Poster Abstracts – Tuesday, June 24, 2008

## #146 – Gold Room

### HISTOLOGICAL FEATURES OF SPECIMENS OBTAINED WITH DIFFERENT ELECTROMEDICAL DEVICES: A COMPARATIVE STUDY AMONG DIODE LASER, CO2 LASER AND RADIOFREQUENCY

S. CAPODIFERRO, E. MAIORANO, M. GIULIANI, A. LOIUDICE, S. AGOSTINACCHIO, S. LIONETTI, C. LAJOLO, F. SCARPELLI, G. FAVIA Universities of Bari, Rome and Florence – Italy  
Nowadays it is well established that different electromedical devices provide several clinical advantages in oral surgical pathology, while the possible histological modifications of the specimens is still a discussed topic. We study 120 patients surgically treated (incisional biopsy alone or with following complete excision) with different electromedical devices (diode laser, CO2 laser, radiofrequency) both for benign and malignant lesions of the oral mucosa. The specimens were studied by conventional microscopy and confocal laser scanning microscopy to identify structural alterations and the possible presence of damages to the excision margins due to the cut with an electromedical devices. The results obtained with the present study suggested that an adequate knowledge of the different devices properties, capabilities and parameters regulation are the key factors in achieving surgical specimens without alterations and also to apply the more fit electromedical device to the disease; in such way, a correct histopathological diagnosis is always obtainable both in case of benign lesions and above all in cases of pre-malignant and malignant lesions.

## #147 – Gold Room

PSYCHOSOCIAL ASPECTS OF PATIENTS WITH BURNING MOUTH SYNDROME, ORAL LICHEN PLANUS, AND RECURRENT APHTHOUS STOMATITIS Y.J. Hsieh, M.L. Chiang, Chang Gung Memorial Hospital, Chang Gung U., Y.L. Tzeng Mackay Memorial Hospital Taipei, Taiwan. It has been postulated that oral lichen planus, recurrent aphthous stomatitis and burning mouth syndrome would constitute entities that deserve to be investigated as psychosomatic diseases. The aim of this study was to determine the existing relation between the Oral Lichen Planus (OLP), Recurrent Aphthous Stomatitis (RAS), Burning Mouth Syndrome (BMS) and psychological alterations of the patient, including stress, anxiety and depression. The study sample consisted of 15 patients with BMS, 6 patients with OLP, and 6 patients with RAS. Two rating scales were applied to measure the severity of psychiatric condition: Hamilton Anxiety Rating Scale (HAM-A) and Hamilton Depression Scale (HAM-D). The intensity of the symptoms was estimated using a visual analogue scale. The evolution time, frequencies of the symptoms were recorded as well. The intensity of the symptoms produced by BMS, OLP, and RAS varied from 1 to 10, with an average of  $4.41 \pm 2.719$ . In the BMS group, the mean HAM-A and HAM-D scores were 22.20 (standard deviation, SD=12.365) and 14.07 (SD=6.766), respectively. The mean HAM-A and HAM-D scores among the patients with OLP were 13.50 (SD=4.370) and 7.00 (SD=3.578), respectively. In the RAS group, the mean HAM-A and HAM-D scores were 10.33 (standard deviation, SD=6.919) and 4.50 (SD=4.087). This preliminary study showed an association between psychological alteration and BMS, OLP and RAS.

# Poster Abstracts – Tuesday, June 24, 2008

## #148 – Gold Room

**KERATOACANTHOMA OF THE LOWER LIP: A CASE REPORT IN AN UNUSUAL LOCATION.** P. Freitas-Faria, A.H. Cury, S. Brener, A. Consolaro, C.T. Soares, and V.S. Lara. U. of São Paulo, and Lauro de Souza Lima Institute, Bauru, Brazil. A 56-year-old white female with smoking habits presented an ulcer exhibiting an elevated and firm border on the lower lip, with an 8 month-history, about 0.5 cm in diameter and slight tender on palpation. No regional lymphadenopathy was noted. The presumptive diagnosis was squamous cell carcinoma (SCC) and an excisional biopsy was performed. The microscopic analysis revealed a lesion presenting a cup-shaped appearance and an epithelial central area exhibiting a keratin-filled crater. Penetrating epithelial rete processes with deep keratin pearls, dyskeratosis, rare mitotic figures and mild pleomorphism were also observed. According to the microscopic features, the final diagnosis was keratoacanthoma. Immunohistochemical analysis demonstrated focal positivity for p53, low proliferative index (Ki-67) and absence of bcl-2 expression, as well as diffuse and intense positivity for 34βE12 and negativity for 35βH11, EMA and CK7, compatible with the literature. Keratoacanthoma is a benign epithelial tumour that exhibits a rapid growth followed by spontaneous involution, typically on sun-exposed skin. Distinguishing keratoacanthoma and SCC may be challenging, especially if the biopsy was superficial or incisional. Aspects related to clinical history, biopsy, macroscopic cut and morphology are fundamental for differential diagnosis.

## #149 – Gold Room

**ALTERATIONS IN THE EXPRESSION OF THE PTEN/AKT/MTOR SIGNALING PATHWAYS IN AMELOBLASTOMAS.** M. Scheper, R. Chaisuparat, N. Nikitakis, J. Sauk. U of Maryland, Baltimore. Recently, an allelic loss of the tumor suppressor PTEN was shown to occur in ameloblastomas. In carcinogenesis, loss of PTEN allows for an over activity of the PI3K/AKT pathway inducing the upregulation of mTOR and its downstream effector S6K; allowing for uncontrolled cell proliferation, inhibition of apoptosis, and deregulation of cell cycle control. Thirty ameloblastomas and five dental follicles were studied, looking at the immunohistochemical expression of total PTEN and AKT, as well as their phosphorylated active forms and the downstream effector pS6K. Also assessed was the expression of ERK, which cross talks with AKT signaling. Total PTEN was absent in 33.3% of ameloblastomas, while its active, stabilized, phosphorylated (ser380/thr382/thr383) form was absent in 83.3% of tumors. In contrast, AKT was expressed in 83.3% of ameloblastomas, showing high expression of the phosphorylated forms p-thr308 AKT and p-ser473 AKT in 93.3% and in 56.6% of cases, respectively. Further, pS6K (ser240/244) was detected in 86.7% of ameloblastomas, while ERK was highly expressed in 70.0% of the cases. The immunohistochemical analysis of aberrant signaling in the PI3K/AKT/mTOR pathway in ameloblastomas may represent a valuable tool for elucidating pathogenesis, determining aggressiveness and selecting the optimal treatment of these tumors.

# Poster Abstracts – Tuesday, June 24, 2008

## #150 – Gold Room

**VERRUCIFORM XANTHOMA COEXISTING WITH ORAL LICHEN PLANUS.** JA Silva Jr., CA Garcês, DR Camisasca, D Otero, EC Fonseca, EP Dias, SQC Lourenço. Federal Fluminense University - Niterói, RJ. Verruciform xanthoma (VX) is a rare benign mucocutaneous lesion of unknown etiology that is typically solitary and predominantly located within the oral cavity. They can be confused clinically with verruca vulgaris, condyloma, leukoplakia, verrucous carcinoma, and squamous cell carcinoma. The purpose of this study was to report a case in which oral mucosal verruciform xanthoma and oral mucosal lichen planus occurred concomitantly. A 57 year old male presented to the dental office complaining of a burning sensation in the mouth. Upon oral examination white lace-like and striated lesions were detected in the buccal mucosa bilaterally. Clinical diagnosis was oral lichen planus. Incisional biopsy was performed and microscopically, the lesion demonstrated squamous hyperplasia with parakeratosis, and acanthosis. Histiocytes (foamy cells), a hallmark of VX, were identified confined to the lamina propria papillae. There was also focal degeneration of the basal cell layer, and a chronic inflammatory cell infiltrate, consisting mostly of lymphocytes, was observed immediately subjacent to the epithelium. Foamy cells were positive to CD-68 antibody, showing a macrophagic nature. Oral lichen planus in association with verruciform xanthoma was the final diagnosis. Topic corticosteroids were prescribed. Patient is asymptomatic and still under periodic clinical surveillance. The features suggest that the condition of altered epithelial turnover, as in repeated epithelial desquamation, may cause the verruciform xanthoma. However, its etiology and pathological mechanisms remain unknown.

## #151 – Gold Room

**GENOMIC MARKERS TO PREDICT METASTATIC ORAL SQUAMOUS CELL CARCINOMA.** A. Bhattacharya, R. Jordan, D. Albertson, B. Schmidt. University of California San Francisco. Prognosis of oral squamous cell carcinoma (OSCC) is largely determined by cervical lymph-node metastasis (CLNM), survival drops by 50% following metastasis. Current treatment involves cervical lymph-node (CLN) dissection, followed by chemotherapy and radiation; treatments which are associated with significant morbidity. Identification of genomic marker(s) that could accurately detect/predict CLNM would greatly improve clinical management and prognosis of OSCC. Our objective is to utilize genomic DNA copy number aberrations (CNAs) that distinguish metastatic and non-metastatic OSCCs to develop such markers. Non-metastatic (N0: metastasis-free for at least 3 years after diagnosis) and metastatic tumors (N+: CLN metastasis within 3 years of diagnosis) matched on clinical parameters will be analyzed for CNAs using array comparative genomic hybridization. We will isolate genomic DNA from formalin fixed paraffin embedded N0 and N+ OSCCs, and identify recurrent CNAs that distinguish the two groups. From over 2500 OSCC specimens we have identified 79 N0 and 127 N+ cases; we are currently accession matching the N0 and N+ cases. Based on current progress we should be able to successfully profile 60 tumors each in the metastatic and non-metastatic groups.

# Poster Abstracts – Tuesday, June 24, 2008

## #152 – Gold Room

DIFFERENTIAL EXPRESSION OF GALECTIN-3, B-CATENIN AND CYCLIN D1 IN ADENOID CYSTIC CARCINOMA AND POLYMORPHOUS LOW-GRADE ADENOCARCINOMA. K. Ferrazzo, M. Neto, V. Ferrazzo, D. Pinto Jr, S. Sousa. U. of São Paulo, Brazil. It has been shown that galectin-3 (gal-3), a multifunctional protein of a group of galactoside-binding lectins is expressed in adenoid cystic carcinoma (ACC) and polymorphous low-grade adenocarcinoma (PLGA). Gal-3 may be an important mediator of the  $\beta$ -catenin/Wnt pathway. Moreover, nuclear gal-3 expression has been implicated in cell proliferation, promoting cyclin D1 activation. Thus, in the present study, using immunohistochemistry, we aimed to correlate gal-3 expression, either nuclear or cytoplasmic, with the expression of  $\beta$ -catenin (nuclear/cytoplasmic) and cyclin D1 (nuclear) in 15 cases of ACC and in 15 cases of PLGA. For gal-3, ACCs showed specific staining only in luminal cells, mainly in the nuclei. In the cases of PLGA, all tumor cells revealed a positive, mostly cytoplasmic, reaction to gal-3. Both tumors showed intense cytoplasmic/nuclear staining for  $\beta$ -catenin in the majority of cases. Cyclin D1 immunoreactivity was not detected in 14 of the 15 PLGA studied. In contrast, ACCs showed specific nuclear staining for cyclin D1 in 10 of 15 cases studied in more than 5% of the neoplastic cells. Taken together, these results suggest that in ACC,  $\beta$ -catenin translocates from a free cytosolic form to the nucleus, where it joins to nuclear gal-3 activating cyclin D1. In PLGA, gal-3 and  $\beta$ -catenin expression seems not to be associated to cyclin D1 stimulation.

## #153 – Gold Room

EXPRESSION OF VEGF AND PDEGF IN SALIVARY GLAND TUMOR. SV Cardoso<sup>1</sup>, FL Dias<sup>2</sup>, KCN Souza<sup>1</sup>, ALA Eisenberg<sup>2</sup>, PR Faria<sup>1</sup>, RA Lima<sup>2</sup>, MF Nascimento<sup>2</sup>, AM Loyola<sup>1</sup>. 1. Universidade Federal de Uberlândia - 2. Instituto Nacional do Câncer (INCa) - BRASIL. Growth vascular factors such as the vascular endothelial growth factor (VEGF) and the platelet derived endothelial growth factor (PDEGF) have been employed to evaluate the angiogenesis. The objective of this study was to perform morpho-histogenetic and semi-quantitative analysis of the immunohistochemical expression of VEGF and PDEGF in primary epithelial salivary gland tumors, as well as compare this expression with the biological behavior of those neoplasms as determined by the existence (pm) or absence (pnm) of metastasis. In this sense, it were selected 139 cases of epithelial salivary gland tumors diagnosed and treated in the INCa from 1997 to 2003, consisting in 30 pleomorphic adenomas (PA), 19 polymorphous low-grade adenocarcinomas (PLGA), 50 adenoid cystic carcinomas (ACC) and 40 of mucoepidermoid carcinomas (MEC). Statistic significant differences ( $p < 0.05$ ) were found between: 1) PA and the group of primary malignant lesions (Pmalig) for VEGF ( $p < 0.0001$ ) and PDEGF ( $p = 0.006$ ) 2) PLGA, ACC and MEC for PDEGF ( $p < 0.0001$ ), where the difference occurred between MEC and PLGA, and MEC and ACC. The comparison between pm and pnm for each histological type and for each malignant group did not reveal significant differences. In conclusion, the present results suggest that VEGF and PDEGF do not represent good predictors for metastasis and prognosis in epithelial salivary gland tumors, albeit they may reflect some pathogenetic differences among specific groups of these neoplasms.

# Poster Abstracts – Tuesday, June 24, 2008

## #154 – Gold Room

INTRACRANIAL COMPOUND ODONTOMA. PR Faria<sup>1</sup>; KCN Souza<sup>1</sup>, SV Cardoso<sup>1</sup>; S Caputo<sup>2</sup>; A Rocha<sup>1</sup>; AM Loyola<sup>1</sup>. 1. Department of Pathology - 2. Department of Neurosurgery - Universidade Federal de Uberlândia - BRASIL. Odontomas are relatively common hamartomatous lesions of the jaws. However, they are rarely seen in other sites of the head and neck region, such as the middle ear, retrotympenic tissue, nasopharynx, and suprasellar regions. The present work presents the second case of an intracranial compound odontoma affecting a 10-year-old boy. The patient was referred to us because he presented a solid cerebral mass in the sellar and suprasellar location that was noted after the patient had been submitted to radiographic exam for evaluation of a persistent sinusitis. In his anamnesis, a history of progressive frontal headaches, affecting the patient for 5 years, was reported by his mother. He also had a history of frequent asthmatic bronchitis crisis, sinusitis, reduced growth rate and hepatitis, which had been cured 5 years before. An axial computerized tomography scan of the head revealed a solid, calcified tumoral mass with well defined borders localized in the sellar and suprasellar region. A magnetic resonance image also showed an expansive lesion composed by multiple calcified structures, resembling the appearance of teeth. A clinical diagnosis of craniopharyngioma was made. The patient was submitted to a radical resection of the lesion and after histopathological examination a compound odontoma diagnosis was made. After this treatment, he presented a persistent clinical outcome of diabetes insipidus and panhypopituitarism that has been non-responsive to appropriate medication so far. A pertinent review of the literature about extragnathic odontomas is shown. Also, a possible embryological development of this lesion from the craniopharyngeal duct is postulated.

## #155 – Gold Room

MYOFIBROBLASTS IN THE STROMA OF AMELOBLASTOMAS CORRELATE WITH RUPTURE OF THE OSSEOUS CORTICAL. E.R. Fregnani, L.M. Sobral, F.A. Alves, F.A. Soares, L.P. Kowalski, R.D. Coletta. A. C. Camargo Cancer Hospital, São Paulo and State University of Campinas, Piracicaba, Brazil. Presence of myofibroblasts in the stroma of neoplasm has been correlated with tumor infiltration and progression, contributing to their biological behavior. In the present study, we evaluated the presence of myofibroblasts in intra-osseous solid multicystic ameloblastomas and determined whether their presence is associated with clinicopathological features of the tumors. Fifty seven ameloblastomas were analyzed for the presence of myofibroblasts by immunohistochemical detection of isoform a of the smooth muscle actin ( $\alpha$ -SMA). Myofibroblasts were found in the stroma, in close contact with tumor epithelial cells, of 58% (n=33) of the ameloblastomas. Areas of tumor-free stroma demonstrated a complete lack of  $\alpha$ -SMA myofibroblasts. Abundant presence of myofibroblast in the stroma of the tumors was significantly correlated with rupture of the osseous cortical (p=0.0001), which has been considered an important prognostic marker of ameloblastoma aggressiveness. Our results suggest that abundant presence of myofibroblasts in the stroma of solid ameloblastomas may be associated with a more aggressive infiltrative behavior, and may be useful to predict the prognosis of patients affected by this odontogenic tumor.

# Poster Abstracts – Tuesday, June 24, 2008

## #156 – Gold Room

CLINICOPATHOLOGICAL STUDY AND TREATMENT OUTCOMES OF 121 CASES OF AMELOBLASTOMAS. E.R. Fregnani, D.E.C. Perez, O.P. Almeida, L.P. Kowalski, F.A. Soares, F.A. Alves. A.C. Camargo Cancer Hospital, São Paulo and State University of Campinas, Piracicaba, Brazil. The aim of this study was to evaluate clinical, radiographic, histopathological findings and treatment modalities in all cases of ameloblastomas treated at the Sao Paulo Cancer Hospital, between 1953 and 2003. 121 cases were retrieved from medical files. Data were reviewed and statistical analysis was performed using Kaplan-Meyer method and Cox<sup>TM</sup>'s proportional risk model. Patient's age ranged from 2 to 82 years (mean = 33.2 years), with a slight female prevalence. Most cases were located in posterior mandible (80%). Radiographically, 60% showed a multilocular pattern. Solid ameloblastomas corresponded to 113 cases, and plexiform subtype was the most common. Solid tumors were treated by wide resection, curettage and cryosurgery, and curettage, and unicystic by curettage and/or cryotherapy. The global mean recurrence rate was 22.1%, with a mean follow-up of 9.7 years. Ameloblastomas were predominantly solid, affecting the posterior mandible. Statistics showed that important factors for the patient outcome were radiographically multilocular lesions, presence of ruptured basal cortical bone and histologically follicular tumors.

## #157 – Gold Room

APPLICATION OF CYTOPATHOLOGY FOR THE DIAGNOSTIC OF MALIGNANCE AND ORAL SQUAMOUS CELL CARCINOMA. K. Fontes, A. Milagres, M. Piragibe, L. Silva, A. Silva-Júnior, E. Dias. Fluminense Federal University - Rio de Janeiro - Brazil. During the last decades, cancer cases have increased, significantly in all world. The oral cancer incidence has risen as well and the squamous cell carcinoma represents the most common oral malignant tumor. The medical literature doesn't show unanimous opinion on cytopathology exam efficiency. The aim of this study is to analyze the cytopathological exam effectiveness in oral malignant lesions diagnosis, mostly for squamous cell carcinomas, in these aspects: sensibility, specificity, positive and negative predictive values and accuracy. The present study was composed by two groups: prospective study of 39 clinically malignant oral lesions observed in 2007. All these lesions were firstly swabbed for cytopathological exam and, after that were submitted to biopsy for histopathological study; retrospective study performed with the smears and biopsies of 61 clinically malignant oral lesions treated between 2002 and 2006 at the Pathology at the Antonio Pedro University Hospital. The used cytopathological criteria and swabs specimen classification were established by three pathologists. A comparative analysis between the cytopathological and histopathological aspects of positivity for malignancy and for oral squamous cell carcinoma showed sensitivity of 84.5% and 79.3%, specificity of 100% and 100%, positive predictive values of 100% and 100%, negative predictive value of 55,2% and 51,4%, and accuracy of 87% and 83%, respectively. These study's results indicate the effectiveness of cytopathological exam on oral squamous cell carcinoma detection. A greater number of cases and, possibly, a smear's preparation technique standardization may increase the cytology accuracy benefiting precocious diagnosis and influencing oral cancer morbidity and mortality.

# Poster Abstracts – Tuesday, June 24, 2008

## #158 – Gold Room

PREVALENCE OF ORAL HAIRY LEUKOPLAKIA AND ITS RELATIONSHIP WITH DEGREE OF IMMUNOSUPPRESSION IN 100 BRAZILIAN CHILDREN INFECTED WITH HUMAN IMMUNODEFICIENCY VIRUS TYPE 1. M. Israel, A. Silva Junior, V. Maciel, J. Barbieri, J. Pessanha, R. Pereira, M. Lago, T. Abreu, I. De Souza, E. Dias. U. Federal Fluminense. Niteroi, Brazil. Oral hairy leukoplakia (OHL) is an Epstein-Barr virus (EBV) opportunistic infection found more frequently in Human Immunodeficiency Virus Type 1 (HIV-1) infected patients. Clinically, OHL presents as a flat, corrugated or hairy nonremovable, asymptomatic, white lesion, most commonly on the lateral border of the tongue. In HIV adult patients, OHL has an important prognostic value to AIDS. However, OHL has been described very rarely in children. The aim of this study was to investigate the prevalence of OHL in HIV Brazilian children and its relationship with degree of immunosuppression. A nonrandom sample of 100 HIV-infected children was followed prospectively between 2005 and 2008. The patients were submitted to oral examination and a scrap from each side of their tongues was obtained at baseline and at each subsequent visit. Descriptive statistics and chi-square test were used in the study. A level of statistical significance of  $\alpha = 0.05$  was used. OHL diagnosis was obtained by cytopathology and confirmed through EBV identification by PCR and in situ hybridization. OHL was identified in 18 (18%) cases and it was a positive predictor of HIV disease progression.

## #159 – Gold Room

PRESENCE OF EPSTEIN-BARR VIRUS (EBV) IN SMEARS OF THE LATERAL BORDER OF THE TONGUE IN HIV INFECTED AND RENAL TRANSPLANT PATIENTS FROM RIO DE JANEIRO, BRAZIL. A. Milagres, D. Tavares, L. Amorim, A. Souza, L. Chamarelli, W. Napolitano, D. Montero, A. Silva-Júnior, E. Dias. Fluminense Federal University - Rio de Janeiro - Brazil. The association between Epstein-Barr virus (EBV) and a large number of benign and malignant diseases is unique among DNA viruses. Overall 90% of the world's population presents EBV latent infection in B lymphocytes. Although the early events of EBV infection are poorly understood, the link between malignant tumors and immunosuppression is undeniable, being the epithelial infection the most frequent one. In this context, AIDS and organ transplants represent an opportunity for the development of EBV replicative phase (oral hairy leukoplakia-OHL) and also the association of lymphoproliferative diseases. Considering that, the polymerase chain reaction (PCR) is a laboratory technique for amplifying a specific DNA sequence, extremely efficient and sensitive; the aim of this study was to investigate EBV epithelial infection in samples from smears of the lateral border of the tongue of 60 renal transplant and 62 HIV seropositive individuals from Rio de Janeiro state, Brazil. The human b-globin gene was amplified in order to assess the adequacy of each specimen NESTED-PCR was performed in all samples to detect a fragment of EBNA-1 gene. From the renal transplant group, 58/60 (96.7%) were EBV positive, while in the HIV+ group 40/62 revealed EBV presence. OHL was observed clinically in 10(16%) of the HIV+ subjects and in none of the transplant patients. These results confirm an increase in the frequency of epithelial infection in severe immunosuppression and signalize the importance of the identification, in the investigated group, of potential transmitters and the individuals presenting a higher risk to develop EBV associated lesions.

# Poster Abstracts – Tuesday, June 24, 2008

## #160 – Gold Room

EVALUATION OF THE ORAL INFECTION BY EPSTEIN-BARR VIRUS IN RENAL TRANSPLANT CANDIDATES AND RENAL TRANSPLANT PATIENTS-CYTOPATHOLOGIC AND MOLECULAR STUDY. D. Tavares, A. Milagres, L. Amorim, A. Souza, L. Chamarelli, D. Monteiro, A. Silva-Júnior, E. Dias. Fluminense Federal University - Rio de Janeiro - Brazil. Oral hairy leukoplakia (OHL) is a white lesion caused by Epstein-Barr virus (EBV) associated with immunosuppression in general. Its diagnosis can be made by detecting the typical cytopathic effects in the epithelial cells through cytopathology, which can also diagnose its subclinical form. Our aim was to investigate the association in renal transplant recipients infected by EBV, of immunosuppression with the pattern of epithelial infection, and also demonstrate that variations on those patterns could be used as a laboratorial marker of immunosuppression. The sample consisted of 10 renal transplant candidates, followed up to six months post-transplant, 50 renal transplant recipients and 10 healthy individuals (Control Group). They were submitted to oral exam and had material scraped from both sides of the tongue. A sample of saliva from each subject was also taken. There were no lesions clinically visible in any of the subjects; however cytopathology diagnosed four (7%) cases of OHL in transplant patients. There was statistically significant evidence ( $p < 0,05$ ) confirming that OHL occurs more frequently in the immediate post-transplant period. DNA/EBV was detected by PCR in tongue smears samples of 97% patients and in saliva from 37% of patients. There is an association between immunosuppression and the beginning of the viral replication in transplant recipients, confirming the hypothesis that OHL can be used as a laboratorial marker. Nevertheless, other investigations become important to determine why only a few renal transplant patients developed the lesion and if the replicative infection is associated with the future development of lymphoproliferative diseases.

## #161 – Gold Room

ADENOMATOID ODONTOGENIC TUMOR: REPORT OF AN ATYPICAL LESION ASSOCIATED WITH GARDNER SYNDROME. D. Otero, D.R. Camisasca, S.Q.C. Lourenço, S.L.M. Gonçalves, F. Dias, P.A.S. Faria. Fluminense Federal University, Niterói - RJ. Adenomatoid Odontogenic Tumor (AOT) is an uncommon tumor of odontogenic origin, constituting only 3% of all odontogenic tumors. The present case is a rare report of an unusually adenomatoid odontogenic tumor. A 56-year-old Caucasian male reported to Antônio Pedro University Hospital with a painful swelling in the right side of his face, which was presented for 5 years. Past medical history was significant for Gardner Syndrome and he was submitted to total colectomy and right ileostomy. Radiologically a radiolucent image with ill defined borders was observed to invade maxillary sinus, nasal cavity and palate. Right maxillary sinus also showed an opacification. Microscopic analysis of incisional biopsy showed solid appearance with gland-like spaces surrounded by cuboidal to columnar cells, with duct-like structures and calcified areas. Tumor resection confirmed the findings leading to definitive diagnosis of AOT. After one year, the lesion recurred bilaterally and patient was directed to a Cancer National Institute (RJ Brazil), where a wider excision was performed. Second recurrence was observed in one year and CT scan revealed the lesion already comprised right ethmoidal cells, orbit and petrous part of temporal bone. In that moment surgical procedure was not indicated. The last visit of the patient was in July 2005. This case is of particular interest because the clinical features (patient age, gender, lesion location, size, and radiographic findings) were not typical of adenomatoid odontogenic tumor. Also, it is intriguing to question whether Gardner Syndrome affected negatively AOT™s clinical behavior

# Poster Abstracts – Tuesday, June 24, 2008

## #162 – Gold Room

PREVALENCE OF ORAL HAIRY LEUKOPLAKIA - IDENTIFICATION OF THE CLINICAL AND SUBCLINICAL FORMS BY CYTOPATHOLOGY. E. Dias, A. Milagres, G. Polignamo, W. Napolitano, C. Valladares, S. Ferreira, A. Silva-Júnior. Fluminense Federal University - Rio de Janeiro - Brazil. Accurate diagnosis of Oral Hairy Leukoplakia (OHL) is important because it may be an early indicator of undiagnosed HIV infection and AIDS prognostic. Few studies utilized cytopathology for the diagnosis of OHL, regardless the description of its subclinical form. The aim of this research was to investigate the prevalence of OHL in 824 HIV+ patients, from 1997 to 2006, through the cytopathologic analysis of scrapes obtained from the lateral borders of the tongue. OHL was diagnosed only when the nuclear changes caused by Epstein-Barr Virus (Cowdry A type inclusion, ground glass and nuclear beading) were identified by an expert cytopathologist. We observed clinical diagnosis in 76 (9.2%) cases, confirmed by cytopathology and identified 142 (17.2%) cases of OHL in its subclinical form. We believe that the prevalence of OHL is greater than data exhibited in the literature. We suggest that cytopathology should be the method of choice in OHL diagnosis (both clinical and subclinical forms) and that an extensive divulgation of this method is essential, using the molecular methods only in doubtful cases.

## #163 – Gold Room

PREVALENCE OF SUBCLINICAL ORAL HAIRY LEUKOPLAKIA BY CYTOPATHOLOGY IN HIV-SERONEGATIVE PREGNANTS, DIABETES MELLITUS AND RENAL TRANSPLANT INDIVIDUALS. A. Milagres, D. Tavares, F. Lakschevitz, A. Silva- Júnior, E. Dias. Fluminense Federal University - Rio de Janeiro - Brazil. Oral hairy leukoplakia (OHL) is generally reported in patients with severe immunosuppression, except for a few cases in individuals with moderate degree of immunodeficiency. It is a white lesion, caused by Epstein-Barr virus (EBV) that appears mainly in the lateral border of the tongue. Besides molecular methods to detect the presence of EBV in OHL suspect lesions, the diagnosis might be done through the identification of nuclear alterations that represent the cytopathic effect of EBV in keratinocytes: Cowdry A inclusion, ground glass and nuclear beading. Here we investigated the prevalence of OHL in the lateral borders of the tongue from 90 pregnant women, 90 diabetes mellitus (DM) patients, 85 renal transplants and 55 healthy individuals (N=320). Smears were analyzed by cytopathology and were identified one (1.1%) case of subclinical OHL in a DM patient and six (7.0%) cases in transplant patients. The presence of EBV-DNA was investigated by the polymerase chain reaction (PCR) in 120 samples (120/320), where it was detected in 91(75.8%), including OHL cases. We concluded that patients with different degrees of immunodeficiency can develop OHL exhibiting a low prevalence. Clinical OHL wasn't identified and cytopathology revealed seven cases of subclinical OHL. Therefore, this method can be considered specific and enough for the definitive diagnosis of OHL, despite the identification of the virus. Our results show that the prevalence of OHL may be larger than the one described in the literature.

# Poster Abstracts – Tuesday, June 24, 2008

## #164 – Gold Room

DETECTION OF DNA-EBV WITH NESTED PCR IN PARAFFIN-EMBEDDED TISSUE SAMPLES PROCEEDING FROM LESIONS SUSPECTED OF VIRAL INFECTION. Dias, E.P; Rocha, M.L; Silva-Júnior, A; D. Azambuja D.R.R; Tavares, D.S; Amorim L.M.F. Pathology Department of Antonio Pedro Hospital/ Universidade Federal Fluminense/Niteroi/Brazil. Many molecular techniques are used for the identification of Epstein-Barr virus (EBV), among them the polymerase chain reaction (PCR), that allows the detection of small quantities of DNA in formalin-fixed, paraffin-embedded tissue sections. EBV is a member of the herpesvirus family and serologic data indicate that more than 90% of the worldwide population is infected, with the latent EBV in B lymphocytes. The mechanism which the viral response in healthy individuals occurs is not well clarified yet. EBV has been associated with benign and malignant diseases, including lymphomas (Hodgkin, non-Hodgkin, B and T cells lymphomas), nasopharyngeal, gastric and breast carcinomas, infectious mononucleosis and oral hairy leukoplakia. The objective of this study was to investigate, from the Nested-PCR, the presence of the EBV genome in paraffin-embedded tissue samples suspected of viral infection. 127 formalin-fixed, paraffin-embedded tissues were selected in the archives of the Department of Pathological Anatomy from public and private institutions submitted to the PCR and immunohistochemistry techniques for the demonstration of the DNA-EBV and LMP-1 and BZLF-1 proteins. The DNA-EBV was detected in 43 (34%) of the 127 samples: 6/6 (100%) oral hairy leukoplakia, 14/15 (93%) nasopharyngeal carcinomas, 13/24 (54%) palatine tonsils and 10/29 (34%) lymphomas. These results confirm the strong evidence of the participation of EBV in several diseases, some associated to immunosuppressive conditions, being necessary to investigate some pathogenic aspects, still little understood in the complex of the human being diseases.

## #165 – Gold Room

ORAL HAIRY LEUKOPLAKIA: STUDY OF HISTOPATHOLOGIC AND CYTOPATHOLOGIC FEATURES, USING IMMUNOHISTOCHEMISTRY, IN SITU HYBRIDIZATION AND PCR. Dias EP; Silva -Júnior A; Oliveira SP; Ferreira SMS; Sprydes KS; Milagres; Rocha, ML. Universidade Federal Fluminense Niterói/Brazil. Serological investigations show that more than 90% of the world population is infected by Epstein - Barr virus (EBV). However, most individuals don't develop diseases associated to the virus, which after infection stays latent in both epithelial tissue and B lymphocytes. Many studies have demonstrated EBV association with benign and malign diseases, among these oral hairy leukoplakia (OHL). As for OHL, the infection is permissive, which brings up a unique possibility to study EBV replication in vivo. The morphological aspects of OHL are still not established as diagnostic preferential tool. The aim of the study was describe morphological aspects of OHL. 25 biopsy specimens of oral tissue diagnosed as oral hairy leukoplakia and scrapes of tongue lateral borders was selected. We analyzed histopathological and cytopathological features and the EBV proteins (LMP1 and BZLF) using immunohistochemistry. The EBV-DNA was investigated with in situ hybridization and polymerase chain reaction (PCR). The results showed: a) EBV cytopathic effect were identified in 100% of biopsy and scraps specimens diagnosed as OHL; b) In scraps were EBV DNA (PCR) was investigated in specimens exhibiting nuclear alterations, cytopathology was 100% specific; c) LMP1 nuclear and/or cytoplasmic immunopositivity and BZLF1 nuclear immunopositivity were observed in all of OHL. The conclusions are: a) Nuclear representative alterations of EBV cytopathic effects are pathognomonic in OHL diagnosis; b) Cytopathology is a recommended technique for OHL diagnosis; c) Immunohistochemical investigation of BZLF1 can be used as EBV replicative infection marker and LMP1 immunohistochemical can be used as EBV latent infection marker.

# Poster Abstracts – Tuesday, June 24, 2008

## #166 – Gold Room

EBV-DNA DETECTION BY PCR IN SMEARS OF THE LATERAL BORDER OF THE TONGUE OF HIV+/AIDS PATIENTS FROM RIO DE JANEIRO, BRAZIL. Dias, E.P.; Silva-Junior, A; Maciel, V.A.; Tavares, D.S.; Rocha, M.L.; Valladares, C.P.; Corrêa, W.N.; Leite, J.P.G. Pathology Department of Antonio Pedro Hospital/ Universidade Federal Fluminense/ Brazil. Epstein-Barr virus (EBV) is one of the most successful viruses to infect humans. Approximately 90% of the world's population carries this herpesvirus, and although it is etiologically associated with a number of benign and malignant diseases, such as Burkitt lymphoma, oral hairy leukoplakia (OHL), post transplant and AIDS lymphomas, nasopharyngeal carcinomas, in the vast majority of people it establishes a lifelong silent infection. Usually normal host immune response may control and limit EBV replication, but subclinical viral reactivation can occur more frequently in the immunocompromised subjects. OHL is characterized as a non-removable, asymptomatic white plaque, with flat, corrugated or hairy surface, most frequently located on the lateral borders of the tongue, representing EBV replicative phase. It is considered an important prognostic marker related to progression of the immunosuppression and the advance of the clinical condition to AIDS in HIV infected patients. In this study, we investigated oral EBV infection in 45 HIV+/AIDS patients from Rio de Janeiro State, Brazil. They were submitted to oral exam and had material scraped from both sides of the tongue by using an endocervical brush. The brush tip was conditioned into an eppendorf tube containing 1.5 ml of TBS. DNA was extracted by BOOM method, followed by a NESTED-PCR to detect EBV-DNA. Among all oral smears tested, 43 (95,5%) were EBV positive. The two cases considered negative did not present EBV-DNA in either sides of the tongue. These results confirm the higher prevalence of EBV infection in HIV infected patients warning to the risk to develop EBV associated lesions.

## #167 – Gold Room

CLINICOPATHOLOGICAL CORRELATION BETWEEN BENIGN ORAL AND GENITAL PAPILOMATOUS LESIONS. SP Oliveira; A Silva Júnior; SMS Ferreira; SQC Lourenço; EP Dias. Fluminense Federal University, Niterói - RJ. Papillomaviruses reveal deoxyribonucleic acid genic constitution (DNA) and belong to Papovaviridae family. They infect many animal species, inducing diverse proliferative lesions of stratified epithelia. Benign lesions include cutaneous, anal/genital and oral warts. The objective of this study is to analyze clinical and histopathological features of 31 epithelial proliferative oral and genital lesions, obtained from five HIV positive and 26 HIV negative patients. Caucasian (n=19,61.3%) males (n=27, 87%) in the third and fourth decade of life were predominantly affected by these lesions. There were 14 genital lesions, 15 oral lesions and only two patients presented orogenital lesions concomitantly. In all cases an excisional biopsy was performed and tissues were submitted to histopathological examination. Genital lesions were all diagnosed as condyloma acuminatum. From 17 patients with oral lesions, 10 presented oral squamous papilloma, 3 focal epithelial hyperplasia and 4 condyloma acuminatum. It is known that HPV types observed in orogenital mucosa and skin are distinctive and high and low risk HPV genotypes have been defined. Some studies demonstrate an association between HPV oncogenic types in lesions caused by non oncogenic types. Considering the strong association of HPV and squamous cells carcinoma, the investigation of the oncogenic potential of oral and genital papillomatous lesions, considered to be absolutely benign, is important.

# Poster Abstracts – Tuesday, June 24, 2008

## #168 – Gold Room

ODONTOGENIC TUMOURS IN BRAZIL: A RETROSPECTIVE STUDY OF 123 CASES. D. Otero, NB Moraes; Dias, EP; SQC. Lourenço. Fluminense Federal University, Niterói - RJ. Odontogenic tumors are uncommon lesions of the mandible and maxilla that constitute less 4% of all oral specimens. The aim of this study was to determine the relative frequency and clinical features of odontogenic tumors of the Anatomic Pathology Service of the Antonio Pedro University Hospital seen between January 1997 and December 2007. The final diagnosis was based on histological criterions published by WHO in 2005. The 123 cases diagnosed of odontogenic tumors represent 2.67% of the 4591 oral pathology specimens submitted in this service during the last ten years. Benign odontogenic tumors constituted 98.9% of the cases seen, while only 1 case (1.1%) was diagnosed of the malignant odontogenic tumour. The peripheral odontogenic tumors corresponded to 2.43% of all odontogenic neoplasm. Keratocystic odontogenic tumor and ameloblastoma, which represented to 38.2% and 18.6%, respectively, were the most common odontogenic tumor. The mean age of patients was 37 years-old (range, 5- 82 years) and the majority was Caucasian people. Male - to-female ratio was 1:1, and mandible -to - maxilla ratio was 2.4:1. The most common site involved was the posterior mandible, mainly by ameloblastoma and keratocystic odontogenic tumor. The clinical features of benign tumors were non- specific, in general without symptoms and increased volume. Although relatively rare, odontogenic tumors should be studied to allow better understand about their etiopathogenesis and to offer a specific treatment.

## #169 – Gold Room

INTRAORAL SEBACEOUS ADENOMA: REPORT OF A CASE WITH IMMUNOHISTOCHEMICAL FINDINGS. Santos MM.\*, Rivera H, Santiago J. Oral Medicine Department, Santa María U. Faculty of Dentistry. & Oral Pathology Laboratory. Faculty of Dentistry. Central U of Venezuela. Sebaceous adenoma (SA) constitutes a rare circumscribed salivary gland tumor, composed of well-differentiated sebaceous cells and cystic or duct-like structures, representing 0.1% of all salivary gland neoplasias, predominantly occurring in males ( 1.6: 1). Fifty percent of the cases arises in parotid gland, followed by buccal mucosa (17%) and retromolar (13%). A case of a 20 year old Venezuelan female, with a circumscribed yellowish mass, of approximately 1cm of diameter, located on anterior right buccal mucosa is presented. Excisional biopsy was made, histopathological and immunohistochemical confirmation was performed using monoclonal antibodies. Calponin, smooth muscle Actin, Cytokeratins A1-A3 and S100 protein. The histopathological study revealed a well defined fibrous connective tissue capsule, as well as numerous clear cells with granular cytoplasm and excentric nuclei separated by a fibrous septae. Normal adjacent mucous salivary glands are also observed. The immunohistochemical analysis demonstrated Calponin, Cytokeratins and S100 protein positivity. The present case constitutes an uncommon intraoral salivary gland tumor in a infrequent location, confirming its origin with the immunohistochemical findings.

# Poster Abstracts – Tuesday, June 24, 2008

## #170 – Gold Room

PREVALENCE OF ORAL MUCOSAL CONDITIONS ASSOCIATED TO SMOKELESS TOBACCO USE CHIMO IN FOUR COMMUNITIES OF PORTUGUESA STATE (VENEZUELA). Santos M M, Rojas Sanchez, F, Socorro M, Gomez., D, Torres JR, Bentolila R, Mujica V, H Rivera. Instituto de Investigaciones Odontológicas Raul Vicentelli, Facultad de Odontología, U. Central de Venezuela. Departamento de Estomatología, Facultad de Odontología, U. Santa Maria. The purpose of the present study was to evaluate the prevalence of oral mucosal conditions associated to smokeless tobacco (ST) in a Venezuelan population. A total of 202 patients, age ranging 1-71 years were clinically examined. Oral mucosal conditions were classified according to the WHO Guide to Epidemiology and Diagnosis of oral mucosal diseases and conditions. The socioeconomic condition was evaluated according to Graffar criteria. Biopsies were performed in those cases requiring definitive diagnosis. Our results showed that 51/20(25,25%) patients presented one or more oral conditions. A total of 55 were observed. Thirty five patients were male (68,63%) and 16 were female (31,37%). The predominant age group was between 11-20 years 22/51 (43.13%). Twenty three 23/51 (45,1%) patients with oral mucosal conditions used ST Chimó, an autochthonous form of ST. Of these 15/23 (65,3%) were children and adolescents and 8/23 (4,7%) were adults. A total of 29 conditions were observed associated to ST use. The most frequent oral mucosal condition was represented by erythema (24,2%), only one case of erythroplakia was evidenced, followed by nicotine stomatitis, leukoplakia associated to tobacco use, and traumatic ulcer with 3 cases (10.4%) each respectively. Pigmented teeth represented 10/29 (34,4%). The majority of the patients belong to IV and V socioeconomic level. We may conclude that no malignancies associated to ST were noted in the studied populations. The oral conditions were commonly observed among young males in the communities.

## #171 – Gold Room

THE ANTICANCER EFFECT OF BAICALEIN IN DMBA-INDUCED HAMSTER BUCCAL POUCH CARCINOGENESIS. Y. Huang, H. Chen, Y. Liu, H. Chang, and Y. Chen. China Medical University, Taichung, and Kaoshiung Medical University, Kaoshiung, Taiwan. OBJECTIVE: Baicalein (5,6,7-trihydroxyflavone) is a bioactive flavone that has been used as an anti-inflammatory agent in Chinese herb medicine. In our recent studies, Baicalein showed anti-proliferative and apoptotic effects on oral squamous cell carcinoma (SCC) cells in vitro. The objective of this study is to further investigate the potential anti-cancer effect of Baicalein in a DMBA-induced hamster buccal pouch carcinogenesis model. DESIGN: Forty-two male Syrian hamsters were randomly assigned into 3 groups. Group 1(n=18) was treated with 0.5% DMBA, 3 times per week for 12 week and the hamsters were sacrificed at 8, 10 and 12 wk, respectively. Group 2(n=18) was treated with 0.5% DMBA and Baicalein alternatively, 3 times per week for 12 weeks. The concentrations of Baicalein were 7, 14 or 28mg/ml. Group 3(n=6) was treated the same way as Group 2 except that Baicalein was replaced with DMSO. At the end of the 12 wks, the buccal pouch was dissected and the numbers and the sizes of the tumors were measured before histological examination. The body weight and the amounts of feed intake of the hamsters were recorded weekly. FINDINGS: All the hamsters in Group 2 and 3 showed SCC after 12 wks experimental period. No significant differences in the numbers and the sizes of the tumors were found in hamsters treated with Baicalein at dosage of 7, and 14mg/ml. Decreased tumor sizes were observed in hamsters treated with 28mg/ml Baicalein ( $p < 0.05$ ). Baicalein appeared to increase food intake in a dose-dependent manner for hamsters in Group 2. CONCLUSIONS: Although Baicalein did not appear to prevent the progression of carcinogenesis, it decreased the tumor sizes and increased animal feed intake which may indicate reducing pain and discomfort for the animals.

# Poster Abstracts – Tuesday, June 24, 2008

## #172 – Gold Room

DOES THE LJUBLJANA CLASSIFICATION USED FOR GRADING LARYNGEAL DYSPLASIA WORK FOR ORAL DYSPLASIAS? AN INDIAN EXPERIENCE Hazare, D. Daftary, A. Kale; S. Warnakulasuriya. Govt Dental College Nagpur India, King's College London. Ljubljana classification attempts to provide distinction between abnormal hyperplasia which does not require treatment and atypical hyperplasia which need to be carefully monitored. Categories recognized in grading the pathology of laryngeal squamous intraepithelial lesions are simple hyperplasia, abnormal and atypical hyperplasia and carcinoma in situ. A pilot study was carried out by five oral pathology centers on the consensus of reporting on a set of pre circulated pathology slides to uniformly monitor calibration of oral epithelial dysplasia using Ljubljana and Smith & Pindborg™s grading system. The results of the study highlighted the areas of agreement or disagreement while scoring atypia using this system. Smith and Pindborg™s system is time consuming for routine. Interobserver variations were noted necessitating further research to minimize such variations in pathology reporting by reaching a consensus and criteria used for scoring. The risky dysplasia is a preferred term for oral lesions in place of atypical hyperplasia. This workshop (Standardized reporting of Oral epithelial Dysplasia. Journal of Oral and Maxillofacial Pathology 11,2,86-8,2007) has attempted to update our thinking with regards to morphological interpretation of precursor lesion and to establish a means of standardizing the reporting on OED by oral pathologists in India. There is no doubt that the largest pool of oral precancers being investigated at a given time is in India due to high-risk chewing and tobacco habits in the population. It is therefore proposed that the Indian academy will set up and monitor calibration of oral pathologists.

## #173 – Gold Room

THE ASSESSMENT OF ORAL CYTOLOGY, PLOIDY ANALYSIS AND VIRTUAL MICROSCOPY FOR THE EARLY DETECTION OF EPITHELIAL DYSPLASIA AND NEOPLASIA. MJ McCullough, CS Farah. U. Melbourne and U. Queensland. The purpose of the study was to compare the usefulness of ploidy analysis of cytological specimens with traditional incisional biopsy and routine histopathological examination for the assessment of the pre-malignant potential of oral mucosal lesions. 100 healthy individuals who were non-smokers and non-drinkers had two cytological specimens collected (buccal mucosa and lateral tongue) to establish normal parameters. Patients (17) with a histopathological diagnosis of lichen planus (6), leukoplakia with no dysplasia (6), leukoplakia with dysplasia (4) and OSCC (1) had lesional cytological samples taken prior to their diagnostic biopsy. Standardized Thin Preps were stained by Feulgen reaction. High speed scanning of the complete slide was undertaken using Aperio Scanscope virtual microscopy. The green channel of the resultant images was analyzed after threshold segmentation to isolate only nuclei, and the integrated optical density (ID) of nuclei taken as a measure of the DNA content (ploidy). An average of 3,000 nuclei were examined in each cytological specimen. The nuclei of most interest were those that were significantly higher than normal, thus representing aneuploidy. The mean of all normal samples and twice the standard deviation was used as the upper ID limit of diploid nuclei. ANOVA of the Log(10) of Variance of the 200 normal samples showed no difference between age, gender or intra-oral site and when compared with the patients with mucosal disease showed that the patients had ID levels of aneuploidy that were statistically significantly less variable than present in normal mucosa ( $p < 0.05$ ). The results indicate that ploidy assessment of oral cytology is not useful as an adjunctive prognostic factor in the analysis of the malignant potential of oral mucosal lesions.

# Poster Abstracts – Tuesday, June 24, 2008

## #174 – Gold Room

ORAL BISPHOSPHONATES AND JAW OSTEONECROSIS: PRELIMINARY RESULTS OF A SINGLE INSTITUTION, RETROSPECTIVE ANALYSIS. K. C. Chan and J. Fantasia. Long Island Jewish Medical Center, New Hyde Park, New York. Bisphosphonate-related osteonecrosis of the jaws (BRONJ) occurs in some cancer patients treated with intravenous bisphosphonates. Osteoporosis patients on oral bisphosphonates, namely alendronate (Fosamax®), ibandronate (Boniva®), and risedronate (Actonel®), can develop jaw osteonecrosis following dental surgery. Compared with intravenous bisphosphonate exposure, the current prevalence of BRONJ in oral bisphosphonate users appears low. An institutional retrospective review (approved by the North Shore-Long Island Jewish Health System Institutional Review Board) of patients with necrotic bone requiring biopsy/debridement identified a total of 86 microscopic diagnoses of jaw osteonecrosis from January 2003 to June 2007 (known patients on intravenous bisphosphonates were excluded from the study). Review of biopsy submission data and a questionnaire inquiry were conducted to acquire additional case details, such as oral or intravenous bisphosphonate use, dosage, and duration of therapy; 64 cases were analyzed. Of the 64 cases for which data were available, 37 (58%) had jaw osteonecrosis and a history of oral bisphosphonate use; 8 (12%) were subsequently identified as having received intravenous bisphosphonates; and 19 (30%) had no history of bisphosphonate use. Collection of data related to dosing and duration of drug was problematic and incomplete. This significant percentage (58%), in patients for which bone debridement was performed, suggests that BRONJ may have a higher prevalence in the osteoporotic population on oral bisphosphonates than currently recognized.

## #175 – Gold Room

SMALL INTERFERING RNA (siRNA)-MEDIATED SILENCING OF CD147 IN MURINE SQUAMOUS CELL CARCINOMA CELLS. N. Vigneswaran, J. Wu, J. Gaikwad & W. Zacharias. UTHSC-Houston, Oral Roberts U., and U. of Louisville KY. Expression of CD147 is elevated in several malignancies including oral squamous cell carcinomas (OSCC). Notably, CD147 is the most constantly upregulated mRNA in metastatic cells, and thus is implicated in the metastatic process of carcinomas. Aim: To correlate the expression of CD147 with the metastatic phenotype using a syngeneic murine OSCC model. We also used siRNA to silence expression of CD147 in murine SCC cells and examined its downstream functional and molecular effects. LY2 is a murine SCC cell line isolated from a lymph node metastasis. We developed orthotropic murine OSCC by injecting LY2 cells intraorally in syngeneic Balb/c mice. These experimental tumors demonstrated an aggressive biologic behavior characterized by rapid growth rate with regional (100%) and distant (lung ~ 40%) metastasis within 3-4 weeks of inoculation. CD147 immunohistochemistry revealed strong membrane staining for CD147 in both primary and metastatic tumors. CD147 expression in these tumors correlated positively with increased tumor proliferation rate, micro- and lymphatic-vessels densities. A pre-designed siRNA#2 inhibited CD147 mRNA and protein levels by >80% in LY2 cells compared to control cells transfected with non-targeted siRNA (siRNA-NT). Transwell assays showed that CD147 siRNA#2 (Dharmacon) significantly inhibited migration (36%) and invasiveness (53%) of LY2 cells compared to siRNA-NT. Pathway-focused gene expression profiling with qRT-PCR (SuperArray) revealed that siRNA-mediated inhibition of CD147 coincided with significant downregulation of tenascin-C expression in LY2 cells. Thus, our data identify tenascin-c as a new factor in mediating CD147-dependent tumor cell invasion and migration.

# Poster Abstracts – Tuesday, June 24, 2008

## #176 – Gold Room

MYXOMA, AN UNUSUAL PRESENTATION. L. ARMANDO, Q. DANIEL, G. LUIS, T. FERNANDO. UNIVERSIDAD NACIONAL AUTÓNOMA DE MEXICO. ABSTRACT: Myxomas are locally aggressive, nonencapsulated infiltrative bone neoplasm. The tumor may be found in almost any area of the jaws, and the mandible is involved more commonly than the maxilla. It is a slowly increasing swelling that may expand buccal and lingual cortical plates. The radiologic appearance is characterized by a multilocular radiolucency. The average age for patients with myxomas is 25 to 30 years. There is no sex predilection. Microscopically, is characterized by loose, abundant mucoid stroma that contains rounded, spindle-shaped, or stellate cells. We present a 28 year old female who present a unilocular radiolucency between canine and premolar mandibular of the right side at the routine clinical exam, asymptomatic, whit no cortical involve.

## #177 – Gold Room

PATENT NASOPALATINE DUCT: TWO CASES. P Edwards, C Scanlon, P Kanjirath, T Saini,. U of Michigan and Creighton U. The persistence of an opening between the oral and nasal cavities through a failure of the oral opening of the nasopalatine canal duct to close is termed a fipatent nasopalatine duct (PNPD). This is a rare developmental anomaly, with fewer than 40 cases reported. The majority represent partial openings, in which a communication is located along the lateral margin of the incisive papilla, usually concealed from direct view by the overlying papilla. CASE REPORTS: We report 2 patients with PNPDs. A healthy male in his 50s was referred for endodontic treatment of his left maxillary central incisor after his dentist had noted a mid root radiolucent lesion and a soft tissue opening that was believed to represent a fistulous tract. On presentation, the neighboring teeth responded within normal limits to pulp vitality and an opening was noted that extended into the nasopalatine canal. Cone beam CT confirmed the clinical diagnosis of PNPD. As the patient was asymptomatic, no treatment was rendered. The 2nd patient, a woman in her 20s, had casually mentioned that she was able to make a whistling sound from her incisive papilla. She was otherwise asymptomatic and not concerned by this talent. On clinical examination, a patent nasopalatine duct opening was identified on the right lateral aspect of the incisive papilla. Intraoral radiographs demonstrated a widened intermaxillary suture, but were otherwise unremarkable. CONCLUSIONS: The presence of a PNPD can be difficult to identify on routine clinical examination. The PNPD is usually discovered when the area of the incisive papilla is carefully probed to investigate a patient's report of liquid aspiration into the nasal cavity or following the discovery of an opening of presumed endodontic origin adjacent to the incisive papilla. As a result, the prevalence of this anomaly is likely higher than reported.

# Poster Abstracts – Tuesday, June 24, 2008

## #178 – Gold Room

Gutka (Smokeless Tobacco), Tobacco Related Changes in Oral Mucosa – A case Report. P. Sahni, Vyas Dental College & Hospital, Jodhpur, Rajasthan, INDIA. Tobacco, a habit forming substance, has provided gratification in various forms, Viz. Pharmacological, Psychological, Emotional and Social. For many decades tobacco chewing habit has been the focus of international concern. Over 250 million people in India use tobacco in different forms like chewing and smoking. India is the third largest tobacco producer and consumer. A survey reveals that about 57% men and 11% women use tobacco in some form in India, also use of tobacco is common in young children. In present times the most talked about chewing form is 'GUTKA' a mixture of tobacco, lime beetle nuts etc. Of the various tobacco related changes seen in the oral mucosa, Gutka continuously produces Leukoplakia and Submucous Fibrosis. An unusual case of a 12 years old boy having habit of chewing Gutka was examined. Clinically, on right cheek mucosa fibrous bands were palpated extending from the retromolar area till the midline of the lower lip. Left cheek mucosa showed red and white lesion. Tongue, bilaterally showed non scrapable white area on the lateral surface. Histopathologic examination of the right cheek mucosa revealed 'Lichen Planus' like lesion or lichenoid reaction, which was in contrast with the clinical findings. This confirms that histopathology is the ultimate diagnostic tool and this finding brings forth another rare etiopathological entity i.e. lichen planus like lesion as a gutka related change in the oral mucosa.

## #179 – Gold Room

EVALUATION CYTOTOXIC SYNERGIC EFFECT OF CIGARETTE SMOKE AND SALIVA (IN AN IN-VITRO MODEL). K. Manshaee, Y.N. Mojaver, M. Mirzaee, A. Jafarzadeh. Rafsanjan U. Rafsanjan. Iran. The aim of this study was to evaluate the cytotoxic effects of CS on the human peripheral blood lymphocytes in the presence of stimulatory or non-stimulatory saliva in an in vitro model. Methods and Materials: Ten healthy volunteers in age range of 25 to 29 were selected and samples of peripheral blood lymphocytes and saliva (whole and stimulated saliva) were collected from them. We used peripheral blood lymphocytes suspensions (PBS) and exposed them in 6 different medium. All samples were collected from all medium after 20 and 80 minutes. The survival rates of PBL were determined at 20 min and 80 min. Results & conclusion: After 20 minutes, PBS viability rate in 2 last groups had significant differences. After 80 minutes, PBS viability rate in 3 the last mediums showed significant difference. ( $p < 0.05$ ) The cell survival rates following exposure to CS in the presence of PBS supplemented with whole or stimulated saliva were significantly lower at 80 min in compare with 20 min ( $P < 0.05$ ). Tobacco effects are significantly increased in presence of saliva especially stimulated saliva.

# Poster Abstracts – Tuesday, June 24, 2008

## #180 – Gold Room

EVALUATION OF INDIVIDUALIZED HOMEOPATHIC REMEDIES ON TRIGEMINAL NEURALGIA. Y.N. Mojaver, F. Mousavi. Tehran U. Tehran, Iran. Objective: To assess the efficacy of individualized classical homeopathy in the treatment of Idiopathic Trigeminal Neuralgia. Method: A total of 15 patients with physician-confirmation trigeminal neuralgia (mean age 55.9 women & 61.6 men & female/male =2/1) were treated using a homeopathic method. Patients received oral liquid C 30 once per month and were followed in the end of 1st, 2nd, 3rd and 4th month. Visual analogue scale was used for the evaluation of pain intensity and descriptive criteria were used for evaluation of attack frequency. Result: Fifteen patients completed the treatment protocol. The results for both the reduction of pain intensity and attack frequency were statistically significant in all patients ( $p < 0.001$ ) during the four-month evaluation. We observed overall reductions of more than 60% in pain intensity using homeopathic treatment. Conclusion: The results suggest that homeopathic treatment is an effective and safe method in the treatment of Idiopathic Trigeminal Neuralgia.

## #181 – Gold Room

RARE AND UNUSUAL FINDINGS OF SALIVARY GLAND TUMORS. M. El-Abany, E. Younan, S. EL-Barawy, L. Ismail. U. of Alexandria, U. of Mansoura. Egypt. The present study has involved rare and unusual histopathological features in 30 salivary gland tumors. They were collected and examined histopathologically at the oral dept, Faculties of dentistry, U of Alexandria, Mansoura and at the scientific research centre institute of stomatology-Moscow. The aim of this study was to report these rare and unusual findings of salivary gland tumors and to put spot light on their histogenesis. These rare and unusual findings were found in 5 cases of pleomorphic adenoma, 7 cases of malignant pleomorphic adenoma, 2 cases of acinic cell carcinoma, 4 cases of adenoid cystic carcinoma, 8 cases of adenocarcinoma, 2 cases of oncocytic cell carcinoma, 1 case of carcinosarcoma, 2 cases of sebaceous adenocarcinoma. Tissue sections were stained by hematoxylin eosin stain, PAS technique, Masson-Fontana for melanin and Strept-Avidin Biotin complex method. Our data give a better understanding of the histogenesis and give a precise diagnosis for these rare and unusual findings of salivary gland tumors.

# Poster Abstracts – Tuesday, June 24, 2008

## #182 – Gold Room

**EVALUATION AND COMPARISON OF SALIVARY PEROXIDASE IN PATIENTS WITH ORAL LICHEN PLANUS AND NORMAL INDIVIDUALS.** H. Khademi, ASSOCIATE PROFESSOR, Isfahan university of medical sciences, school of dentistry, department of oral medicine. Introduction: Lichen planus is a papul disease due to inflammatory reactions in skin and mucosa that its pathogenesis is unknown. This disease is a common skin problem that can produce lesions in mucosa of mouth and a variety of forms. Some environmental and systemic factors are responsible for this disease. Saliva can produce an important role in etiology of oral lichen planus. One of important factors in saliva is Peroxidase. In this study we conducted a study to determine role of peroxides in etiology of oral lichen planus. Method: This was a cross sectional analytical study. Population of study was all of OLP patients who referred to dental clinics of Isfahan Medical Sciences Dental Faculty. The sampling methods were a convenient type and cases and controls were determined and each group was 20 subjects. Saliva peroxides collected from them and were measured by Putter and Backer method. Data was analyzed by SPSS software. Results: Totally 52.5% of participants were male and 47.5% were female. In patients group the ratio of mail and female was 50% but in control group was 45=55% mean age of participants was 37.4% and the range was 17-58%. Mean age of patients was 35.4 and control group 39.3. Mean of peroxides in patients was  $0.71 \pm 3.59$  and in controls  $3.69 \pm 0.74$  that was not significant by T- Student Test. Mean of peroxides in male was  $3.57 \pm 0.62$  and in females were  $0.82 \pm 3.71$  that were not significant by T-Student Test. Conclusion: However the mean difference of peroxides was not statistically significant but the mean of it was different in two groups that need more studies on it. Key words: Peroxides, Oral lichen planus, Saliva.

## #183 – Gold Room

**ENDOPLASMIC RETICULUM STRESS IS INVOLVED IN HYDROGEN PEROXIDE INDUCED APOPTOSIS IN IMMORTALIZED AND MALIGNANT HUMAN ORAL KERATINOCYTES.** S.K. Min, S.K. Lee, S.I. Lee, H.J. Lee, S.K. Lee and E.C. Kim, Department of Oral & Maxillofacial Pathology, College of Dentistry, Wonkwang University, Iksan, South Korea. Although hydrogen peroxide may play an important role in the development of cancer and be an efficient inducer of apoptosis in cancer cells, the exact mechanism by which this action occurs is not completely understood in oral cancer cells. In this study, the mechanisms by which H<sub>2</sub>O<sub>2</sub> inhibited growth and induced apoptosis were differentially investigated using HPV-immortalized human oral keratinocytes (IHOK) and oral cancer cells (HN4). H<sub>2</sub>O<sub>2</sub> treatment sensitively and dose-dependently induced growth inhibition and typical apoptosis in IHOK and HN4 cells, as demonstrated by a decreased level of cell viability, a decreased epithelial thickness and epithelial maturation in the organotypic culture, an increased population of cells in the sub-G<sub>0</sub>/G<sub>1</sub> phase, ladder formation of the genomic DNA, chromatin condensation and accumulation of Annexin V+/PI+ cells. Furthermore, the expression of Bax, p53 and p21WAF1/CIP1 increased, whereas the expression of Bcl-2 decreased in immortalized and malignant keratinocytes that were treated with H<sub>2</sub>O<sub>2</sub>. In addition, cytochrome-c from the mitochondria was observed in H<sub>2</sub>O<sub>2</sub>-treated IHOK and oral cancer cells, and this was accompanied by the activation of caspase-3. Additionally, H<sub>2</sub>O<sub>2</sub> treatment induced upregulation of CHOP, GRP78 and several representative endoplasmic reticulum (ER) stress-responsive proteins, including heme oxygenase-1. Overall, these results suggest that H<sub>2</sub>O<sub>2</sub> triggers apoptosis via the mitochondrial and ER stress pathway in IHOK and HN4 cells, and that increasing the cellular levels of H<sub>2</sub>O<sub>2</sub> sufficiently may lead to selective killing of oral cancer cells and therefore be therapeutically useful.

# Poster Abstracts – Tuesday, June 24, 2008

## #184 – Gold Room

SUBSTANCE P REGULATES MACROPHAGE INFLAMMATORY PROTEIN 3 $\alpha$ /CCL20 WITH HEME OXYGENASE-1 IN HUMAN PERIODONTAL LIGAMENT CELLS. S.K. Lee, S.H. Pi, S.H. Kim, K.S. Min, H.J. Lee, H.I. Shin, S.K. Lee, and E.C. Kim. Department of Oral & Maxillofacial Pathology, College of Dentistry, Wonkwang University, Iksan, South Korea. Although substance P (SP), a potent pro-inflammatory peptide, is involved in inflammation and immune responses, the effect of SP on the expression of macrophage inflammatory protein 3 $\alpha$  (MIP-3 $\alpha$ , CCL20) in periodontal ligament (PDL) cells are unknown. We investigated whether SP induces the release of chemokine CCL20 from immortalized PDL (IPDL) cells, and further clarify SP mediated pathways. Incubating IPDL cells with SP increased expression of CCL20 mRNA and CCL20 protein in a dose-time dependent manner. Highly selective p38 and ERK1/2 inhibitors abrogated SP-induced expression of CCL20 in IPDL cells. SP is also responsible for initiating phosphorylation of I $\kappa$ B, degradation of I $\kappa$ B, and activation of NF- $\kappa$ B. SP induced expression of HO-1 in both a concentration- and time-dependent manner, and CCL20 reflected similar patterns. The inductive effects of SP on HO-1 and CCL20 were enhanced by HO-1 inducer hemin and the membrane-permeable cGMP analog 8-bromo-cGMP. Conversely, this pathway was inhibited by the HO-1 inhibitor zinc protoporphyrin IX (ZnPP IX) and the selective inhibitor of guanylate cyclase, 1H-[1,2,4]oxadiazole[4,3-a]quinoxalin-1-one (ODQ). We report herein the pathway that connects SP along with other modulators of neuroimmunoregulation to the induction of HO-1 and the inflammatory mediator MIP-3 $\alpha$ /CCL20 in IPDL cells, which play an important role in the development of periodontitis or inflammation during orthodontic tooth movement.

\*Acknowledgements. This work was supported by grant No. M10646020001-06N4602-00110 from the national R & D Program of MOST and KOSEF, Republic of Korea.

## #185 – Gold Room

DIFFERENTIAL INDUCTION OF HEME OXYGENASE-1 AGAINST NICOTINE-INDUCED CYTOTOXICITY VIA THE PI3K, MAPK, AND NF-KAPPA B PATHWAYS IN IMMORTALIZED AND MALIGNANT HUMAN ORAL KERATINOCYTES. H.J. Lee, J. Lee, H.Y. Guo, S.K. Lee, S.I. Lee, S.K. Lee and E.C. Kim. Department of Oral & Maxillofacial Pathology, College of Dentistry, Wonkwang University, Iksan, South Korea. Heme oxygenase-1 (HO-1) exhibits cytoprotective effects in many different cell types and is induced by nicotine exposure in human gingival fibroblasts. The role of HO-1 in cancer cells exposed to nicotine, however, has not previously been described. We investigated the effects of nicotine on HO-1 protein expression and cell viability in immortalized (IHOK) and malignant (HN12) human oral keratinocytes cells using the MTT assay, and Western blotting. We also examined the involvement of phosphoinositide-3-OH-kinase (PI3K), mitogen-activated protein kinase (MAPK) and the nuclear factor- $\kappa$ B (NF- $\kappa$ B) signaling pathway in nicotine-induced cytotoxicity and HO-1 expression in IHOK and HN12 cells. Nicotine induced HO-1 expression and had cytotoxic effects on cells in a concentration- and time-dependent manner. Nicotine-induced cytotoxicity and expression of HO-1 was greater in IHOK cells than in HN12 cells. Molecular inhibitors of ERK, p38 MAP kinase, PI3K, and NF- $\kappa$ B signaling pathways blocked the cytotoxic effects and induction of HO-1 expression by nicotine. Treatment with antioxidants (bilirubin, N-acetyl-cysteine) protected cells against nicotine-induced cytotoxicity and blocked upregulation of HO-1, which effects were more pronounced in IHOK cells than in HN12 cells. Collectively, these results suggest that HO-1 plays a principal role in the protective response to nicotine in oral cancer and immortalized keratinocytes cells. Moreover, the addition of exogenous anti-oxidants may help to protect oral epithelial cells such as chemopreventive effects from nicotine-induced oxidative stress.

# Poster Abstracts – Tuesday, June 24, 2008

## #186 – Gold Room

IMMUNOHISTOCHEMICAL EXPRESSION OF MUC1 AND MUC2 IN BENIGN AND MALIGNANT SALIVARY GLAND TUMOURS. A. Shaalan, A. Draz and H. Waguih. Cairo U. Egypt. In order to verify the immunohistochemical expression of MUC1 and MUC2 in the most common benign and malignant salivary gland tumors and to correlate this expression with their histopathologic features, 15 benign and 26 malignant salivary gland tumors were investigated. Results: All salivary gland tumors expressed MUC1. Strong expression was seen in MEC specially the high grade variant, whereas moderate expression was detected in WT and PA and the weakest expression was seen in ACC. However, MUC2 was very pronounced in WT, moderate expression was noticed in low grade MEC and the weakest expression was seen in PA, ACC and high grade MEC. Conclusion: These results suggest that MUC1 expression in high grade MEC and MUC2 expression in WT may have imperative diagnostic value as markers of the aggressive and indolent phenotypes, respectively, beside improved recognition of their expected impact as therapeutic targets.

## #187 – Gold Room

TWO CASES OF ANGIOCENTRIC LYMPHOMA AND PET-CT FOR THEIR TREATMENT AND PROGNOSIS. Aldape B., Adame G., García A., Cruz B. School of Dentistry and Medicine, UNAM, México, DF. To show two cases of Angiocentric Lymphoma analyzed with PET for their evaluation of extent of disease, treatment and prognosis. The PET is the most recent method to identify metastases of less than 4 mm. The preparation of patients to receive the PET-CT technique with distribution of the FDG-F18 was performed. Sites of radioactivity indicate areas of tumoral activity, stimulation factors of angiogenesis, platelet derived growth factor and fibroblastic growth factor dependent on glucose uptake. PET is a semi quantitative estimation of the amount of radioactive substance that exists in a determined tissue area through computer systems of imaging processing. Cases: 1.- A 78 year-old woman with an angiocentric lymphoma of T cells, in the palate with metastases in all the lymph node in stage 4, Case 2.- A 47-year-old man with polymorph angiocentric lymphoma in stage 1 located in the upper lip and extend to the naso-labial sulcus. Both of the cases were asymptomatic, slow growth and started several months ago. Patients were treated in periodontics, endodontics and with antibiotic therapy. The stage was determined with the PET. Conclusion: The use of PET to diagnosis lymphomas to evaluate extent of disease is a great importance and has become an essential support because of its cost decrease, in order to give earlier and more accurate treatment and prognosis to patients.

# Poster Abstracts – Tuesday, June 24, 2008

## #188 – Gold Room

**PRIMARY ORAL MUCOSAL MELANOMA: CLINICO-PATHOLOGICAL STUDY OF A SERIES OF 35 CASES IN THE BRAZILIAN POPULATION.** S.V. Lourenço<sup>1</sup>, T. Bello<sup>2</sup>, S.B. Bologna<sup>1</sup>, F.A. Soares<sup>1, 3</sup>, M.M. Nico<sup>2</sup>.; 1 Department of Pathology, Dental School; 2 Department of Dermatology, Medical School, U. of São Paulo 3 Hospital A.C. Camargo, São Paulo Æ Brazil. Oral mucosal melanoma is rare and reported to be more aggressive than the cutaneous counterpart. Due to the rarity of this entity, data on epidemiology, tumor behavior, treatment, follow-up and survival of these patients is mainly based on single case reports. Series of patients show that oral mucosa melanoma has its peak between 41 and 60 years of age, and male/female ratio is 2:1. Preferred oral sites include hard palate and maxillary alveolar crests. Risk factors have not been clearly identified, but according to some authors, melanin pigmentation is present in one third of the patients, prior to the diagnosis of melanoma. Surgical treatment is still the treatment of choice for oral mucosal melanomas, with wide resection margins and early diagnosis being the most significant actions in terms of survival. The authors retrospectively studied 35 patients with primary melanoma of the oral cavity to report their clinical and pathological features, such as age, gender, site of the tumor, metastasis, treatment, response to therapy and outcome. We found no significant gender predominance, and the mean age of the patients was 60,6 years, with a range from 9 to 91 years old. The majority of the patients (68,5%) had palate commitment and invasive histopathological grade was observed in 80% of the specimens (grade III). Long distance metastasis was found in 60% of the cases. Fourteen patients were submitted to wide surgical resections, with local relapse being observed in 11 of them (78,5). The authors suggest that improved outcome in oral malignant melanoma requires the development of new therapies and the prevention of distant metastasis.

## #189 – Gold Room

**GINGIVAL MANIFESTATIONS OF OROFACIAL GRANULOMATOSIS.** M.M.S. Nico<sup>1</sup>, A.Z.C Lobo<sup>1</sup>, P. Boggio<sup>1</sup>, F. Fezzi<sup>1</sup>, A. Sebastião<sup>1</sup>, S.V. Lourenço<sup>1</sup>, 2 1 Department of Dermatology, Medical School; 2 Department of General Pathology, Dental School U. of São Paulo, Brazil. Orofacial granulomatosis is a clinical entity presenting with swelling of the facial and/or oral tissues in association with histological evidence of non-caseating granulomatous inflammation. Labial swelling is the most common finding. Compromise of the gingival and periodontal tissues may occur, however it has been rarely described in the literature. Our objective was to characterize granulomatous gingivitis in patients with orofacial granulomatosis. The study included 29 cases of orofacial granulomatosis seen in our clinic, between 1989 and 2006. Out of these 29 patients, five had clinical evidence of gingival tumefaction and underwent gingival biopsy. Histology from all the gingival biopsy specimens showed non-caseating granulomas, edema of the superficial lamina propria and a chronic inflammatory infiltrate consisting predominantly of lymphocytes and multinucleated giant cells. Treatment options included: anti-inflammatory therapy associated with periodontal care. Gingival tumefaction with histological evidence of granulomatous inflammation may occur in orofacial granulomatosis and it might be more common than reported in the literature.

# Poster Abstracts – Tuesday, June 24, 2008

## #190 – Gold Room

TRAPS in a family presenting with oral ulceration. C. Scully. UCL London. Objectives: We were interested in the etiopathogenesis of the aphthous-like ulceration (ALU) found in some immunodeficiency states, chronic viral infections, rheumatologic disorders, dermatological diseases and autoinflammatory (periodic) syndromes - inborn errors of inflammation, many of which are hereditary and then often referred to as autosomal dominant (AD) recurrent fevers (ADRFs). Tumor necrosis factor receptor (TNFR) - associated periodic syndrome (TRAPS) is one rare AD periodic syndrome, which may be due to impaired downregulation of membrane TNFR1 and diminished shedding of potentially antagonistic soluble receptor (TNFR SF) in response to a given stimulus, and thus increased activity of TNF- $\alpha$ . There are no cases reported in the dental literature. Findings. We report a Caucasian family who presented with recurring mouth ulcers - a mother, her sister, son, and paternal uncle. Only the son also reported episodic fevers. Findings included neutrophilia and raised erythrocyte sedimentation rate and the affected family were found to be TNFR SF1A R92Q heterozygotes. Conclusions. One case of TRAPS has already recently been reported with mouth ulceration (Saulsbury FT, Wispelwey B. *J Pediatr.* 2005;146:283-5). This and other periodic syndromes often present with recurrent spontaneously relapsing and remitting inflammatory events which do not produce high-titre autoantibodies or antigen-specific T lymphocytes, and need genetic studies, and involvement of a physician in diagnosis and treatment, in view of a liability to amyloidosis.

## #191 – Gold Room

EPITHELIOID OSTEOSARCOMA OF THE MANDIBLE: A RARE CASE WITH UNUSUAL IMMUNOPROFILE. R. Carlos-Bregni, E. Contreras, P. A. Vargas, J. E. León, and O. P. Almeida. Centro Clínico de Cabeza y Cuello, Guatemala city, Guatemala, and State U. of Campinas, Piracicaba, São Paulo, Brazil. A 42-year-old woman presented a large, nontender, quickly progressive mass in the left mandible. X-ray showed extensive destruction of the angle, posterior body, and ramus of the left side of the mandible. The patient was surgically treated by hemimandibulectomy. Microscopically, the tumor was composed of large epithelioid cells, many of them showing polarized nuclei, and evident eosinophilic cytoplasm. The predominant pattern was trabecular, and rosette-like structures was also observed. Typical osteoid-containing cells surrounded by malignant cells were found in a few areas. Immunohistochemistry for a large panel of antibodies showed positivity for osteocalcin, osteonectin, osteopontin, VS38c, and S-100. CD34 saliented the hemangiopericytoma-like distribution of the blood vessels. Collagen I was focally positive for the extracellular matrix and malignant osteoid. All other markers were negative, including vimentin and cytokeratins. To the best of our knowledge this is the first case of epithelioid osteosarcoma affecting the mandible and the second of the jaws reported in the literature.

# Poster Abstracts – Tuesday, June 24, 2008

## #192 – Gold Room

**LINGUAL CYST WITH GASTRIC EPITHELIUM: A CLINICOPATHOLOGICAL AND IMMUNOHISTOCHEMICAL ANALYSIS.** R. Carlos-Bregni, E. Contreras, P. A. Vargas, J. E. León, and O. P. Almeida. Centro Clínico de Cabeza y Cuello, Guatemala city, Guatemala, and State U. of Campinas, Piracicaba, São Paulo, Brazil. Most cystic lesions of the oral cavity are intraosseous and lined by squamous epithelium. Although rare, various developmental cysts occur preferentially in the tongue, lined by dermal, thyroglossal, gastrointestinal or respiratory epithelium. Surgical excision is the treatment of choice for these cysts. We report the clinical, histological and immunohistochemical aspects of one lingual cyst lined by gastric epithelium. Mucous cells of the glands, corresponding to the fundus/body region, were PAS and mucicarmine positive. Immunohistochemical analysis for vimentin, cytokeratins (AE1/AE3, 34bE12, CK1, CK5, CK6, CK7, CK8, CK10, CK13, CK14, CK16, CK18, CK19, and CK20), E-cadherin, b-catenin, and EMA showed similar profile of normal gastric epithelium, except by negativity for CK20, suggesting well-differentiation states. The pathogenesis lingual cyst lined by gastric epithelium remains uncertain, but it is considered they are derived from entrapment of embryonic epithelial rests.

## #193 – Gold Room

**PATHOBIOLOGY OF CHEMOTHERAPY-INDUCED ORAL MUCOSITIS IS INFLUENCED BY THE TYPE OF MUCOTOXIC DRUG ADMINISTERED.** R. Logan, A. Stringer, J. Bowen, R. Gibson, S. Sonis and D. Keefe, The University of Adelaide, Australia; Brigham and Women's Hospital, Boston, USA.

**Introduction:** Oral mucositis is a serious problem complicating cancer treatment however its pathobiology remains incompletely understood. Nuclear factor- $\kappa$ B (NF- $\kappa$ B) and pro-inflammatory cytokines are considered to have important roles in its development. The aim of the present study was to determine whether the changes that occur in the AT are affected by the type of mucotoxic drug. **Methods:** Female DA rats were given a single dose of methotrexate (1.5mg/kg intramuscularly) or 5-fluorouracil (150mg/kg intraperitoneally). Rats were killed at 30, 60, 90 minutes, 2, 6, 12, 24, 48 and 72 hours. Control rats received no treatment. Samples of oral mucosa were collected. H&E stained sections were examined with respect to histological evidence of damage and immunohistochemical techniques were used to demonstrate tissue expression of NF- $\kappa$ B, TNF, IL-1 $\beta$  and IL-6. **Results:** Both MTX and 5-FU administration both caused histological evidence of tissue damage in the mucosa as well as changes in tissue expression of NF- $\kappa$ B and proinflammatory cytokines. This study did demonstrate that different drugs resulted in differences in the timing of histological changes and in timing and intensity of pro-inflammatory cytokine tissue expression. **Conclusions:** The results from this study suggest that there are differences in the mucositis pathobiology caused by different drugs. This may have important ramifications for the management of mucositis particularly with respect to the development of treatment regimens for mucositis. Further investigations are required to determine the exact pathways that lead to damage caused by different drugs.

# Poster Abstracts – Tuesday, June 24, 2008

## #194 – Gold Room

EXPRESSION OF ENDOGLIN AND D2-40 IN SQUAMOUS CELL CARCINOMA OF THE TONGUE. P. Motahary, N. Eshghyar, S. Rahrotaban. Tehran U. of Medical Sciences, Tehran, Iran.

Introduction: Endoglin(CD105) is a powerful marker of neovascularization and D2-40 is a new indicator for identifying of lymphatic vessels. The densities of blood and lymphatic vessels have been showed that are useful in prediction of behavior of malignant tumors. Aim: In this study we evaluated the expression of CD105 and D2-40 in the squamous cell carcinoma (SCC) of the tongue and their correlation with lymph node metastasis and other clinicopathologic factors. Methods: 40 patients with primary tongue SCC were selected. Microvessel and lymphatic vessel densities were determined in all cases by CD105 and D2-40 immunostaining. The relation between micro vessel density and lymphatic vessel density with lymph node involvement and other clinicopathologic factors including age, sex and histologic grading were tested statistically. Results: In all cases CD105 and D2-40 expression were significantly higher in neoplastic tissue than peripheral normal ones. Also CD105 and D2-40 expression in invasive front and intratumoral areas of the tumors with lymph node metastasis were significantly higher ( $p < 0.05$ ) than the tumors without lymph node involvement. Conclusion: It can be concluded that CD105 and D2-40 markers may be helpful to predict the possibility of lymph node metastasis in primary squamous cell carcinoma of the tongue.

## #195 – Gold Room

IN VITRO SIMULATION OF TOXIC EFFECTS OF KHAT USING AN ORGANOTYPIC MODEL. O. Lukandu, O. Vintermyr, A. Johannessen, and D. Costea. U. of Bergen, Norway. This study investigated whether an organotypic oral mucosa model, reconstituted from normal oral keratinocytes and fibroblasts, can be a useful tool in toxicological studies. The model was exposed to an extract of the psycho-stimulant drug khat (*Catha edulis*), and then evaluated for the simulation of toxic effects known to be induced by khat in vivo. Unlike control cultures, tissues of the model exposed to khat consistently showed abnormal keratinization, featuring increased transglutaminase activity, increased involucrin and cytokeratin 10 staining, decreased cytokeratin 13 staining and appearance of keratohyaline granules that were positive for filaggrin. Histomorphometry revealed decreased total epithelial thickness, with increased proportion of superficial layer, and a decreased proportion of spinous and basal layers. The model can thus be used to simulate key histopathological changes of the oral mucosa induced by khat, and has a potential for toxicological studies that cannot be carried out in vivo.

# Poster Abstracts – Tuesday, June 24, 2008

## #196 – Gold Room

GENETIC CODE IS COMPOSED OF PYRIMIDINE-PURINE DNA SEGMENTS AS A BASIC UNIT DISPLAYING DNA BASE PAIR POLARITY. S. Lee, Y. Kim. Kangnung National U., Gangneung Korea. DNA base pair hybridization composed of a pyrimidine (Py) and a purine (Pu) shows characteristic electrostatic polarity by hydrogen bonds between the pyrimidine (Py) and the purine (Pu). This electrostatic charge of hydrogen bond is not neutralized between hydrogen donor and acceptor sites, but can induce a base pair polarity of each nucleotide, and also can affect a polarity from the 5<sup>TM</sup> to 3<sup>TM</sup> direction in each DNA strand. Although many Py and Pu sequences are arranged in DNA duplex in a complex manner, we hypothesize that a PynPun sequence is a basic pyrimidine-purine DNA segment (Pyu DNA segment), contrast to the PunPyn sequence (Puy DNA segment). Resultantly, the DNAs composed of Pyu DNA segment were more strongly intercalated by EtdBr than those composed of Puy DNA segment. Here, we show that the Pyu DNA segment is a basic unit of the genetic code, which can produce stronger hybridization for the stable conformation of specific DNA duplex than Puy DNA segment.

## #197 – Gold Room

A LARGE ODONTOGENIC MYXOFIBROMA. CASE REPORT. J. Soriano and C. Solís. Quetzalcoatl U. Irapuato, México, and B. Aldape. Nacional Autónoma de México U. Odontogenic Myxoma (OM) is an intraosseous neoplasm characterized by stellate and spindle-shaped cells embedded in an abundant myxoid or mucoid extracellular matrix. The term myxofibroma is used when a greater amount of collagen is evident. The frequency of OM varies between 1% and 20% of all odontogenic tumors. Clinically the OM is an asymptomatic swelling arising typically in the posterior portion of the mandible. The treatment has varied from local excision to radical resection. Recurrence rates have been reported with an average of 25%. CASE REPORT: A 35 years old woman was referred to us for present an asymptomatic slow-growing swelling in the right mandibular region, the patient had noticed this lesion more than 2 year ago. Clinical examination showed an ill defined mass causing marked asymmetry. Panoramic radiography showed a multilocular radiolucency with a poorly defined borders and cortical perforation. A hemimandibulectomy was performed and the tumor was removed successfully. Grossly, the mass measured 11.5 x 10.5 x 6 cm and showed a whitish cut surface. The histopathologic findings were consistent with the diagnosis of myxofibroma. Conclusion: the MO is considered a slow-growing neoplasm but it may be infiltrative and aggressive with high recurrence, larger lesions may require complete excision with free margins, recurrence is considered to be directly related to the type of therapy.

# Poster Abstracts – Tuesday, June 24, 2008

## #198 – Gold Room

Oral Cancer frequency in Guilan Province during 1996-2005. Dr. Maryam Yazdi zadeh, Dr. Abtin Heydar zadeh, Rasoul Rezaei. Introduction: Oral cancer is one of the main hygienic problems in many countries in the world. Its prevalence in various places in the world is different and like any other disease for understanding it deeply we have to know about this diseases distribution in different parts of Iran Objective: To find out oral cancers frequency in Guilan province in years 1375-1383 and the reasons related to it. Materials & Methods: In this study we were collected oral cancer information from cancer registry center of Guilan and oral & maxillofacial surgery offices. Results: 306 cases of oral Cancer were found through the investigated total samples which 186 patients (60.8%) were male and 120 patients (39.2%) were female. Males ratio to females is 1.55 to 1 and average age of patients is (57.7 15.65), totally, separately in men (59.01 15.5) years and in women (55.68 16.27) years. The most age incidence of suffering Mouth Cancer was in the 7th decades of life. In pathology, the Squamous Cell Carcinoma with 205 cases (67%) is the most common malignant one, 126 patients (61.5%) men and 79 patients (38.5%) women; the ratio of men to women is 1.59 to 1. The second rank belongs to Lymphoma with 27 cases (8.8%) and Adenocarcinoma and Mucoepidermoid carcinoma, each with 12 cases (3.9%) are in third place of incidence. Tongue with 53 cases (17.3%), lower lip with 35 cases (11.4%) and finally tonsil with 29 cases (9.48%), are in 1st, 2nd & 3rd rank in incidence of malignant part of body. Conclusion: Most of the information in this study is similar to previous studies. We need more accurate statistics to recognize the risk factors of suffering Mouth Cancer in various regions of country, which require integrated system of cancer registering. Key words: Diseases outbreaks, Mouth Neoplasm, pathology- Oral

## #199 – Gold Room

MICROMETASTASES AND ISOLATED TUMOUR CELLS IN ORAL SQUAMOUS CELL CARCINOMA KD Hunter, T. Atula, L. Cooper, T. Shoaib, G. Ross, D. Soutar. Canniesburn Plastic Surgery Unit and Department of Pathology, Glasgow Royal Infirmary, UK, Oral Pathology, U. Glasgow Dental School, UK. Definitions of micrometastases (MMs) and isolated tumour cells (ITCs) in sentinel lymph nodes (SLN) are controversial, but important determinants of need of further treatment. We previously designated all viable metastases as MMs, regardless of size, but this poses interpretive problems. The UICC/TNM classification defines MMs as 0.2 - 2mm, and <0.2mm as ITCs. Objective: Compare the UICC/TNM definitions of MM/ITC with our published protocol and determine the effects on staging of micrometastatic disease. Method: 49 positive SLNs from 35 patients reported in previous publications were reassessed using UICC/TNM definitions for MMs and ITCs. Results: The metastasis was seen in the initial section in 24 patients (34 positive SLNs). In eight of these patients (9 SLNs), the largest deposit was a MM, and one of these patients had additional metastases in the subsequent neck dissection. The remaining 11 patients (15 positive SLNs), who had additional work-up (step serial sections and cytokeratin IHC), comprised 6 patients with MMs and 5 patients who had ITCs. Of 5 MM patients who had a neck dissection, all showed metastases in the rest of the neck dissection, whilst only one ITC patient had metastases the subsequent neck dissection. Conclusion: The UICC/TNM classification provides an objective method of SLN assessment if protocols are appropriate. Overall, metastases in other non-SLNs were common (46%) when a MM was detected in a SLN, indicating need for further treatment. When only ITCs were found in a SLN, the likelihood of other metastases was low (20%). These definitions must be established in a larger study to delineate acceptable levels of down-staged ITC patients who have other nodal metastases.

# Poster Abstracts – Tuesday, June 24, 2008

## #200 – Gold Room

QUANTIFICATION OF AgNOR EXPRESSION IN ORAL MUCOSAL CELLS IN SMOKERS AND TOBACCO CHEWERS. S. Saxena, A. Sharma. Subharti Dental College ,Meerut, India. Silver staining nucleolar organizer regions(AgNOR) are associated with proliferative activity and represent a diagnostic and prognostic marker. The present study was undertaken to carry out a quantitative assessment of AgNORs in exfoliated cells from the mucosa of smokers and tobacco chewers using cytobrush and to compare the number of AgNORs in the mucosal cells of smokers with and without lesion, tobacco chewers with and without lesion, with patients having oral squamous cell carcinoma and normal mucosa of subjects without any habit. The results revealed a statistically significant difference between normal subjects, smokers, tobacco chewers and oral cancer patients. AgNOR dots in normal individuals were round and fewer in number while they were multiple and bizarre shaped in malignancy. AgNOR enumeration appears to be a useful tool in distinguishing between normal mucosa, mucosa with and without lesion exposed to carcinogens like tobacco and frank oral carcinoma by non invasive methods like the cytobrush.

## #201 – Gold Room

ORAL FOCAL FIBROUS HYPERPLASIA WITH MULTIPLE MEISSNER'S CORPUSCLE-LIKE STRUCTURES. R. Küffer, C. Martinelli-Klay, D. Di Donna, J. Samson, and T. Lombardi. Laboratory of Oral & Maxillofacial Pathology, Division of Stomatology, Faculty of Medicine, Geneva, Switzerland. The presence of Meissner™s corpuscle-like structures in neurofibromas, Schwannomas, and neuroid intradermal melanocytic nevi is well-documented. We report a case describing the presence of such structures in an oral focal fibrous overgrowth. A 45 year-old female was referred for the excision of a fibroepithelial polyp of the left retrocommissural mucosa that was frequently bitten. The lesion of unknown duration consisted of a painless well-limited exophytic nodule of 0.5 cm in diameter covered by normal mucosa. Histological examination of the excised pedunculated polypoid nodule showed a mass of dense and minimally cellular stroma of collagen fibers with scattered fibroblasts and a few capillary vessels, lined by a keratinized squamous epithelium with some dyskeratotic cells. It revealed also the presence of rather numerous Meissner™s corpuscle-like structures mostly situated in the superficial chorion. An immunohistochemical study showed that these structures were positive for S100 protein and negative for NF. The patient was then thoroughly investigated, and proved to be devoid of either cutaneous lesions or systemic disease. During a 2 years-long follow-up there was no recurrence. This is apparently a rare phenomenon, as a literature search revealed no other paper describing the existence of multiple tactile corpuscle-like structures in an oral focal fibrous hyperplasia, therefore this would be the first case reported. Although their presence in this lesion has most probably no clinical significance, it is important to be aware of these structures because their presence in an oral neurofibroma might allow diagnosing a neurofibromatosis.

# Poster Abstracts – Tuesday, June 24, 2008

## #202 – Gold Room

VASCULAR CHANGES AS A BIOMARKER IN ORAL DYSPLASIA. C.H. Siar and K.H. Ng. U. of Malaya, and formerly Inst. for Med. Res., Kuala Lumpur Malaysia. Statement of problem: Angiogenic squamous dysplasia (ASD), first described in pre-invasive bronchial mucosa of high-risk individuals, consists of capillary tufts that closely juxtapose and project into the dysplastic bronchial epithelium. Objective: To determine whether ASD occurs in oral epithelial dysplasias (ED). Methods: Sixty ED cases [mild=20, moderate=20 and severe=20 (inclusive of carcinoma-in-situ)], and 10 normal oral mucosa (as normal controls) were stained with H&E and three vascular markers, CD31, CD34 and CD105. Results: ASD was identified in parts of severe oral ED, but was absent in normal controls, mild and moderate oral ED. In oral ASD, the capillaries typically formed CD31- and CD34-positive projections that abut onto the overlying dysplastic oral epithelium. Unlike bronchial ASD which occurs in respiratory-type epithelium, oral ASD was found in keratinized stratified squamous epithelium. CD105 confirmed neoangiogenesis. Conclusions: Present findings suggest that ASD may be a significant biomarker in oral severe ED.

## #203 – Gold Room

NORTH AMERICAN ORAL PATHOLOGY PRACTICE: A SURVEY. S Gordon, D Villines, J Epstein, J Epstein. U of Illinois, Chicago and U of Southern California, Los Angeles. This survey assesses current characteristics and economics of oral pathology practice in the USA and Canada. All Canadian and American Diplomates and Fellows of the American Academy of Oral and Maxillofacial Pathology were contacted by email and asked to complete an online survey. Of 199 pathologists contacted, 61 attempted the survey (31%). 83% were in the USA; 8.5% were in Canada. 78% were male. 44% (but 22% of women) expected to retire in <10 years. 51% practiced in a dental school, and 17% in a university medical setting. Modal practice size was 5000-7499 biopsies/year (25%). 57% charged \$100-\$200 per case. Overhead expenses ranged from 0%-65% of billings, with a modal response of 40-49% (21%). The majority (53%) reported collecting 75% or more of billings. Conclusions: The typical North American oral pathology practice is located in a dental school, sees 5000-7500 cases/year, and charges \$100-\$200/case. Many oral pathologists plan to retire within 10 years. Most current oral pathologists are males, but females are less likely to retire soon, so the gender ratio may change. (UIC IRB#2007-0388)

# Poster Abstracts – Tuesday, June 24, 2008

## #204 – Gold Room

**PYOSTOMATITIS VEGETANS: CELLULAR IMMUNE PROFILE AND EXPRESSION OF IL-6 & TNF-ALPHA.** Ficarra G, Baroni G, Massi D. Univ. of Florence and Azienda Ospedaliera-Universitaria di Careggi, Florence, Italy. Background: Pyostomatitis vegetans (PV) is a rare non-infectious oral disease often co-existing with inflammatory bowel diseases (IBD). Little is known about the etiology of PV and its pathogenetic interaction with IBD. Methods: To investigate the immune profile (CD3,CD4,CD8,CD20 and CD79a) of the cellular infiltrate and expression of IL-6 and TNF- alpha, 3 cases of IBD-associated PV were analyzed using IHC & in situ hybridization (ISH). Results: All cases showed ulcerated mucosa with characteristic intraepithelial and/or subepithelial microabscesses containing abundant eosinophils plus a mixed infiltrate formed by lymphocytes, neutrophils & plasma cells. In all cases the inflammatory infiltrate appeared to be formed by abundant CD8+ lymphocytes and few CD4+ cells. Scattered plasma cells were present in all specimens. IHC analysis detected expression of IL-6 in the cytoplasm of inflammatory mononuclear cells and epithelial cells. Conspicuous expression of TNF-alpha was found by ISH in the cytoplasm of both epithelial and inflammatory mononuclear cells. Conclusions: Mucosal inflammation in PV share some pathogenetic similarities with IBD. In particular, the inflammatory infiltrate appears mainly constituted by CD8+ lymphocytes. Several proinflammatory cytokines, including IL-6, are upregulated in IBD and this may also be important for the pathogenesis of PV. In addition, overexpression of TNF-alpha seems to play a relevant pathogenetic role and would represent a suitable therapeutic target.

## #205 – Gold Room

**CENTRAL GIANT CELL GRANULOMA OF THE MANDIBLE AS FIRST SYMPTOM OF A PARATHYROID CARCINOMA (CASE REPORT).** J. Beck-Mannagetta, M. Etzelsdorfer, R. Triessnig, P. Sungler, A. Hofmann, and M. Hager. Paracelsus Medical University, Salzburg, Austria. Cancer of the parathyroid gland is extremely rare. The present case was diagnosed because of increased serum levels after the removal of a giant cell granuloma in the mandible. Case report: A 51 year old man was referred because of a "cystic radiolucency" in the right mandibular molar area. He had been unable to wear his denture for 6 weeks due to pain. Histopathology revealed a central giant cell granuloma. Elevated serum levels of calcium (3.5mmol/l) and parathyroid hormone (1.433pg/l) lead to the diagnosis of primary hyperparathyroidism. During surgical excision an infiltrating parathyroid carcinoma was found and resected. After 29 months a recurrence necessitated a more extensive resection and neck dissection.- The patient is followed clinically and by blood tests. A second recurrence was detected recently and will be treated by surgery and radiotherapy. Conclusion: This case emphasizes the need to examine the serum levels of calcium and parathyroid hormone in every case of giant cell granuloma. In most instances a parathyroid adenoma will be detected as the cause for primary hyperparathyroidism. Here the surgeon was confronted with a carcinoma, which may also pose diagnostic problems in frozen sections. These patients have to be followed by regular blood tests, as rising levels of calcium and PTH may indicate a recurrence or metastasis into bone, liver or lung.

# Poster Abstracts – Tuesday, June 24, 2008

## #206 – Gold Room

**EPITHELIAL GINGIVAL ODONTOGENIC HAMARTOMA.** T. Lombardi, J. Samson, and R. Küffer. Laboratory of Oral & Maxillofacial Pathology, Division of Stomatology, Faculty of Medicine, Geneva, Switzerland. Epithelial gingival odontogenic hamartoma (EGOH) is a rare lesion with only 10 cases being described in the English literature. We report a case in a 53-year-old female presenting as an asymptomatic firm nodule arising on the attached vestibular gingiva mesially to the maxillary left lateral incisor, next to the free gingiva. The lesion measured about 0.5cm in diameter and was covered with normal-colored mucosa. The patient could not recall any trauma to the area, and there was no evidence of calculus or dental restorations in the region. A periapical radiograph revealed no bone lesion. Clinical assessment suggested a provisional diagnosis of fibrous epulis. The lesion was excised and histology revealed a mucosal nodule covered by a slightly thinned, stratified squamous epithelium. The underlying rather paucicellular stroma contained multiple small nests or cords of epithelial cells, polyhedral in shape, with a central round nucleus and most often a clear cytoplasm. Some cells showed a pseudotubular structure in places. Calcifications or cementum-like material were not present. The cells in the nodule were positive for pancytokeratin and CK19 antibodies and negative for CK7, CK20, S100 protein and EMA. The proliferation marker MIB-1 showed only a very low proportion of labeled cells. Lesional clear cells were PAS positive but negative after diastase treatment. Based on these results a diagnosis of EGOH with clear cell differentiation was made. EGOH can clinically mimic a variety of reactive lesions, benign neoplasms, and metastases. In the present case, the main differential diagnosis is "WHO-type" peripheral odontogenic fibroma. The low proliferative activity of the cells and the small size of the lesion would suggest a hamartomatous rather than a tumoral condition.

## #207 – Gold Room

**MORPHOLOGIC PATTERN ASSOCIATIONS IN LABIAL SALIVARY GLAND BIOPSIES (LSGB) WITH OTHER COMPONENTS OF SJÖGREN™S SYNDROME (SS) IN 945 SICCA SUBJECTS.** Cox D1, Greenspan J1, Jordan R1, Shiboski C1, Shiboski S1, Du D2, Xiao J2, Keszler A3, Chirife A3, Ibsen P4, Nojima T5, Kurose N5, Morgan P6, Daniels T1. 1UCSF, US; 2Peking Union Med Col Hosp, CN; 3U Buenos Aires, AR; 4Copenhagen U Hosp Glostrup, DK; 5Kanazawa U Hosp, JP; 6King™s Col London, UK. Objectives: Distinguishing focal lymphocytic sialadenitis (FLS) from nonspecific or sclerosing chronic sialadenitis (NS/SCS) in labial salivary gland biopsies (LSGB) and performing a focus score (FS) in the setting of FLS has been used as diagnostic tool in SS for >35 years. Using the Sjögren™s International Collaborative Clinical Alliance (SICCA) registry with baseline evaluations from over 1,000 participants with suspected SS, we objectively analyze LSGB diagnoses and FS against various symptoms and signs of SS from the cohort of uniformly evaluated SICCA participants. Methods: All SICCA LSGB and their histopathological assessments follow detailed protocols (<http://sicca.ucsf.edu>). From the SICCA database, we analyzed pathology reports from 945 LSGB. Results: 63% had FLS, (43% had FS>1) and 36% had NS/SCS. Bivariate analysis revealed strong associations of FLS-FS>1 (versus NS/SCS) with the presence of serum anti-SS-A/B antibody, positive ocular surface staining (with lissamine green and fluorescein), anti-nuclear antibody titer, and serum IgG levels ( $p<0.0001$ ). There was no association of either pattern with the symptom of dry mouth ( $p=0.9$ ). In two cases with 2-year follow-up reexamination, LSGB specimens showed progression from FLS to confluent lymphocytic follicular proliferation or to MALT lymphoma. Conclusions: LSGB with FS>1, but not with NS/SCS, are strongly associated with the ocular and serological components of SS. In addition, LSGB may reveal early progression of SS to MALT lymphoma. Supported by NIH/NIDCR NO1-DE-32636.

# Poster Abstracts – Tuesday, June 24, 2008

## #208 – Gold Room

NON-CALCIFYING AMELOBLASTOMATOUS CALCIFYING CYSTIC ODONTOGENIC TUMOR. A DIAGNOSTIC CHALLENGE. D. Quezada-Rivera\*, F Tenorio-Rocha\*, FJM Cuadra-Zelaya+, JL Tapia-Vazquez§ and L. Gaitán-Cepeda\*. \*National Autonomous U, México; +El Salvador U., San Salvador, and §New York U., Buffalo. The Ameloblastomatous Calcifying Cystic Odontogenic Tumor (ACCOT) is a benign odontogenic tumour characterized by ameloblastomatous proliferation, ghost cells and calcified material and dentinoid. To date it has been published 16 cases of ACCOT. We present one case of a very unusual variety of non-calcifying ACCOT. A 27 years old Hispanic male patient was admitted at Oral Pathology Service, Dental School, National Autonomous University of México, by a swelling in the right mandible region of unknown time of evolution. Radiographic image shows a unilocular radiolucency associated to molar root resorption. Microscopically it was observed intramural and intraluminal ameloblastomatous proliferation, areas resembling stellate reticulum, and ghost cells. We were not able to observe any dentinoid or calcified material. A diagnosis of non-calcifying ACCOT was done. The non-calcifying ACCOT share radiographic and histopathological characteristics with unicystic ameloblastoma (UA), therefore it is discussed the differential diagnosis between both odontogenic tumors.

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## #209 – Pavilion Room

INTRAORAL EXTRAMEDULLARY MYELOID TUMOR: AN UNEXPECTED PRESENTATION. N. Narayana, J Casey, T.Greiner. University of Nebraska Medical Center, College of Dentistry, Lincoln, Nebraska. The WHO defines extramedullary myeloid tumor (EMT) as neoplastic myeloblasts in an extramedullary location. Most of the 32 EMTs reported in the literature have occurred in association with acute myeloid leukemia. EMT has been associated with a myelodysplastic syndrome and preceding the development of myeloproliferative malignancy. OBJECTIVE: The purpose of this report is to alert clinicians to the presentation of an intraoral EMT as an ulcer rather than as a mass lesion. CASE REPORT: A 73 yr old male presented with a painful ulcer palatal to #11. He had a positive history of painful oral ulcers in the mouth of a long duration. He also had multiple raised red skin lesions of an undetermined type. He gave a past medical history of neutropenia, HTN and arthritis. Clinically, a 1.5 x 1.0 cm well circumscribed crusty ulcer with no erythematous border was observed palatal to #10 & 11. A biopsy demonstrated an atypical mononuclear cell proliferation around blood vessels. Immuno histochemistry demonstrated expression of myeloperoxidase and lysozyme indicative of myelomonocytic differentiation. Following a diagnosis of soft tissue intraoral EMT, workups for myelodysplasia, acute and chronic leukemia were negative. CONCLUSION: An unusual case of soft tissue EMT presenting as an ulcer in a neutropenic patient prior to a diagnosis of leukemia will be discussed.

# Poster Abstracts – Tuesday, June 24, 2008

## #210 – Pavilion Room

Atypical Recurrent Solitary Fibrous Tumor of Palate. N. Narayana, J. Casey, and W. West. University of Nebraska Medical Center College of Dentistry, Lincoln, Nebraska. Solitary fibrous tumor (SFT) is a spindle cell tumor with unknown histogenesis with a varied histopathology occurring most frequently in the pleura and extra-pleural sites. SFT may be difficult to diagnose due to histopathologic overlap with other soft tissue lesions. OBJECTIVE: To demonstrate the difficulty in diagnosing a spindle cell neoplasm using current immunohistochemical techniques. CASE REPORT: A 68 yr old male presented with a mass involving the juncture of the left hard and soft palates. The lesion, originally interpreted as a solitary fibrous tumor, recurred two year later and was re-excised. The recurrent lesion showed greater cellularity, greater cellular pleomorphism and increased mitoses as compared to the original lesion. The lesion was strongly immunoreactive for CD99 and BCL2 expression, but negative for CD34. Definitive resection of the recurrence site was accomplished without evidence of residual tumor. CONCLUSION: Atypical solitary fibrous tumor has not been previously reported at this site. Diagnostic difficulties in the interpretation of atypical cellular and immunohistochemical features will be discussed.

## #211 – Pavilion Room

MEMBRANE AND CYTOPLASMIC TRANSFER BETWEEN FIBROBLASTS AND OSTEOSARCOMA CELLS BY MULTIPLE TRANSIENT CONTACTS. MD Huynh, M. David, L. Kelly, A. McEwen, H. Coleman, H. Zoellner. Dept. of Oral Path. & Med., U of Sydney, Westmead Hospital, Australia. We earlier reported contact induced endothelial apoptosis by human osteosarcoma cells (SAOS-2). This study aimed to examine the effect of SAOS-2 cells on human gingival fibroblasts (HGF). SAOS-2 express alkaline phosphatase (AP) on the cell surface. AP-negative HGF co-cultured with SAOS-2 were reduced in culture density in a contact dependent manner ( $p < 0.001$ ). Although the effect of SAOS-2 on HGF culture density appeared similar to that earlier reported for endothelium, unlike circumstances in endothelium, the effect of SAOS-2 on HGF did not involve apoptosis. Instead, reduced AP-negative HGF cell culture density was due to transfer of AP-positive plasma membrane from SAOS-2 to HGF, consistent with morphometric analysis demonstrating fibroblastic elongation of AP-positive cells in co-cultures ( $p < 0.05$ ). Confocal microscopy using DiD membrane and CFSE cytoplasmic markers demonstrated frequent transfer of cytoplasm and plasma membrane between neighboring SAOS-2 as well as between SAOS-2 and HGF, with much less frequent transfer between neighboring HGF ( $p < 0.01$ ). Binucleate cells were never seen, although occasional CFSE-positive cells were observed joined with DiD-positive cells via broad cell processes. Time lapse microscopy revealed multiple transient cellular contacts between SAOS-2 and HGF, consistent with frequent cytosolic transfer. Confluent HGF cultures were more adherent for SAOS-2 than culture plastic wells without HGF, while SAOS-2 adhesion increased when HGF were pre-treated with TNF-alpha. We suggest transfer of membrane and cytoplasm between malignant and fibroblastic cells may affect the phenotype and surface antigen expression of both cell types, while this may be enhanced by the inflammatory response.

# Poster Abstracts – Tuesday, June 24, 2008

## #212 – Pavilion Room

LICHEN PLANUS-LIKE HISTOPATHOLOGICAL FEATURES SUGGEST A POSSIBLE IMMUNE COMPONENT TO ORAL SUBMUCOUS FIBROSIS. S Cox, H Coleman, H Zoellner. The Cellular and Molecular Pathology Research Unit, Oral Pathology and Oral Medicine, The Faculty of Dentistry, The University of Sydney, Westmead Centre for Oral Health Westmead, NSW 2145, Australia. Oral submucous fibrosis (OSF) is a chronic, progressive, scarring, precancerous condition of the oral mucosa. It is associated with the chronic use of a betel quid (paan). Biopsies from 37 Nepali patients with OSF were undertaken at Patan Hospital, Kathmandu. Characteristic histologic findings for OSF, as previously reported in the literature, were present. These included hyalinization of collagen; variable lymphocyte infiltration with areas showing a band-like infiltrate, reminiscent of lichen planus as well as melanin incontinence. In addition, some specimens displayed other histological characteristics that have not been previously reported. These included a close association between capillaries and the overlying epithelium which was observed in 5 of 37 cases, with some demonstrating the endothelial lining of capillaries in direct contact with the surface epithelium. Lymphocytic infiltrates were also occasionally focused in neurovascular, secretory or periductal tissues. In addition, intra-epithelial vesicles, usually with associated lymphocytic infiltration, were noted in 3 out of 37 cases. In 30 of 37 cases, basal cell liquefaction and an associated lichenoid infiltrate similar to that seen in lichen planus were documented. Despite the lichen planus-like histological features noted, no patients presented with other clinical signs of lichen planus. These observations suggest a possible cell mediated immune component for OSF.

## #213 – Pavilion Room

THE MEDICAL LEGAL ARENA. W. Gabriel, Qualified Medical Evaluator, State of CA. In order to render a comprehensive evaluation of injury, an organized and evidenced-based report must be developed. This oral presentation will include the following: Overview, Defining the Arena, Defining the Areas of Injury, The Examination, Diagnoses, Causation, Treatment Options & Standard of Care Issues, and Rating of Permanent Residuals.

# Poster Abstracts – Tuesday, June 24, 2008

## #214 – Pavilion Room

**FOLLICULAR LYMPHOID HYPERPLASIA OF THE HARD PALATE. A CASE REPORT.** E. Deligianni, A.K. Markopoulos, A. Kolokotronis, E. Sakaloglou, T. Panagiotidou, T. Zaraboukas, D.Z. Antoniadis. Aristotle U. of Thessaloniki, Greece. Follicular lymphoid hyperplasia of the hard palate is an uncommon, poorly understood entity, usually confused with malignant lymphoma. Our case involves a 65-year-old female with a bilateral swelling on her hard palate along with a bilateral swelling in the submandibular area. Full clinical and radiographic evaluation was performed. Radiographs and sialadenography showed no pathologic features in the area, while head and neck MRI revealed a bilateral homogenous enriched swelling of the submandibular glands with enlarged lymph nodes also bilaterally. An incisional biopsy of the palatal lesion was performed and the histopathological examination revealed small salivary glands dense infiltrated mostly with lymphocytes and formation of numerous lymphoid follicles with reactive germinal centers. Both T- and B-lymphocytes were in multiple stages of differentiation. Immunohistochemical staining showed presence of  $\kappa$  and  $\lambda$  light chains, and was negative for Bcl-2. In accordance to these findings final diagnosis of follicular or benign lymphoid hyperplasia of the palate was made. Postoperative course of the patient was uneventful and the follow-up shows no recurrence till today.

## #215 – Pavilion Room

**HYDROA VACCINIFORME WITH OROFACIAL MANIFESTATIONS. A CASE REPORT.** DZ Antoniadis, AK Markopoulos, A. Kolokotronis, T. Zaraboukas, G. Chaidemenos. Aristotle U. of Thessaloniki, Greece. Hydroa vacciniforme is a rare photodermatosis of unknown origin occurring in childhood. The disease is clinically characterized by recurrent vesicles on sun-exposed skin that heal with vacciniforme scarring. We examined a 4.5-year-old girl with recurrent facial vesicles. The duration of the lesions lasted 3-4 weeks. The child was asymptomatic between the episodes. The episodes started 2 years ago. Her family history was positive. Her father had developed similar facial lesions when he was 18 years old. Intraoral examination revealed a necrotic ulcer on her lower right gingiva. A biopsy was taken from the oral lesion. Histopathologically the epithelium and the lamina propria were necrotic with dense chronic inflammatory infiltrates. Few cells were positive in S100 protein and all histiocytes and polymorphonuclear cells were positive in CD68. Angiogenesis was apparent with the endothelial marker CD34, while the population of lymphocytes was mixed. Laboratory investigation showed normal blood cell counts. Urinalysis was normal. Viral culture of blister fluid, ANA, anti-Ro, and anti-La antibodies were negative. Erythrocyte sedimentation and serum porphyrin assay were also negative. A diagnosis of hydroa vacciniforme was then established. The patient was referred to a dermatologist for further evaluation and treatment.

# Poster Abstracts – Tuesday, June 24, 2008

## #216 – Pavilion Room

PLASMA CELL GRANULOMA OF THE GINGIVA. A CASE REPORT. AK Markopoulos, K. Passa, E. Deligianni, T. Zaraboukas. DZ Antoniadis Aristotle U. of Thessaloniki, Greece. A 49-year-old woman presented for evaluation in the Oral Medicine Clinic complaining of a sore and burning mouth for the last 3-4 months, which was intensified by hot foods. She wasn't smoking or drinking alcohol and was healthy except for a nodular goiter. The extraoral examination didn't show any pathologic sign. The intraoral examination revealed a well-circumscribed red swelling of the gums perimetrically of the second left mandibular molar. There was a loss of normal stippling and erosion of the buccal surface of the enlargement. The mass was surgically excised under local anesthesia. The histopathological examination demonstrated edema (spongiosis) and erosion of the surface epithelium. There was a dense inflammatory infiltration composed of lymphocytes, polymorphonuclear leukocytes and predominantly of plasma cells. In some regions, Russell™s particles were observed too. The immunohistochemical analysis showed the predominance of plasma cells with k-light chains although there were few plasma cells, which were positive for l-light chains. A diagnosis of plasma cell granuloma was made. Involvement of the oral and nasopharyngeal region by plasma cell granuloma is apparently rare, with 14 cases reported in the English and 2 in the Chinese literature.

## #217 – Pavilion Room

RETICULOHISTIOCYTOMA (SOLITARY EPITHELIOID HISTIOCYTOMA) OF THE LOWER LIP. A CASE REPORT A.K. Markopoulos, C. Passa, T. Zaraboukas, D.Z. Antoniadis. Aristotle U. of Thessaloniki, Greece. Reticulohistiocytoma is a pattern of reticulohistiocytosis. It is manifested as a nodule particularly on the head and neck. We examined a 57-year-old man with a tumor in the mucocutaneous junction of the vermilion border of the lower lip, near to the right corner of the mouth. The tumor was surgically excised. The histopathologic examination revealed that in the connective tissue elongated and spindle-shaped histiocytes with abundant eosinophilic cytoplasm were present. Large number of multinucleated giant cells with irregular arrangement of their nuclei were also observed. The majority of these cells had a ground-glass appearance in their cytoplasm. A diffuse infiltration of lymphocytes, eosinophils and plasma cells were present. The immunohistochemical analysis showed a positive reaction for S-100 protein, CD68, CD34 and Gomori staining. There was a strong positive reaction for vimentin and negative for myeloprotein. The lips are among the rarest locations involved. Until now only one case has been reported with location of the lesion on the upper lip. This is the first report in which the location of reticulohistiocytoma is on the vermilion border of the lower lip.

# Poster Abstracts – Tuesday, June 24, 2008

## #218 – Pavilion Room

MUCOEPIDERMOID CARCINOMA OF THE MINOR SALIVARY GLANDS. A CLINICAL AND PATHOLOGIC ANALYSIS OF 14 CASES A.K. Markopoulos, D. Kittas, T. Zaraboukas, D.Z. Antoniadis. Aristotle U. of Thessaloniki, Greece. In this retrospective study we present our experience from mucoepidermoid carcinoma (MEC) of the minor salivary glands. A total of 14 cases were totally analyzed. Eight cases were men and 6 were women. Their average age was 52.9 years. The majority of patients (9) were in their sixth decade of life. The average duration of tumors was 4 months. There were 11 T1-, 3T2- tumors with 9 N0-, 5 N1-, all M0 at presentation. Only one of the patients reported clinical symptoms. Most common tumor sites were the palate followed by the lower alveolar vestibule and buccal mucosa. Seven tumors were classified as low grade carcinomas, 4 as intermediate and 3 as high grade carcinomas. As regards the cell type predominance, in 3 cases (all low grade) the predominant cells were the mucous-columnar cells, in 2 cases (all low grade) the mucous-columnar-intermediate cells, in 2 cases (1 low and one intermediate grade) the mucous-clear cells, in 1 case (low grade) the clear cells, in 1 case (low grade) the intermediate cells, in 1 case (intermediate grade) the intermediate-clear cells and in 4 cases (3 high and 1 intermediate grade) the epidermoid cells. From our data it appeared that grade stage and predominant cell type significantly influenced prognosis.

## #219 – Pavilion Room

GRANULOMATOUS OSTEOMYELITIS OF THE MANDIBLE. REPORT OF ONE CASE. F. Tenorio-Rocha, D. Quezada-Rivera, A. Yamamoto-Nagano, ER Leyva-Huerta, L. Gaitán-Cepeda. México National Autonomous U, México. Background. Granulomatous osteomyelitis is usually caused by mycobacterial infection. The histological findings are often non-specific, including mixed inflammatory infiltrates, bone necrosis and granulomas. Granulomatous osteomyelitis is a rare lesion of the jaws. We report one case of granulomatous osteomyelitis of the mandible caused by non-mycobacterial bacteria. Case Report. A previously 7-years-old girl who presented a swelling of the left mandible with 6 months of evolution was revised at Oral Pathology service, Dental School, National Autonomous University of México. She had a history of a previous extraction of dental organ #75, 2 months before the oral examination. Buccal exam showed a painful swelling of left mandible, the oral mucosa cover it was intact and with normal coloration. Radiographically, it was observes diffuse radiolucency areas of round shape under apical area of temporal molar and bicuspid dental organ. An incisional bone biopsy was done. Microscopically it was observes fragments of vital and necrotic bone, and osteoid material. A heavy infiltrated by chronic inflammatory cells was identifies. The lesion was characterized by the presence of granulomas consisting of epithelioid histiocytes cells, and occasional scattered multinucleated giant cells. It was possible to identify morphologically bacterial with Gramm technique. However Zhiel-Nielsen technique was negative to demonstrate presence of mycobacterial. A diagnosis of chronic granulomatous osteomyelitis of the mandible was done. To date the patient is under antibiotic treatment with improvement of the symptoms. The possibility of chirurgical curettage of the zone involved is evaluated.

# Poster Abstracts – Tuesday, June 24, 2008

## #220 – Pavilion Room

THE CYTO-HISTOPATHOLOGICAL FINDINGS OF ORAL INFLAMMATORY LESIONS, LICHEN PLANUS AND LEUKOPLAKIA COEXISTED WITH AND WITHOUT CANDIDA: WITH SPECIAL REFERENCE TO IMMUNOHISTOCHEMICAL AND FLOW CYTOMETRIC ANALYSES  
SF FIFITA, K. KUYAMA, T. MATSUMOTO, H. YAMAMOTO NIHON U SCHOOL OF DENTISTRY AT MATSUDO. Objective: To evaluate the coexistence of Candida in potentially malignant oral mucosal lesions: inflammatory lesions, lichen planus and leukoplakia using exfoliative cytology (EC). Findings: One hundred and seventy-five cases of EC smears were obtained from 40 normal tissue samples (control), inflammatory lesions (IL) (42), lichen planus (49) and leukoplakia (44). Clinical findings revealed the presence of whitish patches with erythema in lichen planus and leukoplakia, except for IL where erythema was present in all cases. The cytological atypia in cases with Candida was stronger than those without Candida, but was different from dysplastic change. FCMA showed higher aneuploidy and proliferative indices in cases with Candida. Immunohistochemical results showed higher positive reaction of p53, Ki-67 and COX-2 in Candida infected diseases. Conclusions: The study concluded the DNA alterations in cases coexisted with Candida were likely to be considered as irritative factor or promoter of dysplastic changes. The higher aneuploidy and proliferative indices, and the immunohistochemical results gave significant indications that candidal infection may disturb the DNA cellular content.

## #221 – Pavilion Room

DENTIN MATRIX PROTEIN 1 (DMP1) EXPRESSION IN OSTEOMALACIA-ASSOCIATED TUMOR WITH DIFFERENT HISTOPATHOLOGIC ENTITIES. S. Sato, M. Yuki, M. Kishino, Y. Ogawa, and S. Toyosawa. Osaka University, Suita, Osaka, Japan. Oncogenic osteomalacia (OO) is a rare disease characterized by hypophosphatemic osteomalacia associated with tumors that are termed phosphaturic mesenchymal tumors (PMTs). It has been shown that PMTs overproduce fibroblast growth factor-23 (FGF-23) that depletes total-body phosphate by reducing tubular reabsorption of phosphate. When PMT is discovered and removed, the renal phosphate wasting stops and the osteomalacia resolves. Immunohistochemistry of dentin matrix protein 1 (DMP1) and FGF-23 was a useful diagnostic tool for identifying PMTs with typical histology (mixed connective tissue variant). However, PMTs are usually lack specific histological features and they show diverse histopathology. In fact, despite their association with OO, there are many PMTs that diagnosed as other mesenchymal tumors with different histopathologic entities. In this study, to verify whether DMP1 or FGF-23 is a useful marker or not for identifying PMTs with different histopathologic entities (giant cell tumor, glomangiopericytoma, mesenchymal chondrosarcoma, benign fibrous histiocytoma, and ossifying fasciitis), we performed immunohistochemistry of DMP1 and FGF-23 in these PMTs, in addition to PMTs with typical histology. All cases of PMTs clearly showed positive immunoreaction for DMP1. All of them also showed positive immunoreaction for FGF-23 although their immunoreaction was not clearly visible. These findings indicate that DMP1 immunostaining is more useful tool than FGF-23 immunostaining for identifying PMTs irrespective of their histopathology.

# Poster Abstracts – Tuesday, June 24, 2008

## #222 – Pavilion Room

A novel ICAM-1 binding protein, CARM, is involved in inflammatory signal. SungGa Lee<sup>1</sup>, WonBong Lim<sup>1</sup>, JinAn Jeong<sup>2</sup>, JiEun Kim<sup>2</sup>, InAe Kim<sup>1</sup>, OkJoon Kim<sup>1</sup>, HongRan Choi<sup>1</sup>. <sup>1</sup>Department of Oral Pathology, 2nd stage of brain Korea 21 for School of Dentistry, Dental Science Research Institute, Chonnam National University, Bug-Gu, Gwangju, 500-757, Korea, 2 K&C Welbeing Co. 116-11 NamDong, Dong-Gu, Gwangju, Korea. We isolated a novel protein that was co-immunoprecipitated with intercellular adhesion molecule-1 (ICAM-1) by its monoclonal antibody. The protein was analyzed for identifying binding protein by using LC-Mass and bioinformatics. The cDNA and primary structure of the protein, named CAM regulating molecule (CARM), were obtained from bioinformatics data. Human CARM consisted of 292 amino acids and showed a calculated Mr of 32,320. It was deduced that CARM had a signal domain and a transmembrane domain, which was similar to those of membrane protein ICAM-1. Subcellular localization analysis exhibited that CARM protein was membranous. Confocal microscopy revealed that CARM appeared to co-localize partly with ICAM-1. However, immunoprecipitation analysis showed that CARM associated in vivo with ICAM-1 within cells. Furthermore, dimer form of CARM had higher binding affinity for ICAM-1 than monomer form. Tissue and subcellular distribution analyses in human tissues indicated that CARM was expressed through almost all tissues where it may participate in pathway of inflammatory signal cooperated with ICAM-1 because CARM was up-regulated in endothelial cells by inflammatory reagent TNF and was not activated in lymphocyte cells. These results indicate that CARM may serve as a signal-bridging molecule for ICAM-1 on inflammatory disease.

## #223 – Pavilion Room

CLINICAL COURSE OF ORAL MUCOSITIS IN PATIENTS WITH ACUTE LEUKEMIA UNDER CHEMOTHERAPY. V. Ramírez-Amador, G. Anaya-Saavedra G, I. González-Ramírez, E. Crespo-Solís, A. Rosas-López, MA. Servín-García, Se. Ponce-de-León. Universidad Autónoma Metropolitana-Xochimilco, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán (INCMNSZ), Mexico City, Mexico. Objective. A prospective, longitudinal study was undertaken to characterize the development of oral mucositis (OM), to analyze its clinical features, associated risk factors and longitudinal behavior. Methods. A cohort of acute leukemia (AL) patients under chemotherapy (CH), from the Leukemia Clinic of the INCMNSZ was followed (March 2006-October 2007). Previous informed consent, oral examinations and blood determinations were performed at baseline and three times weekly for 3 weeks after CH beginning. Salivary flow measurements were obtained every week. OM was assessed using the Oral Mucositis Assessment Scale (OMAS), pain was recorded by a visual analogue scale. Chi<sup>2</sup>, Fisher's exact test and Spearman correlation coefficient were used. Results. Twenty-nine patients (14 [48.3%] males, median age 23 [range 15-61] years) with AL (13 lymphoblastic, 13 myeloid, 3 hybrid), were followed for a median time of 21 (Q1-Q3 20-24) days. Median onset time of OM was 8 (Q1-Q3 4-10) days. Twelve (41.4%) patients developed signs of OM, with a mean OMAS score of 4.9 (SD±3.5), and a median duration time of 5 (Q1-Q3 4-11) days. No association was found between baseline characteristics and OM. The correlation coefficient during follow-up between salivary flow and OM was  $r_s=0.20$  ( $p=0.08$ ). Eight (27.6%) patients developed oral candidosis and four (13.8%) intraoral herpes simplex. Discussion. Chemotherapy-induced OM appeared in 41.4% of the patients with AL as an early event. No association was found with baseline characteristics or salivary flow during follow-up.

# Poster Abstracts – Tuesday, June 24, 2008

## #224 – Pavilion Room

**BASALOID SQUAMOUS CELL CARCINOMA, REPORT OF A CASE.** F. Ocampo-Acosta. Universidad Autonoma de Baja California, campus Tijuana. A 72 year-old male was referred to the Oral Pathology Laboratory, Dentistry Faculty for evaluation of a reddish, ulcerated, asymptomatic, bleeding at palpation, firm mass localized on the edentulous area of the left hard palate, measuring 3 cm. in size, of one month long-standing. The medical history is unremarkable. An excisional biopsy was performed with the clinical diagnosis of a squamous cell carcinoma, in March 10th, 2005. Microscopically, the tumor exhibited basaloid-like epithelial cells organized in solid sheets, separated for fibrous connective tissue septa; the cells showed hyperchromatic nuclei with prominent nucleoli, increased nuclear/cytoplasmic ratio, some of them with clear cytoplasm, but mostly of a basophilic one. Also the mitotic activity was increased (5 mitosis per 40X field in average). Areas of comedo-type necrosis were seen, but vascular permeation does not. Immunohistochemistry (cytokeratins, S-100) and periodic-acid Schiff stain were performed; the final diagnosis was basaloid squamous cell carcinoma.

## #225 – Pavilion Room

**SYNOVIAL SARCOMA OF THE GINGIVA. REPORT OF A CASE.** D.Z. Antoniades, A.K. Markopoulos, T. Zaraboukas. Aristotle U. of Thessaloniki, Greece. Synovial sarcoma (SS) is a mesenchymal malignancy that accounts for up to 10% of all soft tissue sarcomas. It predominantly occurs at the lower extremities of young adults. The oral and maxillofacial region is an unusual site for this tumor. We report the case of a 15 year old boy who had a gingival swelling developing in the lower cuspid area. A CT scan revealed the presence of a submucosal mass 1.3cm in diameter. The tumor was surgically excised. Histopathologically the tumor consisted of neoplastic spindle and epithelial cells. In certain areas tubular formations were observed that were lined by epithelioid neoplastic cells. Immunohistochemically the neoplastic cells were positive to vimentin. The epithelioid cells lining the tubular formations were positive to keratins AE1/AE3, CAM5.2 and to a lesser degree to keratin 7. They were also positive to calretinin and negative to keratins 20. The neoplastic cells were negative to S100 protein, to SMA, to CD99 and CD34. Based on the above data the final histopathologic diagnosis was biphasic synovial sarcoma with a very low participation of epithelial cells. Postoperative course of the patient was excellent and the follow-up shows no recurrence till today.

# Poster Abstracts – Tuesday, June 24, 2008

## #226 – Pavilion Room

CLEAR CELL VARIANT OF MUCOEPIDERMOID CARCINOMA ARISING ON THE ALVEOLAR VESTIBULE. REPORT OF A CASE. A.K. Markopoulos, D.Z. Antoniadis, T. Zaraboukas. Aristotle U. of Thessaloniki, Greece. The aim of this study was to report an unusual type of mucoepidermoid carcinoma (MEC) with a very rare location in a 62-year-old woman. The tumor was 2.5cm in diameter, was ulcerated and was located on the lower right alveolar vestibule. A biopsy was taken and the histopathologic examination revealed that the nests of the tumor consisted almost entirely of clear cells and partly of epidermoid cells observed at the periphery of the nests. In addition, only a few isolated mucous cells were dispersed in sheets of the clear cells. It was shown by PAS reaction that the clear cytoplasm is due to the presence of significant amount of glycogen granules. Several cystic components filled with mucous content were apparent. Immunohistochemically all neoplastic cells were positive to cytokeratin 7, while all clear cells were positive to cytokeratins 34 BE 12 and to cytokeratins 5 and 6. Most mucous cells were negative to those cytokeratins and to S100 protein. The histopathologic and immunohistochemical findings were consistent with the clear cell variant of MEC. Due to the lack of cellular anaplasia and to the low mitotic activity the neoplasm was characterized as low grade. The tumor was surgically removed. Follow-up shows no recurrence till today. To our knowledge the alveolar vestibule is a rare location for the clear cell variant of MEC.

## #227 – Pavilion Room

MICROCYSTIC ADENOCARCINOMA OF SALIVARY GLAND ORIGIN: A REPORT OF TWO CASES. M. Rosebush, J. Kalmar, C. Allen, R.Chikosi, P. Freedman The Ohio State U, Columbus and New York Hospital, Queens. Microcystic adnexal carcinoma (MAC) is a rare malignancy of sweat glands with a propensity for recurrence and locally aggressive behavior. To date, a salivary gland counterpart has not been described. We report two cases of accessory salivary gland adenocarcinoma with morphologic and immunohistochemical features similar to MAC. Case 1 involved the lower lip mucosa of a 68-year-old female. Case 2 arose in the buccal mucosa of a 69-year-old female. Both cases were thought clinically to represent scar tissue at the time of biopsy. No evidence of skin involvement was noted in either case. The tumors were characterized by small infiltrative nests and strands of epithelial cells exhibiting ductal differentiation with flattened-to-cuboidal luminal cells surrounded by a distinct peripheral cell population. Single-file arrangements and stromal hyalinization were observed, however, there was no significant cytologic atypia and no evidence to suggest a cutaneous origin. The luminal tumor cells appeared strongly positive with antibody probes to CKC, EMA, and polyclonal CEA, while the peripheral cells exhibited more intense expression of S-100 and p63. Ki-67 positivity was restricted to less than 5% of the lesional cell population. We propose the term microcystic adenocarcinoma for this previously undescribed salivary gland neoplasm.

# Poster Abstracts – Tuesday, June 24, 2008

## #228 – Pavilion Room

PHOSPHATURIC MESENCHYMAL TUMOR OF THE MANDIBLE. V. Woo, D. Zegarelli, K. Devaraj, L. Harik, S. Singer, T. Jacobs, R. Landesberg. Columbia University Medical Center, New York. Oncogenic osteomalacia (OO) is a rare paraneoplastic syndrome that results in systemic phosphate wasting. Patients with OO present with a broad constellation of findings, including osteoporosis, hypophosphatemia, hyperphosphaturia, and vitamin-D resistance. In most cases, the underlying cause is a mesenchymal neoplasm, which may remain occult for months to years. One such neoplasm is the phosphaturic mesenchymal tumor (PMT), a rare tumor with diverse histologic features. Most PMTs have been documented in the soft tissues of the extremities. Intraosseous localization occurs less frequently and involvement of the jaws is distinctly rare. We describe a 42-year-old female who presented 10 years prior for back and flank pain that commenced during pregnancy. Laboratory analysis two years later revealed severe hypophosphatemia and hyperphosphaturia. For the following 8 years, she was treated pharmacologically with phosphate and vitamin D with excellent clinical results. Recently obtained radiographs had revealed a multilocular radiolucency with distinct internal opacities involving her right mandible. Interestingly, the patient reported that this area had been evaluated 9 years prior and diagnosed as a traumatic bone cyst, both radiographically and histologically. A current biopsy revealed a cellular spindle cell proliferation characterized by figruncy calcifications, osteoclast-like giant cells, and ovoid deposits of viable bone, consistent with PMT. The patient underwent conservative enucleation of the tumor and has since discontinued all her medications. Although rare, early recognition of such neoplasms is important as it may be the first manifestation a previously unrecognized osteomalacia.

## #229 – Pavilion Room

CENTRAL INTRANEURAL PERINEURIOMA OF THE MANDIBLE: A CASE REPORT AND REVIEW OF THE LITERATURE. K. McNamara, S. Mallery, J. Kalmar, E. Evans, C. Allen. The Ohio State U., Columbus. Intraneural perineurioma (IP) is a rare neoplasm of perineural cells that primarily affects peripheral nerves. Involved nerves generally exhibit fusiform expansion and patients may present with sensory or motor deficits. Recently, a gene deletion was identified on chromosome 22, which supports the neoplastic nature of this process. We report a 51-year-old male who presented with an asymptomatic mandibular radiolucency on routine dental radiography. Incisional biopsy revealed a spindle cell proliferation arranged in variably sized whorls with concentric layers, forming a characteristic onion bulb pattern. Immunohistochemical studies showed diffuse positivity of the spindle cells for epithelial membrane antigen (EMA), consistent with perineural origin. Immunoreactivity for antibodies directed against S-100 protein and CD57 was limited to the central portion of the onion bulb structures, confirming the presence of residual nerve axons in these locations. These histopathologic features and immunohistochemical profile were consistent with IP. Surgical enucleation of the tumor was performed. Currently, there are no standardized guidelines for treatment, but all reported cases of IP have behaved in a benign fashion without local recurrence or metastasis. To our knowledge, this is the second documented case of IP of the inferior alveolar nerve.

# Poster Abstracts – Tuesday, June 24, 2008

## #230 – Pavilion Room

Low grade nodal marginal zone B-cell non-Hodgkin lymphoma with intensive plasma cell differentiation arising from a parotid lymph node. D.Z. Antoniadis, A.K. Markopoulos, N. Lazaridis, G.Venetis, T. Zaraboukas, F. Iordanidis, T. Gouma-Papadaki Aristotle U. of Thessaloniki & Evangelismos Hospital Athens, Greece. Nodal marginal zone B-cell lymphomas are thought to be derived from postgerminal center memory B cells. They usually occur in older patients. We report a case of a 7-year-old girl with a tumor of the right preauricular region. An MRI of the head and neck revealed an intraparotid tumor measuring 24x21x15mm. A sample tissue taken by core biopsy showed dense lymphocytic infiltration, many plasma cells and the formation of small lymph follicles. Immunostains using CD-20, UCHL-1 and CD-5 revealed a predominance of B cells, while the plasma cells were positive to CD-138 and to k light chains only. Blood counts were the following: WBC 6840/ $\mu$ L, neutro 56.8%, lympho 28.2%, mono 8.5%, RBC 5.09M/ $\mu$ L, Hb 14.2g/dl, Ht 41%, MCV 80.6fL, PLT 268K/ $\mu$ L. Biochemically, Glu, urea, creatinine, SGOT, SGPT, uric acid, K<sup>+</sup>, Na<sup>+</sup>, Ca<sup>++</sup>, P, Fe, TIBC, CK, LDH,  $\gamma$ GT, serum protein and albumin were all normal. Coagulation tests, were normal, Coombs test was negative, HBsAg, HCV, and HIV negative. CRP normal, IgA 807mg/dl, IgA 84mg/dl, IgM 115 mg/dl, serum k chains 700mg/dl, serum  $\lambda$  chains 341mg/dl, no proteinuria, urine Bence-Jones negative. Immunological tests ANA, ASMA, AMA, C3a, C4a were negative. The tumor was surgically removed. The histopathologic findings were identical with those of the core biopsy. The lymphomatous elements were positive to CD20ass, CD79a, SIg/CIgG(k) and negative to CD5, bcl-6, cyclinD1, CD3, CD138. Plasma cells were positive to CD138, CIgG(k) and MUM-1. Mitotic activity was low. The final diagnosis was low grade nodal marginal zone B-cell non-Hodgkin lymphoma with intensive plasma cell differentiation. To our knowledge this is the first case of NMZBL in the maxillofacial region of children.

## #231 – Pavilion Room

Knowledge of Bioterrorism in a dentistry population in Mexico City. CRUZ B, ALDAPE B, MILLAN G. UNAM U. MEXICO CITY. Is important provide information to dentists in our county so they are able to identify any suspicious illness immediately. The use of agents for biological warfare and terrorism has been of significant concern. In Mexico the current state of knowledge on all aspects of bioterrorism an important element of an effective plan for bio-preparedness is well-informed health care providers, does not exist. A survey about awareness of illnesses used for biological warfare was performed in a population of 400 students and 50 teachers, both groups from the Dentistry School, UNAM. Sixty percent were 20-year-old women, undergraduate students of 2nd and 5th grade. None out of 12 questions were answered correctly, and 95% think that a biological warfare will never happen in Mexico. This might be because, in spite of having internal problems we are a free-war country, therefore it is recommended to start a seminar to teach population about this current topic which must be taken seriously in order to be prepared to have a fast and effective answer mechanism.

# Poster Abstracts – Tuesday, June 24, 2008

## #232 – Pavilion Room

ORAL LESIONS ASSOCIATED WITH NEVIRAPINE RELATED STEVENS JOHNSON SYNDROME (SJS) – A REPORT OF 4 CASES IN SOUTHERN INDIA. S. Balasundaram, R. Gunaseelan, N. Kumaraswamy, S. Solomon, K. Ranganathan. Chennai Dental Research Foundation, Chennai, India. Objective: SJS is a severe hypersensitive reaction often presenting with a non-specific febrile illness with polymorphic lesions of skin and mucous membrane characterized by acute blisters and or erosions that can be precipitated by infection, systemic diseases, physical agents, foods or drugs. One of the undesirable side effects of highly active anti-retroviral therapy (HAART) is SJS. We report 4 cases of SJS precipitated by nevirapine in HIV seropositive patients aged 4 to 50 years from southern India. Findings of these 4 cases are described and discussed in detail. Conclusion: It has been reported in literature that an early diagnosis of SJS was made due to the presence of oral lesions. In all our patients the SJS presented in 1-3 weeks of initiating HAART. Management of SJS includes symptomatic management of oral lesions. Increased clinical vigilance is required by dentists to identify hypersensitivity reactions like rash and correlate with other clinical symptoms. Often early diagnosis by dentists will help the physician to institute early treatment and prevent further complications. The present case series emphasizes the need for oral examination after initiating HAART in the effective management of complications arising in HIV treatment.

## #233 – Pavilion Room

SALIVARY BIOMARKERS IN CLINICAL ORAL LICHEN PLANUS. Susan L Zunt, Nadim Islam and Mythily Srinivasan. Department of Oral Pathology, Medicine and Radiology, Indiana University School of Dentistry. The soluble components of saliva include the recently identified CD14 (sCD14) and Toll like receptor-2 (sTLR-2). CD14 and TLR-2 are pattern recognition receptors that recognize conserved cell wall components of microorganisms. An intricate balance between host recognition of commensals and cellular response is critical for epithelial integrity. Altered oral flora has been associated with oral lichen planus (OLP). The objective of this study was to investigate salivary CD14 and TLR-2 in clinical OLP. We evaluated sCD14 and sTLR-2 in whole saliva by immunoblot and ELISA. The mRNA levels of these proteins in salivary epithelial cells were determined by RT-PCR. The bacteria in/on oral epithelial cells were identified by Gram's staining. While sTLR-2 level was unaltered, sCD14 was upregulated in OLP. Interestingly, CD14 mRNA was upregulated, but TLR-2 mRNA was downregulated in salivary epithelial cells in OLP. Furthermore, there were fewer bacteria per epithelial cell in the saliva of patients with OLP. Normally interactions between the predominantly Gram positive oral flora and oral epithelium induce optimum amount of TLR-2 that tightly regulate immune responses. The decreased TLR-2 and increased CD14 expressions in OLP suggests disturbed local microbe: TLR interactions that may increase epithelial cell contacts by different members of the flora. Since the surface epithelium is altered in OLP, the changed epithelial microbe interface in localized areas can lead to cellular activation, cytokine secretion and persistent chronic inflammation.

# Poster Abstracts – Tuesday, June 24, 2008

## #234 – Pavilion Room

IMAGE CYTOMETRY FOR ORAL CANCER SCREENING. C. MacAulay, C. Poh, M. Guillaud, L. Zhang, M. Rosin. BC Cancer Research Centre, University of British Columbia, Vancouver. The development of visual tools such as direct fluorescence visualization provides dentists with sensitive tools in screening for oral premalignant lesions (OPLs) and early squamous cell carcinoma (SCC). Sensitivity however is frequently inversely related to specificity. Sensitive visual tools not uncommonly could falsely identify inflammatory lesions as high-risk lesions. Non-invasive methods that could further triage lesions identified by the visual tools are desired. Objective: To test an in-house designed fully automated high resolution image cytometry device, the Cyto-Savant, in its ability to detect ploidy characteristics of exfoliative cells collected by brushing targeted oral area. Materials and Methods: A total of 266 cytological samples were collected by brushing the following selected areas: 1) 108 from the floor of mouth of 108 healthy volunteers, termed normal training set; 2) 57 from areas of SCC (19), carcinoma *in situ* (16) or severe dysplasia (22), termed abnormal training set; 3) 101 samples from areas of oral inflammation, termed abnormal test set. All samples were spun down onto slides, the DNA was quantitatively labelled with a modified Feulgen-Thionin stain and the slides were automatically scanned by the Cyto-Savant. The first two sample sets were used to determine the thresholds for the frequency of cells displaying ploidy characteristics previously known to be associated with cancer detection (in cervix/lung). Results: Using these thresholds the system correctly identified 84% of the normal cases (1<sup>st</sup> set), 89% of abnormal cases (2<sup>nd</sup>/3<sup>rd</sup> sets). The system also correctly identified 79% of 3<sup>rd</sup> sets as non OPLs. Conclusions: These pilot results indicate that image cytometry may have a role in oral cancer screening such as triage lesions (Supported by grant R01DE13124, NIDCR).

## #235 – Pavilion Room

SALIVARY GLAND TUMORS OF THE SUBLINGUAL REGION. AN ANALYSIS OF 12 CASES. FL Dias1, ALA Eisenberg1, MF Nascimento1, RA Lima1, SV Cardoso2, KCN Souza2, PR Faria2, AM Loyola2. 1 Æ Brazilian National Cancer Institute (INCa); Universidade Federal de Uberlândia Æ BRASIL. Tumors of the sublingual glands represent 1% of all epithelial gland tumors. Approximately 90% of them are malignant. The present work represents the compilation of the sociodemographic and clinic-pathological data of the sublingual tumors diagnosed and treated from 1997 to 2006 in the INCa. During this period 12 cases were collected from a sample of 1273 cases of ESGT, matching 0.9% of the total sample. From these cases, seven (58.3%) were adenoid cystic carcinoma (ACC) and two (16.7%) were salivary duct carcinoma. High grade mucoepidermoid carcinoma, polymorphous low-grade adenocarcinoma and pleomorphic adenoma represent the other tumors with one case each one (8.3%). Nine patients were male. Most of patients were male (75.0%) with a mean age of 53 year (from 43 to 60 years). According to TNM staging system (UICC, 2002), six tumors were staged as II, two as stage III and, three as stage IV. All of the cases were treated by surgical approach. From these, eight cases received adjuvant radiation therapy (doses varying from 51 to 70 Gy). In one case, surgery was complementary to initial radiation therapy; for two cases it was carried out to enlarge surgical margins. Regional lymph nodes resection was made for seven patients. In the end of the follow-up period (36 month), only two patients died of the disease. In conclusion, sublingual gland tumors are rare. ACC was the most prevalent tumor. Surgery plus radiation therapy seem to be effective to obtain locoregional control of the disease.

# Poster Abstracts – Tuesday, June 24, 2008

## #236 – Pavilion Room

WHAT ARE THE IMPLICATIONS OF THE 2005 WHO HISTOLOGIC CLASSIFICATION, IN REDEFINING ODONTOGENIC TUMORS AROUND THE WORLD? P. DeVilliers and H. Rivera. University of Alabama at Birmingham and Central University of Venezuela at Caracas. The aim of this study was twofold: 1. To perform a retrospective analysis of the odontogenic tumors database, to include gender, age, site and frequency, from cases archived, over a period of 40 years (1967-2007), at the Oral Pathology Laboratory from the Central University of Venezuela (Universidad Central de Venezuela), Aim 2: To compare our data with retrospective studies from other parts of the world, which were previously recorded following the 1992 WHO classification. Design: 438 odontogenic tumors were selected from our archives and categorized following the 2005 WHO histologic classification. Results: Keratocystic odontogenic tumor (KCOT) was the most common tumor encountered, while ameloblastoma showed a younger age of presentation in our population. In North America, the great majority of the studies show a frequency for odontogenic tumors that varies from 1 to 3%, whereas in African and Asian countries they represent 15 to 30%. In the present study, we obtained a 2.79% frequency with respect to all the cases received at our institution. Malignant Odontogenic Tumors were uncommon in our population. Conclusions: Keratocystic odontogenic tumor has become the most common odontogenic tumor and the 2005 WHO histologic classification has drawn attention and controversy to this entity, which requires close clinical follow up due to its high rate of recurrence.

## #237 – Pavilion Room

OROFACIAL GRANULOMATOSIS AS INITIAL PRESENTATION OF CROHN™S DISEASE: A CASE REPORT WITH A REVIEW OF THE IMMUNOBIOLOGY. A. Lam-ubol, J. Maletta, S. Elliott and Z. Kurago. NYU, New York, NY; Iowa OMFS and Blank Children's Health Center, Des Moines, IA. Orofacial granulomatosis (OFG) is characterized by granulomatous inflammation in the head and neck area in the absence of the typical microbes and foreign materials that cause granulomatous inflammation. Clinically, OFG presents as persistent or recurrent enlargements of labial or buccal mucosa and ulcers. OFG may be a manifestation of other conditions, such as Crohn™s disease (CD), sarcoidosis or chronic granulomatous disease. CD is an inflammatory condition of the gastrointestinal (GI) tract caused by a dysregulated immune response and associated with significant morbidity. Patients with CD are at an increased risk for GI cancer. Although most patients with CD initially present with intestinal symptoms and fever, OFG can sometimes significantly precede the intestinal symptoms. We describe a case of a 15 year-old male who had a one year history of intermittent, firm, cobblestone-like swelling of the right and left buccal mucosae and occasional episodes of sore mouth. There were no histories of trauma or odontogenic infections. The lesions did not respond to antibiotic treatment, and histopathologic evaluation of the biopsy specimen revealed multiple small, non-caseating, epithelioid granulomas without any evidence of microorganisms or foreign material that typically cause granulomatous inflammation. A provisional diagnosis of OFG was made, which was followed by a work-up, including a complete blood cell count, chest radiograph, neutrophil oxidative burst test, occult blood test and GI endoscopy. The findings were consistent with CD. The discussion will focus on the clinical manifestations and on the current understanding of the immunobiology of CD. Early detection of CD is critical for optimal patient management.

# Poster Abstracts – Tuesday, June 24, 2008

## #238 – Pavilion Room

DEVELOPMENT OF A WELL DOCUMENTED DATABASE FOR PATIENTS WITH ORAL BISPHOSPHONATE RELATED OSTEONECROSIS OF THE JAWS. Cohen DM, Magliocca KR, Cohen RM, Green J, Lewis E, Ojha J, Islam MN, Kuklani R, Bhattacharyya I. University of Florida, Gainesville, FL.

Bisphosphonates are commonly used pharmaceutical agents in the management of diseases involving high bone turnover. Intravenous bisphosphonates are associated with a high incidence of bone necrosis in the jaws also called bisphosphonate related osteonecrosis or BRON. Only about 2 to 3 % of the patients with BRON take the oral preparations. As a major referral center we have accumulated detailed information on over 30 patients with this complication and with funding from Merck and Co. have initiated a study to create a detailed database of these patients. We use the AAOMS guidelines for defining the disease (exposed necrotic bone in the oral cavity for 6 to 8 weeks, unresponsive to therapy in a patient on any of the high potency bisphosphonates). We document the radiographic changes associated with BRON and any changes that may precede bone exposure (pre-osteonecrosis). The histologic features when available are also described. Triggers such as extractions, presence of lobulated tori, prominent mylohyoid ridge etc. are examined. Importantly, the time of initiation of oral bisphosphonate therapy, duration of therapy and the onset of osteonecrosis have been documented. In addition, we have recorded co-morbid factors such as long term steroid use, diabetes, smoking and radiation. Finally, we compare our results with reported cases of BRON associated with intravenous bisphosphonates.

## #239 – Pavilion Room

HEAD AND NECK RADIATION AND BISPHOSPHONATE THERAPY ARE PROBABLY CO-MORBID AND NOT EXCLUSIONARY FACTORS FOR BISPHOSPHONATE RELATED OSTEONECROSIS OF JAWS. I. Bhattacharyya, K.R. Magliocca, P. Sandow, D.M. Cohen. U of Florida, Gainesville.

Bisphosphonates are commonly used agents in the management of patients with osteoporosis and other disease involving high bone turnover. With the development of higher potency bisphosphonates both oral and intravenous, there has been a sharp increase in the incidence of patients experiencing bone exposure in the jaws. This entity dubbed bisphosphonate related osteonecrosis or BRON has been well established in the literature. The criteria for diagnosis of this disease include the presence of exposed bone for 6 to 8 weeks, the history of bisphosphonate use and no history of radiation to the jaws. This report presents a series of patients found to have exposed bone in the oral cavity in the setting of prior radiation to the head and neck in addition to a history of bisphosphonate use. One of our patients received minimal radiation and developed osteonecrosis and in other patients the onset of osteonecrosis was within a short period of one to two years after initiation of bisphosphonate therapy. In addition, radiographic evidence of osteonecrosis involving only the alveolar process (similar to that seen in BRON not ORN) and not of the entire region of the mandible was noted in some patients. Histologic evidence compatible with BRON was also seen in the non-viable and viable bone samples submitted for microscopic examination. We believe that bisphosphonate therapy should be used with caution in patients who have received head and neck radiation. It is well known that both bisphosphonates and radiation have deleterious effects on the bone's ability to heal and its vasculature, therefore we propose that head and neck radiation should be considered as a co-morbid factor and not excluded when evaluating patients for BRON.

# Poster Abstracts – Tuesday, June 24, 2008

## #240 – Pavilion Room

ORAL PLASMABLASTIC LYMPHOMAS: A CLINICAL AND IMMUNOHISTOCHEMICAL APPRAISAL. S. Meer. U. of the Witwatersrand, Johannesburg. Objective. This study aims to review and clarify the basic clinico-morphological concepts and immunohistochemical profile of oral plasmablastic lymphomas, in order to delineate them from AIDS-associated and other lymphomas with similar plasmacytoid histological features, such as plasmablastic lymphoma with plasmacytic differentiation and KSHV/HHV8-associated lymphomas. Study design. The histomorphologic features of hematoxylin and eosin stained sections of 63 cases of oral plasmablastic lymphomas from 2000 until 2007 were examined. All cases were further reviewed immunohistochemically using LCA, CD20, CD3, CD79a, Ki67 and VS38C, and only some cases with EMA, EBV and HHV8. Results. Immunoreactivity with LCA, CD79a and VS38C was readily expressed in most of the tumor cells, with only focal positivity being identified with CD20, EMA and EBV in nearly all the cases. HHV8 immunoreactivity proved to be consistently negative in the 7 cases (11%) examined. The proliferation index (Ki67) in the tumor cells ranged from about 45 to >95%. Conclusions. Oral plasmablastic lymphoma shows a marked propensity for occurrence in the gingiva and palate of HIV positive individuals. Whilst the immunoprofile observed is typical for a plasmacytic neoplasm, the role of EBV and HHV8 in the pathogenesis of this neoplasm needs to be further elucidated using more sensitive and specific techniques such as polymerase chain reaction and in situ hybridization techniques.

## #241 – Pavilion Room

BILATERAL MULTINUCLEATE CELL ANGIOHISTIOCYTOMA OF THE RETROMOLAR PADS. J Rokos, R Padilla, V Murrah. The University of North Carolina at Chapel Hill. Multinucleate cell angiohistiocytoma (MCAH) is an uncommon benign skin lesion first described by Smith and Wilson-Jones in 1985. Less than 50 cases have been reported in the English literature and only 2 have been associated with the oral cavity. MCAH constitutes a fibrohistiocytic vascular tumor that commonly presents as multiple slow-growing reddish-brown to purple papules favoring the acral surfaces of the skin in middle-aged to elderly women. Clinically, it may resemble Kaposi sarcoma. Slow and progressive growth is usual; therefore conservative excision is the preferred treatment. Spontaneous regression is seen in less than 10% of cases. The pathogenesis of MCAH is unknown. Some authors consider it to be a connective tissue disorder, whereas others categorize it as a vascular neoplasm. Trauma has been postulated due to the fact that extraoral sites have been located on the dorsal hands and around the knees. We present a case of intraoral, synchronous, bilateral MCAH in a 35 year-old female who presented with asymptomatic bilateral flat white lesions of the retromolar pads. Microscopic examination revealed a collagenous excess with fibers parallel to the mucosal surface. Numerous small vascular channels, with dilated lumina and endothelial hobnail phenomenon, were seen. Angulated multinucleated fibrohistiocytic cells were prominent within the connective tissue. The lesions were excised and no recurrences have been reported 6 months after surgery. To the best of our knowledge, this represents the first case of bilateral MCAH in the oral cavity.

# Poster Abstracts – Tuesday, June 24, 2008

## #242 – Pavilion Room

ORAL CANCER AWARENESS IN A UK DENTAL HOSPITAL OUTPATIENT POPULATION. D. McCormick, M. Lewis, P. Atkin, Cardiff University Dental School, UK. Introduction: Oral cancer rates in the UK continue to rise. Patient education about the importance of prevention and early detection are a vital aspect of management. Method: Awareness of oral cancer in consecutive patients attending a dental hospital was assessed using a self-administered questionnaire. Knowledge of risk factors, awareness of early signs and the frequency of discussion of oral cancer with a dentist were recorded. Results: 98 of 120 (81.6%) questionnaires were returned. Compared to previously published data the study group had greater awareness of the aetiological role of smoking (87.6%) and alcohol (25.8%) and were more aware of the early signs of oral cancer. However, only a minority (9.3%) of subjects had discussed oral cancer with their dentist. Discussion: Knowledge of the link of smoking with oral cancer was high whilst knowledge of the role of alcohol and incidence of discussion of oral cancer with a dentist were low. Oral cancer is broadly a preventable disease. Further education on risk factors appears to be required. In particular, dentists and patients need to discuss oral cancer more frequently in an attempt to improve early detection and outcome.